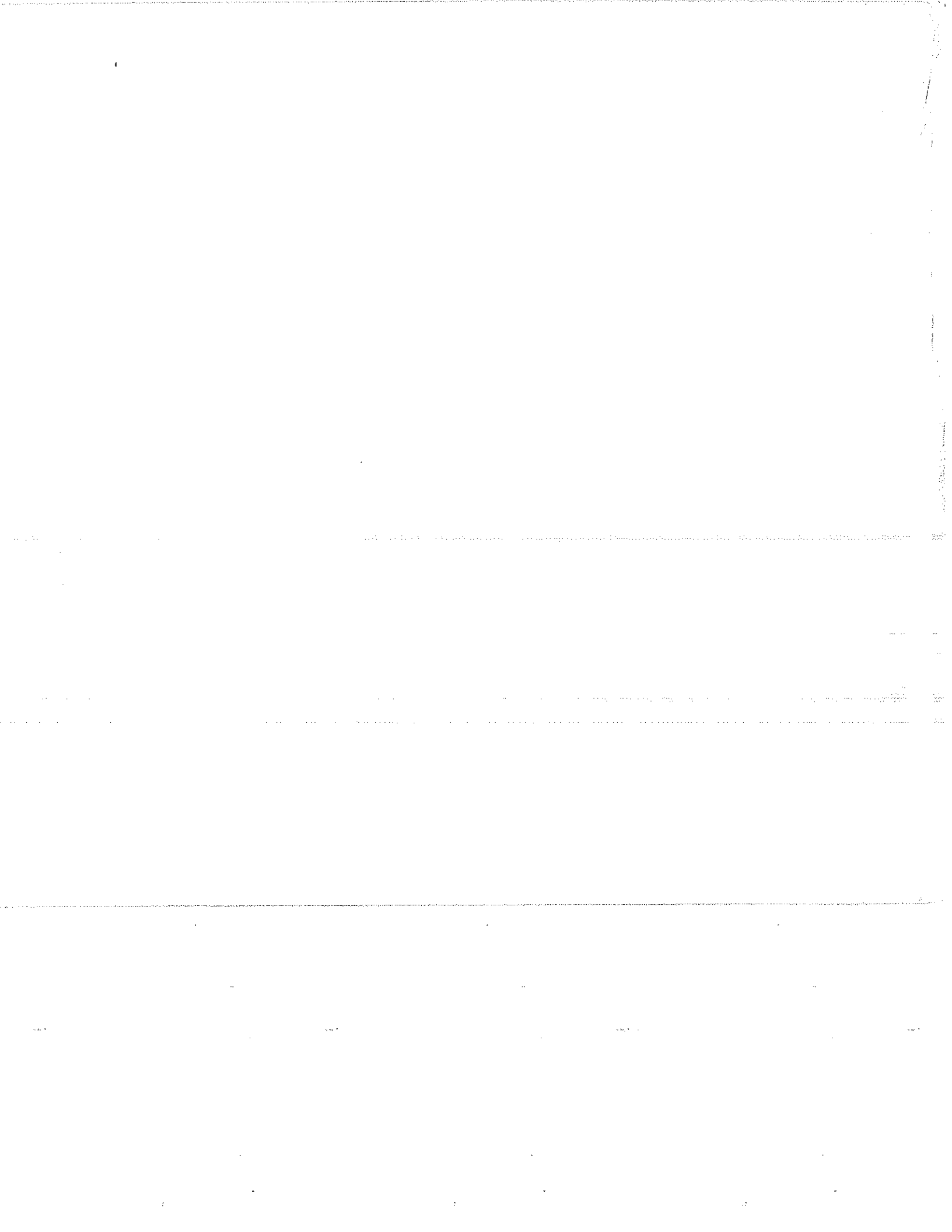


# KIRKWOOD COMMUNITY COLLEGE



1973-1974



# KIRKWOOD COMMUNITY COLLEGE 1973-74 CATALOG



A publicly supported  
community college serving  
the Iowa counties  
of merged area ten.

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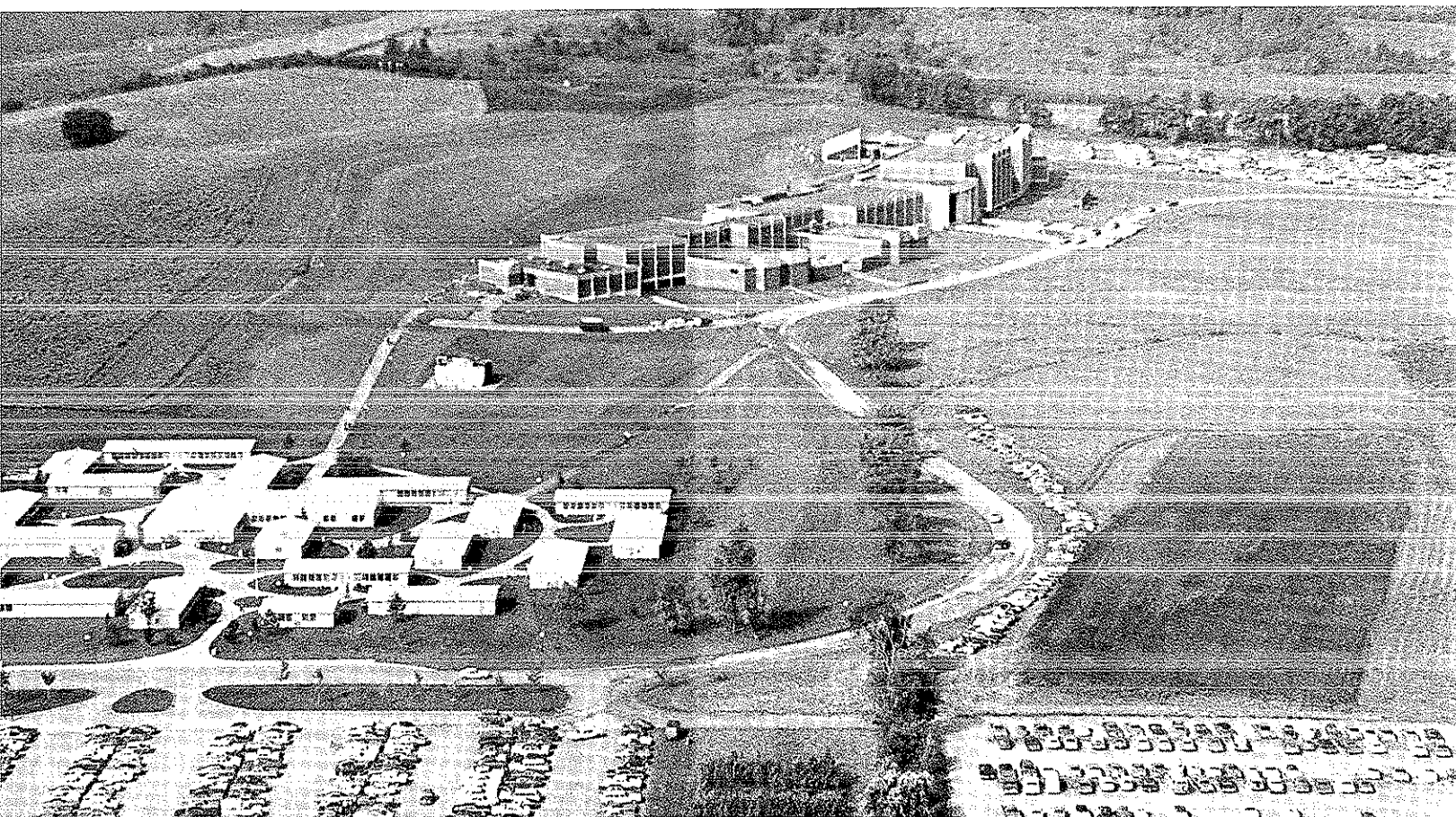
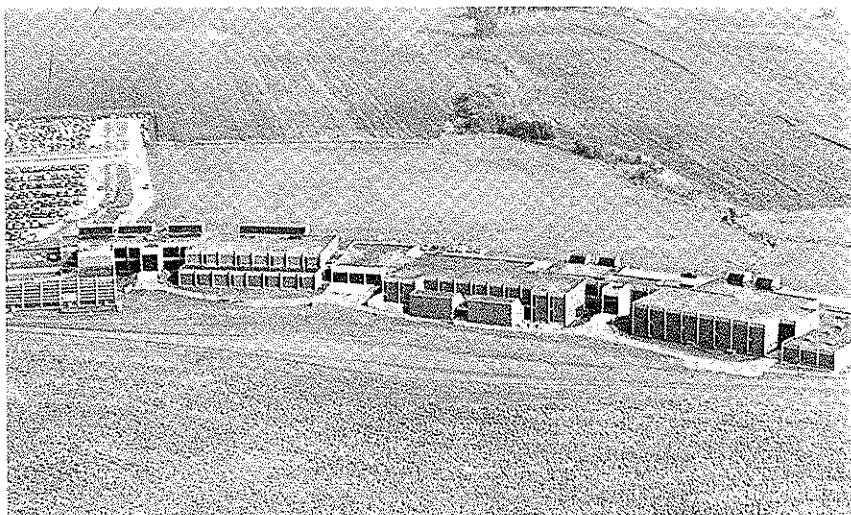
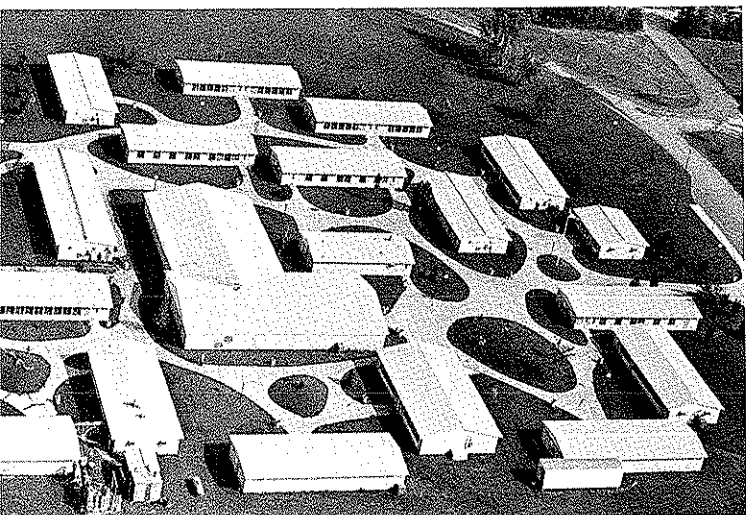
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# SUPERINTENDENT'S MESSAGE

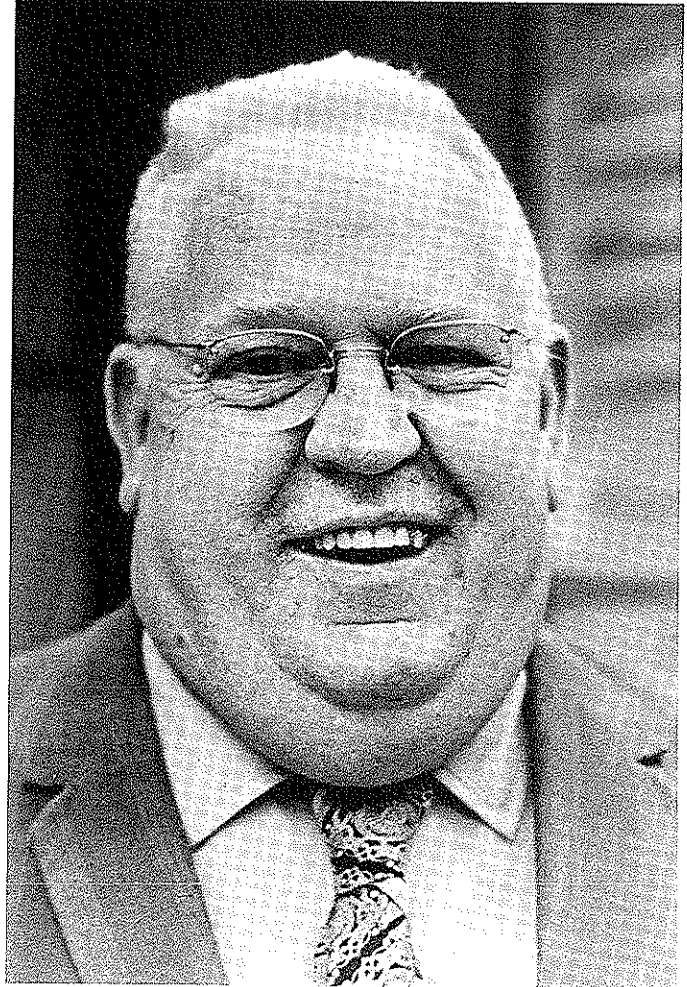
The institution described in the following pages is but one example of a rapidly developing educational movement, the two-year comprehensive community college.

Until rather recently, educational opportunities beyond high school were limited to junior and senior colleges and universities. The programs provided by these institutions served the needs of a relatively select group of individuals. As a result, the educational needs of many people went unmet, while the demand for better educated and more highly trained individuals continued to increase.

Comprehensive community colleges are being established with increasing frequency to serve such needs and demands. The programs provided therein vary widely in design and content, in order that the greatest number of people of widely diverse needs, interests and abilities may be served. Thus, comprehensive community colleges provide programs for the career-oriented and the college transfer student, for the mature adult and the recent high school graduate and for the individual who wishes to complete high school, the one who has completed college, or the elderly.

Kirkwood Community College is such an institution. It provides many different educational programs for the people who live in Area Ten. These programs are described briefly in the pages which follow. I hope you will find something of interest and worth as you read through them.

Selby A. Ballantyne  
*Superintendent*



# ACADEMIC CALENDAR 1973-74

## Winter Quarter, 1973

January 1 New Year's Day/No classes/Offices closed  
January 2 Student Recess Day  
February 9 Last day to drop individual classes  
without penalty  
February 19 Washington's Birthday/No classes/Offices  
closed  
March 2 End of quarter

## Spring Quarter, 1973

March 5-6 Registration  
March 7 Classes begin  
March 13 Last day to register or add classes  
April 13 Mid-term  
April 16-17-18-19 Easter Vacation/Student recess days  
April 20 Good Friday/No classes/Offices closed  
May 11 Last day to drop individual classes  
without penalty  
May 28 Memorial Day/No classes/Offices closed  
June 1 End of quarter  
June 2 Commencement

## Summer Quarter, 1973

June 4 Registration  
June 5 Classes begin  
June 11 Last day to register or add classes  
July 4 Independence Day/No classes/Offices closed  
July 13 Mid-term  
August 3 Last day to drop individual classes  
without penalty  
August 24 End of quarter  
August 25 Commencement





Short sessions will be offered during the summer quarter, and dates will be made available through the Office of Admissions.

### Fall Quarter, 1973

August 27 thru 31 Registration  
September 3 Labor Day/No classes/Offices closed  
September 4 Classes begin  
September 10 Last day to register or add classes  
October 12 Mid-term  
October 22 Veteran's Day/No classes/Offices closed  
October 30 Last day to drop individual classes without penalty  
November 21 End of quarter  
November 22-23 Thanksgiving/No classes/Offices closed

### Winter Quarter, 1973-74

November 26-27 Registration  
November 28 Classes begin  
December 4 Last day to register or add classes  
December 24 thru  
January 2 Student recess days  
December 25 Christmas/No classes/Offices closed  
January 1 New Year's Day/No classes/Offices closed  
January 18 Mid-term  
February 8 Last day to drop individual classes without penalty  
February 18 Washington's Birthday/No classes/Offices closed  
March 1 End of quarter

### Spring Quarter, 1974

March 4-5 Registration  
March 6 Classes begin  
March 12 Last day to register or add classes  
April 12 Good Friday/No classes/Offices closed  
April 15 thru 19 Easter/Student recess

April 24  
May 14  
May 27  
May 31  
June 1

Mid-term  
Last day to drop individual classes without penalty  
Memorial Day/No classes/Offices closed  
End of quarter  
Commencement

### Summer Quarter, 1974

June 3 Registration  
June 4 Classes begin  
June 10 Last day to register or add classes  
July 4 Independence Day/No classes/Offices closed  
July 16 Mid-term  
August 6 Last day to drop individual classes without penalty  
August 23 End of quarter  
August 24 Commencement

Short sessions will be offered during the summer quarter, and dates will be made available through the Office of Admissions.

### Fall Quarter, 1974

August 26 to 30 Registration  
September 2 Labor Day/No classes/Offices closed  
September 3 Classes begin  
September 9 Last day to register or add classes  
October 11 Mid-term  
October 28 Veteran's Day/No classes/Offices closed  
November 20 Last day to drop individual classes without penalty  
November 27 End of quarter  
November 28-29 Thanksgiving/No classes/Offices closed



# THE COLLEGE

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. The total land area of the seven major counties served is 4,408 square miles or 7.8 percent of the total land area of the state of Iowa.

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

## *HISTORY*

The history of Kirkwood began in January, 1965 when a steering committee was formed to establish a vocational school in this area. Work on the study began almost immediately and was completed by July, 1965.

Soon after, the state legislature passed laws which provided for 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 to establish Kirkwood Community College. The college was formally established on July 1, 1966.

The college immediately assumed responsibility for operating what was then the Cedar Rapids Vocational-Technical School, which had been provided since 1964 by the Cedar Rapids Community School District.

The Arts and Sciences, Student Services and Community Education Divisions were established in 1967. In 1970, an evening college program was initiated.

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

## *RATIONALE AND PURPOSES*

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 has simultaneously placed greater demands upon the individual in his role of responsible citizen.

For years, American society has taken for granted the importance of secondary schooling for the many and higher education for the few. Only recently, however, has recognition 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 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 responsibilities of identifying the educational needs and desires of adult citizens and of designing educational programs which will help them fulfill their goals. Specifi-

cally, the law directs community colleges to provide the following: the preparation necessary for the productive employment of every citizen; vocational and technical training for persons who wish to enter the labor force, for persons already employed who need additional training or re-training, and for those who are handicapped; programs for first two years of college-parallel study; programs for high school completion; and student personnel and community services. To fulfill these responsibilities, the college must remain a flexible and responsive institution, willing to depart from educational traditions, whenever necessary, in order to meet the interests of the people it services. Kirkwood Community College, therefore, is guided in this effort by the following purposes:

1. To serve educational needs and interests of all people of post-high school age without regard to educational, social, economic, racial or religious backgrounds.
2. To provide individuals with the technical knowledge and skills necessary to enter into and progress in gainful employment.
3. To qualify individuals to cross changing thresholds of employment.
4. To extend individuals' awareness of the prerogatives and responsibilities of citizenship in contemporary society.
5. To provide a setting in which individuals may increase their awareness of themselves and their varied environments and examine ideas freely and critically without threat or fear of recrimination.
6. To serve as a center for creative expression and participation in the fine and applied arts.
7. To provide individuals with avenues of exploration which lead to enjoyable and self-fulfilling use of leisure time.

8. To help the community of Area Ten, and as appropriate the larger society, to enhance the quality of its intellectual, social, cultural and economic life through the provision of educational programs and 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.

### *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 and bequests, and trusts; all for the benefit of Kirkwood Community College. Any gift to Kirkwood, restricted or unrestricted, may be made through the Foundation.

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

### *Kirkwood Alumni Association*

The Alumni Association was formed in the summer of 1972 to serve students who complete programs at Kirkwood. It provides a voice to the board, administration and faculty for former students.

The Alumni Council, consisting of representatives for eleven chapters in Area X, an all-Iowa, and a national chapter, is the association's planning group. The service function for the association is provided by the Development Office.

### *The Annual Fund*

The Foundations serve to channel gifts from alumni, friends, corporations and foundations to the college through the Annual Fund. Thousands of gifts will be received each year as a result of campaigns conducted by mail, telephone, and personal contact.

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 are also coordinated through the Foundations.

### *FACILITIES*

The Kirkwood main campus, located at 6301 Kirkwood Boulevard S.W. is a 315 acre site on the south edge of Cedar Rapids. The first permanent building, Linn Hall, was completed in the fall of 1969. It contains 40 classrooms, 35 laboratories, offices, a bookstore, multi-purpose room, and a cafeteria.

The building houses over 40 full-time vocational-technical offerings plus science and foreign language laboratories and classrooms. Some day and evening adult education classes are also offered in Linn Hall.

Twenty relocatable buildings are being used on a site adjacent to Linn Hall. These buildings, including classrooms, laboratories, a learning resource center, and a

student lounge are being utilized primarily by the Arts and Sciences and Community Education Divisions.

The Agriculture Mechanics program is housed temporarily at 1207 Rockford Road S.W. Next door is the Skills Center which houses the program of services for the handicapped. A full educational program involving basic education, high school completion, vocational-technical training and Arts and Sciences extension is being offered at the Iowa State Men's Reformatory at Anamosa.

In addition, some fifty high school buildings, churches, neighborhood opportunity centers, elementary schools, and other facilities are made available to the college through cooperation with school districts of the merged area. This represents a coordinated network of expanded offerings and makes educational opportunities available to all people of the area.

In a number of programs, students utilize clerical and on-the-job training in business and industrial facilities and in public and private medical and dental facilities throughout the state.

### *LEARNING RESOURCE CENTER*

The Learning Resource Center (LRC), the modern concept of the college library, is located on the transitional campus. Students have direct access to the book shelves. Currently, the center has 20,000 volumes. Books are arranged according to the Dewey decimal classification.

Often books and articles are placed on reserve for use in class assignments. These reserve materials are behind the circulation desk and must be requested from the attendant on duty.

A reference collection containing dictionaries, encyclopedias, almanacs, handbooks, and bibliographic material is shelved separately from the regular book collection. These materials must be used within the learning resource center and do not circulate.

The LRC provides a collection of several hundred current popular titles including fiction and nonfiction. New titles are added each month. This collection is shelved separately, but circulates in the same manner as the regular collection.

The LRC subscribes to over 300 periodicals covering many fields of interest. Periodicals do not circulate, but are readily available for use in the center. A holdings file of periodicals is kept in the card catalog. A copying machine is available for students wishing to copy materials at a minimal charge.

Tape recorders, filmstrip projectors, slide projectors, and record players, along with both musical and spoken recordings are also available to students in the LRC. A dial access system is housed in the LRC. The programs on the dial access are dictated by the staff according to the instructional needs.

In order to check out LRC materials it is necessary for students to present their Kirkwood ID card at the circulation desk.

The center is staffed by professional librarians assisted by student aides.

### *BOOKSTORE*

The College Bookstore is located in Linn 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.

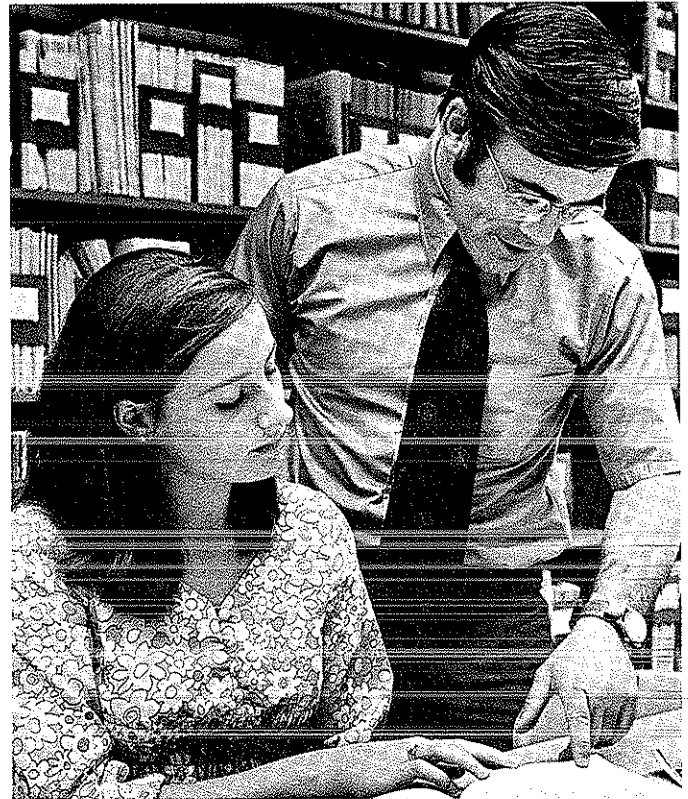
Besides maintaining a sufficient supply of textbooks needed for all courses at Kirkwood Community College, the bookstore carries a full complement of supplies, soft goods, class jewelry, and course-supporting paperbacks.

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 reputable used book company representative is on campus at different times during the year. 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.

Regular bookstore hours are 9:00 a.m. to 4:00 p.m. Monday through Friday plus Tuesday and Wednesday evenings from 6:00 p.m. to 8:00 p.m. The bookstore hours are extended to meet special campus events.

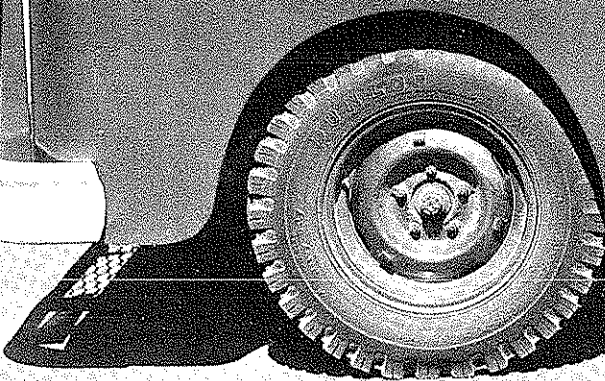
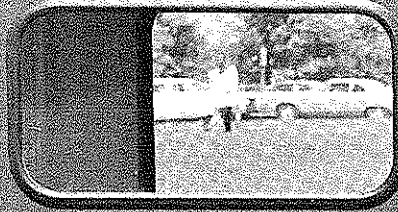
Students are invited to browse in the bookstore during their free time. The staff is always available for service.



Kirkwood's

*on the  
move!*

COME LEARN  
WITH US...







# PROGRAMS OF INSTRUCTION

## *ARTS AND SCIENCES*

The Arts and Sciences Division is primarily concerned with providing college parallel transfer and career-oriented programs for those students who wish to begin their collegiate or occupational education in a community college setting.

Programs in the Arts and Sciences Division have been designed to help students in two principal ways:

1. College parallel transfer programs permit completion of the first two years of a regular baccalaureate degree program.
2. College parallel career-oriented programs have been established for persons who are interested in pursuing a specialized occupational program, but who may not be interested in completing a four-year college program. While many of these courses are transferable toward a baccalaureate degree, their primary purpose is to prepare for a career.

Students who successfully complete a full program in the Arts and Sciences Division are awarded an associate degree. It is possible for a student to earn an associate degree while attending either full or part-time during the day or evening hours.

## *COLLEGE AND UNIVERSITY EXTENSION*

Extension courses are offered by the Arts and Sciences Division in cooperation with the Community Education Division. These classes, which yield regular college credit, are available in various locations throughout the merged seven-county area.

Evening or Saturday courses, most of which yield graduate credit, are offered by the extension divisions of the University of Iowa, Iowa State University, and the University of Northern Iowa in cooperation with the Community Education Division of the college.

## *VOCATIONAL-TECHNICAL*

The college offers programs varying in length from several weeks to two years in the vocational-technical areas. Some 45 different programs in the areas of data processing, health, agriculture, home economics, business, and trade and industry are being offered. Students may enroll in programs on a full-time or part-time basis during both day and evening hours. These programs provide students with saleable skills for securing full-time employment in business, industry and health services, and retraining opportunities for those who are unemployed or under-employed due to automation and technological change.

Kirkwood Community College has organized classes for those people who are presently employed or cannot attend full-time programs. Courses for upgrading skills in order to enter into a more intensive training program are offered. Related classes are also operated in cooperation with local unions for their apprenticeship programs. Programs to meet specific needs of individual businesses and industry are offered by arrangement.

## *DEVELOPMENTAL PROGRAM*

A number of opportunities are available for individuals who do not possess the learning skills required for them to achieve their educational and occupational goals. These individuals may have difficulty in any or all of the following areas: reading, writing, speaking, studying and mathematics. Some may not be as knowledgeable as would be expected in such areas as history, psychology, science, etc. As a result, they may encounter barriers in achieving the above goals.

Opportunities available at Kirkwood Community College include individual and group instruction in basic learning skill areas, e.g., reading, writing, speaking, studying and mathematics, and in subject areas such as history, government, sociology, psychology and science. The content of each course is geared as much as possible to the level of skill and background of each individual student.

In many respects, the programs offered in rehabilitation, basic adult education, high school completion, and in a significant number of courses in arts and sciences, are developmental in nature. They are described in other sections of the catalog.

### *SPECIFIC TRAINING PROGRAMS*

In-Plant and In-Service Training provide special training or retraining of individuals for specific occupational needs within industry or business. Both are designed to train new employees, help upgrade or advance qualified employees, retrain employees and develop supervisory personnel.

#### *Work Incentive Program*

The Work Incentive (WIN) program is a federally funded program for individuals on Aid to Dependent Children (ADC) which is aimed at getting these same individuals into the work stream. Kirkwood provides academic training for participants on a contractual basis.

#### *Environmental Protection Agency*

Through the Environmental Protection Agency and in cooperation with the Department of Labor, and Department of Health, Education and Welfare, Kirkwood is conducting a number of federally funded grant programs in environmental education.

These programs include three 24-week wastewater treatment plant operator entry level programs; two 24-

week wastewater treatment plant operator entry level programs; and a number of upgrading programs provided throughout the state of Iowa for water and wastewater treatment plant operator training. Also through a grant from the Environmental Protection Agency, Kirkwood is sponsoring a National Decision-Maker Workshop for people in management positions in the field of wastewater technology.

Kirkwood presently has proposals submitted to provide a wastewater treatment plant operator program for servicemen at two military bases in Germany and a proposal to modularize the curriculum for a two year wastewater management technology program.

As Kirkwood expands its environmental education programs, similar programs may be initiated in solid waste and air pollution.

#### *COP*

The Career Opportunity Program, (COP) with funding years 1969-1973, will have helped over 100 participants with its employment and educational components.

The original goal of C.O.P. was to assist individuals of low income backgrounds, returning Vietnam Veterans, and minority groups who are interested in some field of educational work such as teachers, counselors, social workers, special education, and speech and hearing therapists.

The enrollees, through the cooperation with local school districts, served as teacher associates while attending college in the evening. This situation has been very beneficial to the pupil in the classroom, the COP student, the staff within the schools, and education in general.

After completing the associate of arts degree at Kirkwood, about 65 of the enrollees chose to transfer to Mt. Mercy College where they will complete their bachelor's degree in education.

## *Skills Center*

The primary objective of the Skills Center is the preparation of handicapped persons for living the fullest life possible. Educational, vocational, personality and leisure-time goals are pursued by each individual through the special environment of this facility.

A full complement of ancillary services and personnel are available, including counselors, psychologists, psychiatrists, physicians, social service specialists, teachers, evaluators, and job placement experts. The curriculum provides a continuum of programs and services, ranging from adult basic education and high school completion to vocational-technical training and arts and sciences courses for handicapped students. The students are served on an individual program basis from 9 AM to 4 PM daily.

## *COMMUNITY SERVICES*

Kirkwood has become a center of community life by encouraging community use of its professional leadership capabilities, its facilities and services. A Community Service Coordinating Council comprised of Kirkwood staff was organized to improve communications and cooperation between community agencies, groups, organizations seeking to implement and expand community service programs.

Examples of these expanded services are career exploration programs for elementary and secondary school students, a traveling puppet show, summer fair program, Women's Bureau, the new career centers, Upward Bound, veterans' assistance, drug abuse information and assistance, and conferences, workshops and seminars covering a variety of community interests. New opportunities for the elderly have been developed through an Office of Retirement Opportunities and Education which is intended to serve 40,000 elderly in Merged Area X. Student activities and adult education courses are available at minimal cost to senior citizens. Pre-retirement ses-

sions have been implemented, and a senior citizens newspaper is circulated throughout the area.

## *COMMUNITY EDUCATION DIVISION*

Community Education has two basic functions at Kirkwood Community College: to be the extension arm of the other two teaching divisions (Arts and Sciences and Vocational-Technical) and to provide education services not conducted by the other divisions.

Community Education is what the name implies; learning opportunities for all persons in all communities throughout the seven counties served by Kirkwood. It functions both on and off the main campus. Activities of this division are designed to include persons of all ages at whatever stage of personal development each may be. In the years past, this facet of Kirkwood's educational facilities were recognized as the Adult Education Division. The rapid growth of programs for younger persons as well as adults has resulted in the recent name change to Community Education. Among the varied programs are these general areas:

1. General Adult Education activities
2. General Studies
3. High School Completion
4. Supplementary Vocational
5. Evening College
6. Career Centers
7. Correspondence Studies
8. Institutional programs
9. Transfer credit
10. Business and Industrial Education Services

### *General Adult Education*

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

The classes cover a wide range of topics from bridge, knitting and woodworking to art, music and literature. They are offered four times each year in school districts throughout the seven counties of the merged area.

Residents throughout the area also have the opportunity to participate in a rich variety of concerts, lectures, motion pictures, bus trips and discussion groups in foreign relations, great books, civic matters, community development and national issues which General Adult Education provides.

These classes are self-supporting and offered as a community service in cooperation with local school districts.

### *General Studies*

This area of learning is designed to help persons prepare for the G.E.D. test. The classes are located throughout the seven-county area, and are scheduled at times convenient to the students. Special effort is made to help those persons who have less than an eighth grade education develop skills necessary to pass the G.E.D. test. Students who have completed some high school work, but who wish to receive an Equivalency Certificate can find individualized programs of study in these classes. Classes are small and informal, designed to fulfill the needs and interests of each student.

### *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. Classes are

offered in all seven of the counties of merged Area X in cooperation with local school districts. A daytime lab high school program is offered on the Kirkwood campus for students who have experienced difficulty with the regular systems and need an alternate course of studies.

Individualized materials under the guidance of teachers from the local areas are provided in all of the usual and many unusual programs of education. The selection of courses is entirely up to the student as there are no required subjects.

Counseling services are available to all students in order to direct their program of study.

Diplomas are issued to students upon completion of the prescribed number of hours, and formal graduation exercises are held in the Spring.

### *Supplementary Vocational*

This program is designed to help persons seeking job enrichment or upgrading. Classes are held in business and industrial locations as well as on the Kirkwood campus. Time and location of classes are dependent upon the desires of the students.

Management development classes are offered for persons aspiring to supervisory positions, persons new in such positions and long established supervisors who seek renewal in the field.

### *Evening College*

Evening classes are offered in both arts and sciences and vocational-technical programs. Students may enroll in vocational-technical programs in agriculture, business, data processing and trade and industry. Arts and science courses are offered in social science, mathematics, science, music and speech. Adults may complete a two-year associate degree by attending the evening college. The evening program of course offerings is being

expanded on the basis of need evidenced in the community.

Extension classes from the State University of Iowa, Iowa State University and the University of Northern Iowa are supervised by the Community Education Division. Requests for specific classes or information regarding them may be secured from the Community Education Division.

### *Career Centers*

Career Centers for career exploration and general educational upgrading on an individual basis are provided in Cedar Rapids and Iowa City. They are operated on a drop-in basis, but outreach work of a personal nature is also an integral part of this learning concept.

Staff is available during extended hours, and enrollment is a continuous operation. Anyone interested in direction for his life programs may stop in or call one of these centers.

The Cedar Rapids area center is located at the corner of 4th Avenue and 7th Street, SE. The Iowa City center is situated on South Gilbert Street. Both centers will conduct G.E.D. testing at specified times.

### *Correspondence Studies*

High school completion by correspondence is made possible by the Community Education Division of Kirkwood through a variety of 16 courses.

There are no limitations placed upon the students as to the number of courses they may take. However, the transfer of such credit to institutions other than Kirkwood is an optional matter for the accepting institution. All credit is based upon semester units (1 semester credit = 1¼ quarter credit).

Enrollment for students who are considered actively enrolled in their local high schools is subject to the consent and approval of such institutions. Prospective cor-

respondence students who are not enrolled elsewhere may enroll in this program at anytime.

### *Institutional Programs*

Programs of learning which include all or a selection of the above mentioned areas have been set up in such institutions as Iowa State Men's Reformatory, Veteran's Hospital, County Homes, Halfway Houses and private concerns.

Instructional services, consultant services and curriculum guidance may be secured for these types of programs through the Community Education Division.

### *Transfer Credit (Arts & Sciences Extension)*

The Kirkwood Community Education Division in cooperation with the Arts & Sciences Division offers college credit extension courses in locations throughout the merged area. Open to adults with a high school diploma, they include courses in English, mathematics, foreign languages, fine arts and social sciences.

### *Business and Industrial Education Services*

The function of this department is to satisfy the educational needs of business, industries, civic groups, and fraternal organizations in the seven county area served by Kirkwood. It is responsible for all employee training, management education, special interest courses, in-plant training and special interest seminars, both general and in-plant.



# STUDENT SERVICES

## *ADMISSIONS AND RECORDS*

The Office of Admissions and Records is located in Linn Hall, 6301 Kirkwood Boulevard S.W. It is open from 8:00 to 12:00 and from 1:00 to 5:00, Monday through Friday. In addition, counselors are available Tuesday and Wednesday evenings, and each Saturday morning from 9:00-12:00 to assist potential students. For admissions information, call the Office of Admissions, 398-5517.

### *Admission Policies*

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, insure 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 of the college to consider the total individual in admission to the various programs. There are, therefore, no absolute admissions standards concerning performance on required admission tests and past academic record. 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.

Admission to programs is granted on an ongoing 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 the completion of their junior year in high school and gain an early admissions decision. 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 application well in advance of the expected entrance quarter.

### *Admission Requirements and Procedures*

No application for admission will be acted upon until all admissions materials and procedures, as outlined by division below, are completed.

All admissions materials are to be submitted to the Admissions Office, Kirkwood Community College, P.O. Box 2068, Cedar Rapids, Iowa 52406.

#### *Vocational-Technical Division*

All applicants for the programs in the Vocational-Technical Division, which includes the Agriculture, Business, Data Processing, Home Economics, Health Occupations, and Trade and Industry Departments, are required to complete the following admissions materials or procedures:

1. An application for admission.
2. Submit a \$15.00 application fee with the application for admission. This fee is non-refundable and does not apply toward tuition or other fees.
3. A high school transcript or GED test results or Equivalency Certificate. In the case of applicants still in high school at the time of applying, a final transcript must also be submitted following high school graduation. (See also "Admissions Policies," page 13, for those not possessing either a high school diploma or its equivalent.)
4. A personal interview is required in most programs in the vocational-technical division. Applicants will be notified about this on an individual basis after all other application materials are submitted.
5. Transcripts of any and all previous post-high school training undertaken.
6. Kirkwood Health Certificate completed by a licensed physician, and recorded on a form obtainable from the Office of Admissions. This completed

health examination, however, is not required until after a student has been notified of acceptance and should be sent to Student Health Center.

#### *Arts and Sciences Division*

All applicants to the Arts and Sciences Division are required to submit the following application materials:

1. An application for admission.
2. A \$15.00 application fee with the application for admission. This fee is non-refundable and does not apply toward tuition or other fees.
3. The results of the ACT (American College Test). This must be an official score report received from ACT Headquarters; score reports contained as part of a high school transcript cannot be accepted. Kirkwood's ACT code number is 1275. This test may be taken as a junior or senior in high school or following graduation.
4. Transfer students must also submit complete transcripts of any and all previous college work.
5. A Kirkwood Health Certificate completed by a licensed physician and recorded on a form obtainable from the Office of Admissions. This completed health examination, however, is not required until after a student has been notified of acceptance and should be sent to Student Health Center.

#### *Foreign Students*

Students from foreign countries who wish to be admitted to Kirkwood 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.



## *Community Education*

With the exception of Adult High School Completion, 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 398-5548 for information regarding admission.

## *Adult High School*

Applicants to the Adult High School must be 18 years of age. However, exceptions may be made for those under 18 years who wish to enter the program with the following stipulations: that a written recommendation for admission to the Adult High School be submitted by the applicant's normal high school superintendent, principal, or counselor; and that no student may graduate ahead of his normal high school class.

In addition to Adult High School course work taken from Kirkwood, credit may be granted to students in the Adult High School for the following: previous high school courses (with passing grade) from an accredited or state-approved high school, including correspondence school; competencies demonstrated through High School Equivalency Certificate (G.E.D.) testing; work experience which conforms to the criteria established in the "Scale of Specific Vocational Preparation," published by the U.S. Department of Labor; and industrial training programs which comply with the standards expressed in "A Guide to Evaluation of Educational Experience in the Armed Services."

Adult High School is operated on the quarter system. Students take 36 hours of classroom instruction and 4 hours of independent study each quarter.

## *Skills Center*

Any person who is handicapped mentally, physically, emotionally, economically, vocationally or socially, may enroll in this program. Admission may be made at any time by contacting the Skills Center, Social Welfare, Division of Rehabilitation Education and Service or the Admissions Office at Kirkwood Community College.

## *TUITION AND FEES — ARTS AND SCIENCES AND VOCATIONAL-TECHNICAL DIVISIONS*

Residents of Iowa (See "Residence Qualifications")

Full-time study\*

\$125.00 per 12 week quarter

Part-time study\*

\$11.00 per credit hour.

Audit course work

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

Non-Iowa Residents (See "Residence Qualifications")

Full-time study\*

\$187.50 per 12-week quarter.

Part-time study\*

\$16.50 per credit hour.

Audit course work

Out-of-state students "auditing" or carrying courses for "no credit" are assessed tuition at the same rate as regular credit course work.

\*Definitions:

"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; “audit” courses are figured at the usual credit hours applicable.

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:

7 or more enrolled hours .....	\$10.00
Less than 7 enrolled hours .....	\$ 2.00

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

### *Graduation Fee*

Students who have completed a course of study in Arts & Sciences or Vocational-Technical and wish to receive a certificate, diploma, or degree, must pay a \$6.00 graduation fee.

### *Other Fee Arrangements*

#### *Part-time Vocational*

Tuition for part-time vocational programs depends upon the length and nature of the course, ranging from \$5.00 to \$65.00. Normally, books and materials are not included in tuition.

#### *Skills Center*

There are no tuition fees for students. All costs are assumed by the referral agencies.

## *TUITION AND FEES — COMMUNITY EDUCATION DIVISION*

### *General Studies*

There are no tuition fees for students. Books and other materials are provided free of charge.

### *High School Equivalency Certificates (GED)*

Application fee for High School Equivalency Certificate testing is \$5.00. An additional fee of \$5.00 is charged for issuance of the High School Equivalency Certificate itself.

### *Adult High School*

Tuition in the adult high school is \$18.00 for each course. Books and other materials are provided free of charge. Expendable items must be paid for by the individual student.

Students may register at the beginning of each quarter (September, November, March, and June). Also, students may enroll in the class at any time during the quarter. There is no registration fee.

### *General Adult Education*

Tuition for general education programs depends upon the length and nature of the course, ranging from \$5.00 to \$40.00. As a rule, tuition averages 70 cents per student-contact-hour, or \$14.00 per 10-week course. Books and other materials are not included in tuition. These courses are self-supporting.

#### *Senior Citizens Privilege*

Persons 65 years of age or older may enroll for a fee of \$1, if the course is operating with at least eight tuition paying students.

### *Correspondence Courses (High School)*

Tuition is \$20 per course. Books and related materials are furnished by Kirkwood Community College upon receipt of tuition.

### *University Extension*

Fees vary depending upon the nature of the course and the participating university, ranging from \$32.00 to \$34.00 per semester hour. Books and materials are not included in tuition. Registration is in September and January, as well as other times of the year.

**Arts and Sciences Extension Classes**

Tuition is \$11.00 per credit hour, part-time and \$125.00 per quarter for full-time students. Initial application fee is \$15.00. This is a non-refundable processing fee which is submitted with application form. Books and materials are not included in tuition.

**Fees — Community Services and Special Projects**

Fees vary with the cost of development and the staff secured to carry on the program. Programs are generally self-supporting.

**REFUND OF TUITION**

In the event a student withdraws from the college prior to the end of a quarter, he will receive a refund of tuition according to the following schedule:

<i>Time of Withdrawal</i>	<i>Percentage of Refund</i>
Before the end of	
the first class week of the quarter	80
the second class week of the quarter	60
the third class week of the quarter	40
the fourth class week of the quarter	20

No refund will be made after the fourth class week of the quarter.

Students who must withdraw for reasons of personal health, as certified by a physician, or because of induction, but not enlistment, into the armed services, will receive a full refund. The time of withdrawal has no bearing on this refund provision.

It is the responsibility of the student to request a full refund and supply any necessary supporting documents required.

Special course and program fees as well as student fees are non-refundable in the event of a student's withdrawal.

**RESIDENCE QUALIFICATIONS**

Students enrolling at Kirkwood Community College shall be classified as resident or nonresident of Iowa for admission, fee, and tuition purposes by the Registrar's office. The decision shall be based upon information furnished by the student and all other relevant information. The Registrar 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.

**REVIEW COMMITTEE**

The decision of the Registrar's Office 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 Registrar's Office.

**FINANCIAL AID**

Today most financial aid programs exist to make possible a college education for qualified students regardless of their economic circumstances. The aid program at Kirkwood is based on this principle.

The student and his family are expected to make a maximum effort to meet college expenses. 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 various aid sources available.

### *Educational Opportunity Grants*

Educational Opportunity Grants are available for students with "exceptional financial need" who would otherwise be unable to continue their education. Grants are made possible by the Higher Education Act of 1965. In addition to financial need, a student must also show academic or creative promise, and be enrolled in a full-time program at Kirkwood. Educational Opportunity

Grants cannot exceed one-half the student's total "need", and must be matched by the student with a loan, campus employment, or other institutional aid.

### *National Direct Student Loans*

National Direct Student Loans make available loans up to \$1,000 per student for each academic year. Students transferring to another school can apply for further loans, but the maximum cannot exceed \$5,000.

The repayment period and the interest do not begin until nine months after the student leaves college. Interest is at the rate of 3 percent per year, and payments on the principal may be extended over a ten-year period.

### *College Work-Study Program*

Part of the Economic Opportunity Act, the College Work-Study Program has provided funds to help secure jobs for students from limited income families.

Students may work up to 15 hours weekly while classes are in session, and up to 40 hours during weeks when no classes are scheduled. In general, the basic rate is \$1.70, although higher rates may be paid for specialized work.

To participate in this program a student must be enrolled and be in good standing, or be accepted for enrollment as a full-time student. Student eligibility depends upon the need for income from employment to meet direct college costs.

### *Law Enforcement Assistance*

This program was established by the U.S. Department of Justice to help train students in "the improvement and strengthening of law enforcement." The money is available through the Omnibus Crime Control and Safe Streets Act of 1968 and is awarded in the form of loans and grants on the basis of financial need to qualified applicants. Grants are available for "in-service"

law enforcement personnel only. Loans are available for those wishing to enter a career in law enforcement.

To qualify for a loan a student must be accepted for enrollment, or be enrolled full-time in a program of studies directly relating to law enforcement. To qualify for a grant, a student must be a member of an existing Law Enforcement Agency, and may be a "part-time" student. The loans advanced to any one recipient may not exceed \$1,800 per academic year. Grants are used for tuition and fees and may not exceed \$200 per academic quarter.

### *Federally Insured Student Loans*

The Federally Insured Student Loan Program was created under the provisions of the Higher Education Act of 1965. This program provides for students to apply for loans from participating banks or lending institutions to help pay their educational costs while attending school.

Regardless of family income, any student desiring to pursue a post-secondary education is eligible to apply for a loan provided he or she:

1. Is enrolled and in good standing, or has been accepted for enrollment in an eligible school;
2. Is carrying at least one-half of the normal full-time work-load as determined by the school;
3. Is a citizen or national of the United States, or is in the United States for other than a temporary purpose.

### *State of Iowa Scholarship Program*

The 1965 session of the Iowa Legislature established a state scholarship program for the benefit of Iowa students attending colleges or universities within the state. State scholarships are based on the financial needs and academic ability of the students, and may be used only for tuition and mandatory fees. Applications are made

directly through the Higher Education Facilities Commission.

### *Veterans Education Benefits*

Kirkwood Community College is approved for training under the GI Bill. The Veterans Readjustment Benefits Act of 1966 defines the following categories of veterans as eligible for GI educational training:

1. Veterans who served on active duty for more than 180 days, any part of which occurred after January 31, 1955 and who were released under conditions other than dishonorable;
2. Veterans who were released from active duty after January 31, 1955 for a service-connected disability;
3. Servicemen who served on active duty for at least two years and continue on active duty.

Each person is entitled to educational assistance for a period of 1½ months or the equivalent in part-time training for each month of his service on active duty after January 31, 1955, but not to exceed 36 months. If the veteran served 18 months or more after that date and has been released under conditions which satisfy his active duty obligation, he will be entitled to the full 36 months.

Students wishing to apply for Veterans Benefits should obtain V.A. form 21E-1990 (Application for Program of Education or Training) from the Coordinator of Veterans Affairs.

Veterans who have used their GI Bill previously for educational programs must file on V.A. form 21E-1995 (Change of program or place of training).

For further information contact the Office of Veterans Affairs.

### *Rehabilitation Services*

Students who, by reason of physical or mental disabilities, meet the eligibility requirements for rehabilitation services, may secure financial aid through the Division of Rehabilitation Education and Service. Two full-time counselors are available to assist students.

### *Short Term Loans*

Various agencies, clubs, churches, and civic organizations have provided funds for short-term loans available to full-time students of Kirkwood Community College. Loans are granted interest free to qualified students with repayments to start in 30 days and be completed within 90 days.

### *Foundation Aid*

Two Kirkwood Community College foundations have been established to coordinate financial aid for students. Donations to these foundations are made by civic and religious organizations, businesses, industries, organizations and private individuals. Aid awards are made upon the basis of need as determined from an application. Assistance from this program is used only for in-school expenses. Financial aid awards may take the form of grants-in-aid or of loans.

### *Application Procedures*

In order to receive assistance through any of the programs administered through Kirkwood Community College, a student should complete the following steps:

1. Obtain the proper forms from the Office of Financial Aids, Kirkwood Community College, Linn Hall, 6301 Kirkwood Blvd. S.W., Cedar Rapids, Iowa 52406.
2. Return the completed Kirkwood Aid Application and the school copy of the ACT Family Financial Statement to the Office of Financial Aids.

3. Complete the ACT Family Financial Statement and return this to the ACT (along with the stipulated processing fee) indicating that you wish to have an aid analysis sent to Kirkwood Community College (Code 1275). The ACT Financial Statement may be secured from the high school counselor's office, or from the Office of Financial Aids at Kirkwood.

### *Deadlines*

Applications for Educational Opportunity grants, College Work-Study, and National Direct Student Loans must be received by June 1 in the Financial Aids Office, for consideration for aid in an academic year starting in September. Regarding other sources of aid, contact the Financial Aid Office.

### *PLACEMENT SERVICES*

The Placement Office fulfills the following functions:

1. Helps students to find part-time employment.
2. Assists graduates to secure full-time employment.
3. Helps to locate suitable work for students who leave school prior to graduation.
4. Assists former Kirkwood Community College students to find employment.
5. Conducts follow-up studies of former students.
6. 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 of job acceptances promptly.

## *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, each student has an opportunity for an individual conference with a member of the counseling staff to consider his high school background, appropriate test results, interests, aptitudes and goals. He is assisted in selecting an appropriate curriculum and in determining his course of study.

A student who experiences difficulty or dissatisfaction with the particular curriculum that he has selected is encouraged to make use of 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 and present in each of the divisions of the college. 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 potential applicants to the college during the normal business hours, evenings and Saturday mornings.

Human Potential Laboratories are an innovation in the Counseling Department. These 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 entry in a regular academic program. These labo-

ratories are based on the principle that all of us are operating with underdeveloped strengths, and that each person is capable of aiding himself and others in the realization of these strengths.

## *STUDENT HOUSING*

Kirkwood Community College does not maintain campus residence hall facilities. Therefore all housing is located in private facilities off-campus.

The college itself does not directly place students in off-campus housing. Students and parents have the responsibility of securing a list of college recommended housing from the Student Affairs Office, visiting available facilities, and reaching agreement with the householder concerning rental, house policies, privileges and responsibilities. If at all possible, students should arrive on campus prior to the date of registration in order to find suitable housing. The cost of off-campus housing is generally in the range of \$9 to \$15 per week.

Students should also become familiar with the off-campus housing policies and guidelines which are also available in the Student Affairs Office.

## *SUPPLEMENTARY SERVICES*

### *Student Accident and Health Insurance*

Students are encouraged to secure accident and health insurance. Student insurance is available at the time of registration and at other times may be purchased through the Student Affairs Office. An enrollment limitation date is governed by the insurance company. The insurance is based on a group policy and offers both a low rate and high coverage.

### *Parking*

Kirkwood provides campus parking for students and strives to maintain, through car registration and regulation, a parking program which allows maximum use for



all concerned. Parking space is limited and with increasing enrollment will undoubtedly continue to be so.

Each person's full cooperation is needed if the problem of parking is to be kept manageable. Parking regulations and vehicle registration are strictly enforced and fines assessed for all violations. Parking regulation handbooks may be obtained by contacting the Student Affairs Office.

#### *Bus Service*

Bus transportation between Cedar Rapids and Kirkwood is provided by the city bus company. The bus arrives on campus on a hourly basis, beginning at 6:30 a.m. and ending at 5:40 p.m. It will stop in front of Linn Hall and also at the transitional campus. Special rates are

available to Kirkwood students, and bus schedules may be obtained in the Student Affairs Office.

#### *Lounges*

Student lounges serve as "community centers" for the college where students, faculty, administration, alumni and guests can gather informally.

#### *Food Service*

The cafeteria is located on the main campus in Linn Hall. Food services are provided from 7 a.m. to 3 p.m. Monday through Friday.

Breakfast is served every morning from 7 a.m. to 9:30 a.m. Hot sandwiches from the grill are available after 9:30 a.m. with an a-la-carte style meal served during the lunch hours.

Vending machines are available in this lounge, as well as in the TXC lounge, for use anytime during the day or evening.

Catering is also available for luncheons and special events held within the college.

### *CO-CURRICULAR ACTIVITIES*

#### *Student Congress*

Each fall a student congress is elected by the student body. The Congress is composed of a president, vice president, secretary, treasurer, and representatives from the different divisions of the college. All student activities are under the direction of the Student Congress and the Dean of Student Affairs. Much of the responsibility for the success of the activity program depends upon the representatives of the student body. The purpose of the student congress shall be:

1. To provide a means of organized student expression in college.



2. To encourage and promote interest in college affairs and activities.
3. To provide a means whereby the administration of the college may be aware of student needs, opinions, and attitudes.
4. To develop and promote activities that will enrich the social, cultural and academic life at Kirkwood Community College.

### *College Senate*

The College Senate projects broad college policy and guidelines for implementation regarding issues of college-wide importance and concern. The Senate is based on the belief in shared responsibility in decision making, and thus represents the highest level of participation within the total college. It is composed of the Superintendent ex-officio and 21 voting members including 15 professional staff members, 3 administrative representatives and 6 students, one of whom is the President of the Student Congress.

### *Student Newspaper*

Communique, a weekly community college newspaper, is written and edited by a student staff under the direction of a Publications Board, and with the consultation of a faculty advisor. Any student interested in working on the staff, or in submitting material for publication, should contact the Student Affairs Office.

### *College Magazine*

The College magazine, Bicycle, newly organized to replace the traditional yearbook, is also published by a student staff under the direction of a Publications Board, and with the consultation of a faculty advisor. Any student interested in working on the staff should contact the Student Affairs Office.

### *Student-Staff Directory*

The Student-Staff Directory, a cooperative venture of the Student Congress, the Student Affairs Office, and the Community Relations Office, is published twice a year. It includes a complete list of student and staff names, addresses and phone numbers, and is available in the lobby and Student Affairs Office.

### *Student Handbook*

This annual publication provides new and continuing students with pertinent information about the community college. Students should make themselves familiar with its contents. Ideas and materials for the Handbook may be submitted to the Office of Student Affairs.

### *Activities Calendar*

The Activities Calendar is published annually by the Student Affairs Office. The calendar contains dates for various college events, such as, athletic programs, intramurals, dances, and club meetings. The purpose of the calendar is to promote effective communication among organizations and to avoid conflicts in the student activity program.

### *Clubs and Organizations*

Many clubs and organizations which meet the mutual interests of various student groups are in operation on campus. Recognition of such clubs may be gained by securing application forms from the Student Affairs Office and petitioning the Student Congress for recognition. Faculty advisors are designated as sponsors upon request of the club. Such groups participate in the areas of art, music, political, and international affairs, departmental or professional subject groups and religious activities. Co-curricular activities are an integral part of student life at Kirkwood.

### *Intramurals*

Every student is encouraged to participate in the intramural program. Intramural activities are founded upon the principle that participation in organized competitive activities contributes to the general physical development and social welfare of the students.

Included in the intramural program are: baseball, golf, bowling, volleyball, basketball, soccer, football, swimming, ping pong, chess and checkers.

### *Intercollegiate*

Kirkwood initiated an inter collegiate athletic program in the Spring of 1969, fielding teams in baseball and golf. Basketball was added to the program in the 1969-70 school year. The Kirkwood Eagles compete with teams from community and junior colleges in Iowa and

bordering states as well as freshman and junior varsity teams of 4-year institutions.

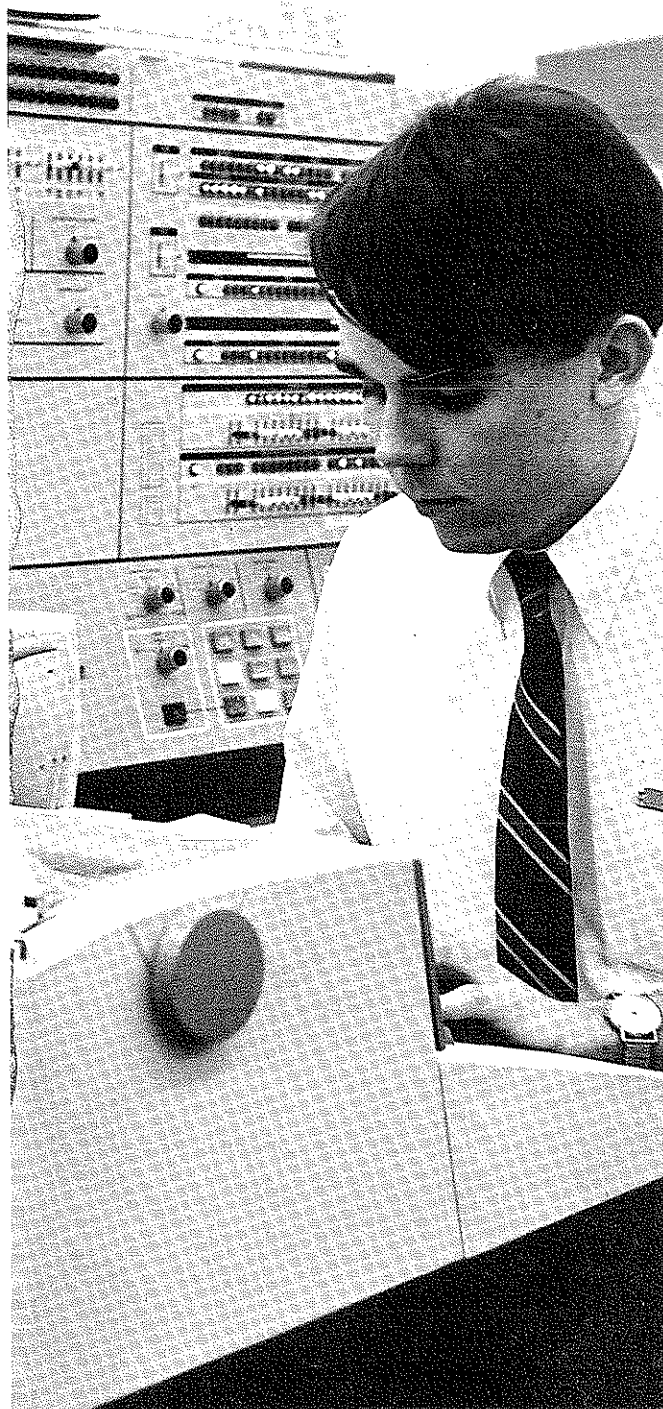
Kirkwood belongs to the Iowa Area Community College Athletic Association and the National Junior College Athletic Association, and participates in tournaments sponsored by these associations.

### *Social and Special Events*

Activities are coordinated by the Student Affairs Office, the Student Congress and the Special Events Committee. A program of social and special events is provided both by the college and in the local communities. These programs include music, art, drama, concerts, plays, films and other events.

Use of any facilities by groups is cleared through the Student Affairs Office.





## ACADEMIC INFORMATION AND REGULATIONS

### *CLASSIFICATION OF STUDENTS:*

- FRESHMAN:** A student who has completed fewer than 42 quarter hours of credit.
- SOPHOMORE:** A student who has completed 42 or more quarter hours of credit.
- FULL-TIME:** A student carrying 12 or more quarter hours of college work.
- PART-TIME:** A student carrying fewer than 12 quarter hours of college work.

## 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 15 quarter hours or more each quarter.

Students may not carry more than 18 hours of credit in any quarter without approval of their advisor and the Director of Arts and Sciences.

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 studies. 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.

### *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.

### *GRADING SYSTEM*

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

- A — superior
- B — above average
- C — average
- D — below average
- P — pass . . . credit
- NP — no credit
- W — withdrawal
- N — audit
- R — credit granted by virtue of prior education, occupational experience, or examination.
- I — incomplete
- X — original mark removed because of a repeat of the course.

The grades A, B, C, D, are included in computing the mark-point-average.

Credit toward graduation is granted for A, B, C, D, & P. R marks carry credit toward graduation only by authorization of the division director and/or department head.

### *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 Office of the Registrar. 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 the Office of the Registrar for each course repetition.
3. The original mark will be changed automatically

to an "X". (The "X" mark carries no credit nor does it affect mark-point-average.) In the event a student does not do well in repeating the course, he may not regain the original mark. In short, a student may not repeat a course and then choose the better of the two marks. The repeat mark is always the one that will be computed as part of his record.

4. Students who withdraw from a course they are repeating for a better grade under this policy will have the original mark reentered on their record.

This policy in no way prevents a student who so desires from repeating a course and retaining both the original and the repeat mark. This is the choice of the student and he indicates his choice by the filing of notification of a repeat for a better grade as indicated in Number 2 above. Where no notification 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 mark 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 the situation should discuss it with a member of the counseling staff.

### *Drop Policy*

A student may drop a course and receive a mark of "W" up to the three-fourths point of a quarter or session. Specific final drop dates are given in the Student Handbook and on the college calendar. After these dates he must remain in the course. An official drop can only be made through the Office of the Registrar.

All "drops" must be "approved" by a counselor and the instructor of the course dropped and returned by the

student to the Office of the Registrar before 4:00 p.m. of the last designated drop day for the session.

### *Withdrawal Policy*

A student may withdraw, that is, cancel his entire registration at any time up to the final exam period of session. Students officially withdrawing through the Office of the Registrar will be assigned a "W" for all courses for which then registered. In all cases of withdrawal, except in cases of physical or circumstantial impossibility, a student must secure the "approval" of a counselor and, circumstances permitting, the "approval" of each instructor. 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 without "good cause" as outlined above, will receive, at the discretion of the instructor, either "I" or "NP" for all courses for the quarter.

### *Incomplete Mark Policy*

A student who fails to complete the assigned work of a course during a quarter or session will be assigned the mark "I" ("incomplete"). The length of time a student will be permitted in which to complete course work must be worked out with the instructor assigning the "I". The "I" may be changed to an "NP" if the student hasn't, after a period of time deemed reasonable and sufficient, made up the incomplete work.

### *AUDITING COURSES*

Students may enroll on an audit basis in any course with the permission of the instructor. In such cases, standard lab and tuition fees are payable. The student's transcript will record each such course as an audit normally carrying the mark of "N" which has no credit associated with it nor effect on the student's mark-point-

average. Students enrolled on an audit basis in a course are expected to attend all class meetings and participate in all class work except examinations.

### *ADDING CLASSES*

Except for certain special or modular courses, students may add courses only during the first week of classes. Students wishing to do so should complete a "Change in Registration" form, available from a member of the counseling staff, or the Office of the Registrar.

### *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 mark-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 division director or the department head 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 Office of the Registrar. 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.

### *Credit Assignment in Emergency Situations*

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

- his induction but not enlistment, into the Armed Forces;
- serious personal or family illness requiring the student to discontinue his studies;
- a death in the immediate family;
- other "emergency circumstances" that preclude a student finishing the quarter.

### *SCHOLASTIC PROBATION AND SUSPENSION*

Any student who does not achieve at least a 1.5 grade point average in a given quarter will be placed on probation for the following quarter. If, at the end of the probation quarter, he has brought his total grade point average up to 1.5, he may be removed from probation for the following quarter. However, if the student's grade point is not 1.5 or higher after the probation quarter, his case will be reviewed by a faculty committee for whatever action it deems necessary, including possible suspension.

In some programs, students may be placed on probation or suspension because of failure to maintain satisfactory progress in completing courses in their proper sequence in the program. Such a recommendation would be made by an appropriate faculty-staff committee to central administration.

### *RE-ADMISSION*

Students who have been suspended for academic reasons may petition to the Office of the Registrar 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 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 a possible lowering of the grade for that course in cases when a test is of a type 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 his 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 CONDUCT AND DISCIPLINE*

Enrollment in Kirkwood carries with it obligations in regard to conduct, not only inside but outside the classrooms, and students are expected to conduct themselves in such a manner as to be a credit both to themselves and to the college. They are responsible for adherence to the

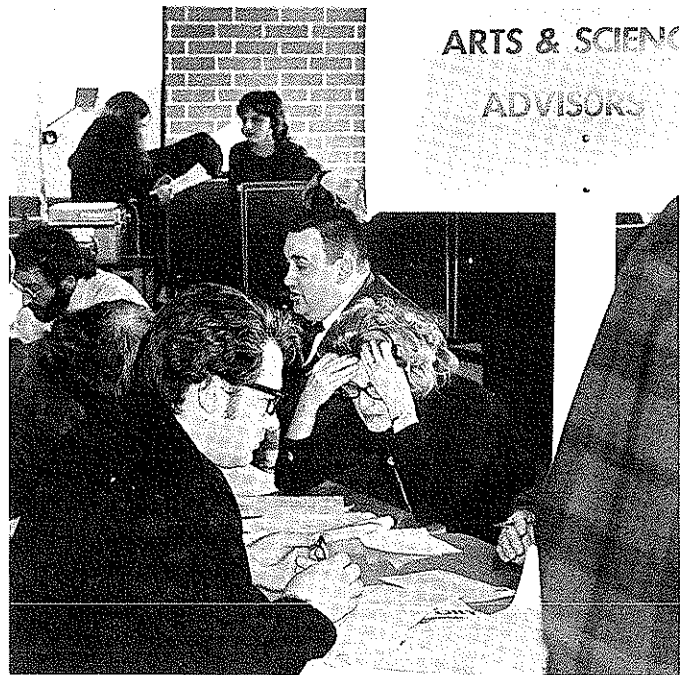
laws governing the community as well as to rules and regulations of the college and its officials.

Whenever a student or group of students fail to observe either the general standards of conduct as above stated or any specific ones which may be adopted by the proper authorities, they shall be liable to disciplinary action by the college.

The responsibility for enforcement of these regulations rests with the Student Affairs Office.

### *GRADUATION REQUIREMENTS*

Kirkwood Community College grants degrees, diplomas and certificates to those individuals who successfully complete programs in arts and sciences, adult education and vocational-technical areas.



## ARTS AND SCIENCES DIVISION

### *Incoming Transfer of Credit*

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 himself may have been involved in non-degree work at that institution. In order to receive the Associate degrees granted by 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 first session of the 1972-73 academic year (corresponding to Kirkwood's fall quarter); or
  - B. the student has not been enrolled in any program of higher education leading to Associate of 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 ac-

cepted for transfer if from a properly accredited institution.

3. Decisions about the applicability of transfer courses toward Kirkwood requirements will be made by the Office of the Registrar 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 degrees at Kirkwood, the college cannot guarantee how other colleges will treat these same credits.

### *General Requirements for the Associate in Arts or 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.
4. Complete satisfactorily eight quarter hours in composition and three quarter hours in speech.

### *Additional Requirements for the Associate in Arts Degree:*

1. Complete general requirements indicated above.
2. Complete group requirements as follows:<sup>1</sup>

I Humanities	8 credit hours
II Social Sciences	8 credit hours
III Math-Science	8 credit hours
3. Complete satisfactorily a college parallel with major emphasis in the humanities and/or social sciences.



*Additional Requirements for the Associate in Science Degree:*

1. Complete general requirements listed above.
2. Complete group requirements as follows:<sup>1</sup>
  - I Humanities 8 credit hours
  - II Social Sciences 8 credit hours
  - III Math-Science 30 credit hours

<sup>1</sup>For complete definition of which courses fulfill which group requirements, see the Arts and Sciences course index.

**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 Are as Follows:*

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 Kirk-

wood Community College, the minimal core and specialty course 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 in Vocational or Technical Education:*

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 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 department head and the Director of the Vocational-Technical Division.

*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.

*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 the quarter system (12 weeks). The students will have 36 hours of classroom instruction per quarter.
- 3) The student must earn a minimum of 48 quarter hours of credit.
- 4) Six quarter credits, in residence at Kirkwood Community College, are required in the High School Completion Program regardless of the number of remaining credits needed.
- 5) A student doing normal work may earn 1 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. No one fails.
- 6) Credit awarded for military school, vocational training and work experience (includes housewife) are evaluated by the counselor before credit will be given. Any questions regarding credits or grades are considered by the counselor or area supervisor.
- 7) A High School Equivalency Certificate will not be given until an applicant has reached his 18th birthday and his high school class is one year out of high school.
- 8) 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 (G.E.D.) Test. The test is offered at the Iowa City Career Center, Anamosa Reformatory, and daily at the Cedar Rapids Career Center and the Kirkwood Main Campus.

A regular high school diploma issued by Kirkwood Community College 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.

Information is available through Kirkwood's Community Education Division.

### *Graduation Application*

Each student in the Vocational-Technical and Arts and Sciences Divisions who plans to earn an associate degree, diploma, or certificate of program completion, must file a "graduation application" with the Office of the Registrar at the beginning of the quarter in which he plans to complete his course work.

"Graduation applications" should be submitted at the time that students register for classes of the quarter in which requirements for graduation will be completed. However, applications will be accepted if filed with the above office, 126B Linn Hall, within one week of the close of registration. Applications must be accompanied by a \$6.00 graduation fee.

While a student may complete his requirements for graduation during any quarter, commencement exercises will be held only in May and August. Students com-

pleting requirements in November or March are encouraged to participate in the May commencement exercises.

High School Commencement Exercises are scheduled every spring.

### *Graduation and Academic Honors*

Graduates who have maintained a 3.0 grade point average during their work at Kirkwood are granted recognition by inclusion of their names on the list of those who have graduated with honors. Graduates who have maintained a 3.5 or better grade point average are given recognition by inclusion of their names on the list of those who have graduated with high honors. Grades which are accepted by Kirkwood as transfer credit from other institutions are also included in the computation of grade point averages for these honors. A notation will be made on the transcript of each graduate when either of these honors has been earned. At the end of each quarter academic recognition is given to students enrolled full-time who earn 3.0 average or better.

### *Requests for Transcripts*

A transcript of work taken at Kirkwood is issued upon request by the student to the Office of the Registrar. Forms for this purpose are available in that office. A fee of \$2.00 is required for each copy.

### *Waiver of Regulations*

Rules and regulations in this catalog have been adopted by the faculty, administration and board of directors of the college and are subject to modification and revision by them. If a student feels that extenuating circumstances might justify the waiver of a particular college regulation, he may file a petition with the Director of Student Services, according to established procedures.

### *Student Responsibility for Catalog Information*

Each student is responsible for knowledge of 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.



# PROGRAMS OF STUDY

## *ARTS & SCIENCES PROGRAMS*

The Arts and Sciences Division offers three types of programs, college parallel-transfer, college parallel-career, and developmental.

### *College Parallel-Transfer Curricula*

College Parallel-Transfer curricula permits completion of the first two years of a bachelor's degree program. Students may wish to elect an emphasis in one of

the career areas that these curricula offer. These proposed programs of studies provide a guide of what is generally expected of students who wish to pursue careers in this area. However, students should check the college or university to which they plan to transfer since its requirements may vary from what has been listed here.

Kirkwood's counselors can also prove a valuable asset in helping students plan to transfer. Students should feel free to consult a counselor in planning for transfer.

### Liberal Arts Language Requirements

Foreign language requirements differ in the various four year institutions. In general, a bachelor of arts degree requires two years of foreign language, and a bachelor of science degree requires one year of foreign language study. Credit in foreign languages will apply toward the humanities requirements of the four year institution and Kirkwood's Associate of Arts or Sciences degree.

### Liberal Arts (Associate of Arts)

First Year	Cr.	Second Year	Cr.
Composition I, II	8	Foreign Language	9
Speech I	3	Social-Sciences	12
Foreign Language	12	Electives <sup>1</sup>	21
Math-Science	12		
Electives	11		

### Pre-Art Education

	Cr.
I. Requirements of A.A. Degree <sup>2</sup>	35
II. Career Core	6
Drawing I, II, III	6
Design I, II, III	2
Lettering	6
Painting I, II, III	6
Sculpture or Ceramics I, II, III	6
Fundamentals of Prints and Composition I, II, III	
III. Recommended Related Courses	
American Public Education	4
Psychology	8

<sup>1</sup>Any 8 hours of these related courses may be used to fulfill Social Science requirements in Group I, but the hours cannot be counted twice to reach the required 90 for graduation.

<sup>2</sup>A.S. and A.A. degrees require a minimum of 90 quarter hours each.

### Pre-Commercial Art

	Cr.
I. Requirements of A.A. Degree <sup>3</sup>	35
II. Career Core	
Drawing I, II, III	6
Design I, II, III	6
Lettering	2
Painting I, II, III	6
Fundamentals of Prints & Composition I, II, III	6
III. Recommended Related Courses	
An individual program will be arranged to meet each student's needs.	

### Pre-Professional Art

	Cr.
I. Requirements of A.A. Degree <sup>2</sup>	35
II. Career Core	
Drawing I, II, III	6
Design I, II, III	6
Lettering	2
Painting I, II, III	6
Sculpture or Ceramics I, II, III	6
Fundamentals of Prints and Composition I, II, III	6
III. Recommended Related Courses	
An individual program will be arranged to meet each student's needs.	

### Pre-Banking & Finance

The curriculum in Banking and Finance is designed for students seeking careers with financial institutions and for those already in banking who wish to attain managerial positions. It satisfies the basic requirements

<sup>3</sup>Courses in this area may also count for the requirements of Group I requirements. Please check college catalog for detailed information. A.S. and A.A. degrees require a minimum of 90 quarter hours each.



of the American Institute of Banking Advanced Certificate as well as providing for an Associate of Arts degree. The program has been planned in cooperation with numbers of the banking community and the East Central Iowa Chapter of the American Institute of Banking.

The following are the requirements for an Associate of Arts degree in Banking and Finance:

	Cr.
I. Requirements for A.A. Degree <sup>2</sup>	35
II. Career Core	
Principles of Bank Operations	3
Money and Banking	3
Trust Functions and Services	3
Bank Management	3
Agriculture Finance	3
Supervision and Personnel Administration	3
Installment Credit	3
Analyzing Financial Statements	3
III. Recommended Related Courses	
Introduction to Business	4
Principles of Accounting I, II	6
Principles of Finance	3
Business Law I	4

Introduction to Data Processing	3
Principles of Marketing	4
Principles of Management	4

### *Pre-Broadcasting*

	Cr.
I. Required Courses for A.A. Degree <sup>2</sup>	35
II. Career Core	
Introduction to Broadcasting	4
Broadcasting Methods	9
*Radio Reporting & Announcing	3
*Newswriting I, II	6
III. Recommended Related Courses <sup>2</sup>	
Man and His Environment I, II, III	12
U.S. History I, II, III	12
Political Science I, II, III	12
Economics I, II, III	9
Typing	3
Introduction to Business	4
Introduction to Literature I, II, III	12
Creative Writing	3

\*In development — available winter of 1972

### *Pre-Business Administration*

I. Requirements for A.A. Degree	35
II. Career Core	
Principles of Accounting I, II, III	9
Business Law I, II	8
Introduction to Business	4
Introduction to Data Processing	3
Principles of Marketing	4
Principles of Finance	3
Office Machines	3
III. Recommended Related Courses <sup>2</sup>	
Principles of Insurance	3
Marketing Channels and Institutions	4
Consumer Behavior	3
Sociology	4
General Psychology	4
Principles of Selling	4

### *Pre-Dentistry*

I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
Invertebrate Zoology	6
Survey of the Vertebrate	6
College Physics I, II, III	12
General Chemistry I, II	10
Organic Chemistry I, II	8
Math-Statistics	15
III. Recommended Related Courses <sup>3</sup>	
Organic Chemistry III	4
Psychology	4

### *Pre-Engineering*

Many students should take a second year at Kirkwood, especially if they do not complete the calculus sequence during the first year. They should consult the catalog of the university to which they intend to transfer to determine the courses recommended for the second year.

I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
College Algebra	5
Trigonometry	5
Analytic Geometry	5
Calculus I, II, III	13
Differential Equation I, II	10
Statistics	5
General Physics I, II, III	12
General Chemistry I, II	10
Engineering Graphics I, II	6
Engineering Problems	2
III. Recommended Related Courses <sup>3</sup>	
Organic Chemistry I, II, III	15

### *Pre-English Education*

I. Required Courses for A.A. Degree	35
II. Career Core <sup>3</sup>	
Introduction to Literature I, II, III	12
Masterpieces of World Literature I, II, III	12
Children's Literature	4
Black Literature	4
Creative Writing	3
III. Recommended Related Courses <sup>3</sup>	
French I, II, III	12



Spanish I, II, III	12
Western Civilization I, II, III	12
Introduction to Theatre	3
American Public Education	4
Psychology of Adjustment	4
General Psychology	4
Psychology of Child Development	4
Educational Psychology & Measurement	4

III. Recommended Related Courses <sup>3</sup>	
Non-Vascular and Vascular Plants	4
Invertebrate Zoology	6
Survey of the Vertebrates	6
Economics and/or Government	4

*Pre-Government Service*

*Pre-Fisheries and Wildlife Biology*

I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
Invertebrate Zoology	6
Survey of the Vertebrates	6
General Chemistry I, II	10
Math-Statistics	13
III. Recommended Related Courses <sup>3</sup>	
Man and His Environment I, II, III	12
College Physics I, II, III	12
Independent Study in Biology	1

	Cr.
I. Required for A.A. Degree*	35
II. Career Core <sup>3</sup>	
American Government	4
State and Local Government	4
World Politics	4
Public Administration	4
Human Geography	4
Economics I and II	6
III. Recommended Related Courses <sup>3</sup>	
Select as many as possible from these courses:	
U.S. History	12
Iowa Government	2
Western Civilization	12
Man and His Environment	12
Statistics	5
Introduction to Sociology	4
Social Problems	4
Introduction to Psychology	4
Social Psychology (proposed course)	4
Minority Group Relations (proposed course)	4
Latin American Civilization	4
African Civilization	4
Asian Civilization	12
Economics III	3

*Pre-Forestry*

I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
General Chemistry I, II	10
College Physics I, II, III	12
Math-Statistics-Computer Science	13
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	

\*Students interested in foreign service should take a two-year sequence in a foreign language.

*Pre-Historical Science*

	Cr.
I. Requirements for A.A. Degree <sup>1</sup>	35
II. Career Core <sup>**3</sup>	
Western Civilization	12
Economics I and II	6
American Government	4
World Politics	4
III. Recommended Related Courses <sup>3</sup>	
Select as many as possible from these courses:	
U.S. History	12
Asian Civilization	12
Latin American Civilization	4
African Civilization	4
American Indian Civilization	4
Introduction to Anthropology	4
Economics III	3
Introduction to Sociology	4
Social Problems	4
Marriage and the Family	4
Introduction to Psychology	4
Psychology of Child Development	4
Educational Psychology	4
Psychology of Development (Adolescence to Senescence)	4
Masterpieces of/or Introduction to Literature	12
State and Local Government	4
Art Appreciation	3
Art History	9
Man and His Environment	12

<sup>1</sup>Students interested in pursuing a career in historical studies should consider taking a two-year sequence in a foreign language.

<sup>\*\*</sup>Students interested in this career area should not take more than thirty-six (36) quarter hours in the area of history.

*Pre-Insurance*

	Cr.
I. Requirements of A.A. Degree	35
II. Career Core <sup>2</sup>	
Principles of Insurance	3
Principles of Investments	4
Life and Disability Insurance	4
Property and Casualty Insurance	4
Principles of Insurance Underwriting	4
III. Recommended Related Courses <sup>2</sup>	
Principles of Marketing	4
Principles of Selling	4
Consumer Behavior	3
Principles of Accounting	9
Business Law I	4
Introduction to Data Processing	3
Principles of Finance	3
Principles of Management	4
Electives	

*Pre-Journalism*

	Cr.
I. Required Courses for A.A. Degree <sup>2</sup>	35
II. Career Core	
Introduction to Journalism	3
Journalism Lab I and II	4
Newswriting I and II	6
Advertising I	3
III. Recommended Related Courses <sup>2</sup>	
U.S. History I, II, III	12
Economics I, II, III	9
Typing I	3
Man and His Environment I, II, III	12
Political Science I, II, III	12

### Pre-Law

Students intending to enroll in a college of law should undertake a broad educational program. No particular area of study is necessarily more appropriate than another. If in doubt, students might enroll in a liberal arts curriculum similar to the one mentioned. Students should be aware that some colleges of law require a baccalaureate degree as a condition of admission, while others only require three years of college prior to admission. Below, however, is a possible program for the first two years to be used as a guide.

	Cr.
I. Required for A.A. Degree	35
II. Career Core <sup>3</sup>	
American Government	4
State and Local Government	4
World Politics	4
Administration of Justice	4
Criminal Evidence	4
Criminal Law	8
III. Recommended Related Courses <sup>3</sup>	
Select as many as possible from these courses:	
U.S. History	12
Western Civilization	12
Iowa Government	2
Public Administration	4
Economics	12
Introduction to Sociology	4
Social Problems	4
Introduction to Psychology	4
Social Psychology (proposed course)	4
Criminology	4
Parole, Pardons, Probation	4

### Pre-Teacher Education

The field of teacher education is undergoing great changes. Many universities are in the process of changing their core education courses so that some variance will be found in the requirements of different universities. Students choosing this field should contact the Head of the Social Science Department or the Director of Arts and Sciences when planning their two-year schedule. Students enrolled in Pre-Teacher Education should include in their program twelve to sixteen quarter hours in the field of Psychology and American Public Education.

### Medical Technology

	Cr.
I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
Invertebrate Zoology	6
Survey of the Vertebrates	6
General Chemistry I, II	10
Quantitative Analysis	5
Organic Chemistry I, II, III	12
College Algebra	5
III. Recommended Related Courses <sup>3</sup>	
Microbiology	4
Trigonometry	5
College Physics I, II, III	12

*Pre-Medicine*

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Invertebrate Zoology	6
Survey of the Vertebrates	6
General Chemistry I, II	10
Organic Chemistry I, II, III	12
College Physics I, II, III	12
College Algebra	5
Trigonometry	5
III. Recommended Related Courses <sup>3</sup>	
Environmental Biology	4
Quantitative Analysis	5
Statistics	5
General Psychology	4

*Pre-Music Education*

	<i>Cr.</i>
I. Requirements of A.A. Degree	35
II. Career Core <sup>3</sup>	
Music Theory	12
Advanced Harmony, Eartraining	9
Major Instrument	6
Minor Instrument	3
Keyboard	3
Conducting	3
III. Recommended Related Courses <sup>3</sup>	
Choral Techniques	3
Instrumental Techniques	3
American Public Education	4
Psychology	8

*Pre-Music Business*

	<i>Cr.</i>
I. Requirements of A.A. Degree	35
II. Career Core <sup>3</sup>	
Music Theory	12
Advanced Harmony, Eartraining	9
Major Instrument	6
Minor Instrument	3
Keyboard	3
III. Recommended Related Courses <sup>3</sup>	
An individual program of business courses will be arranged to meet each student's needs.	

*Pre-Nursing*

	<i>Cr.</i>
I. Requirements for the A.S. Degree <sup>3</sup>	57
II. Career Core	
Human Anatomy and Physiology I, II, III	12
General Chemistry I, II	10
Organic Chemistry I	4
Principles of Biology	4
Invertebrate Zoology	6
Survey of the Vertebrates	6
Mathematics — Statistics	5
III. Recommended Related Courses <sup>3</sup>	
Biology of Organisms	4
General Psychology	4
Development Psychology	4
Abnormal Psychology	4
Marriage and Family	4

*Pre-Pharmacy*

	Cr.
I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Invertebrate Zoology	6
Survey of the Vertebrates	6
General Chemistry I	5
General Chemistry II	5
Organic Chemistry I, II, III	12
College Physics I, II, III	12
College Algebra	5
Trigonometry	5
III. Recommended Related Courses <sup>3</sup>	
Environmental Biology	4
Quantitative Analysis	5

*Pre-Physical Therapy*

	Cr.
I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Human Anatomy and Physiology I, II, III	12
Invertebrate Zoology	6
Survey of the Vertebrates	6
College Physics I, II, III	12
General Chemistry I, II	10
Math and/or Statistics	15
III. Recommended Related Courses <sup>3</sup>	
Foreign Language	12
General Psychology	4

*Pre-Social Service*

	Cr.
I. Required for A.A. Degree*	35
II. Career Core <sup>3</sup>	
Introduction to Sociology	4
Social Problems	4
Marriage and the Family	4
Introduction to Psychology	4
Psychology of Child Development	4
Psychology of Growth and Development (Adolescence to Senescence)	4
State and Local Government	4
III. Recommended Related Courses <sup>3</sup>	
Select as many as possible from these courses:	
Social Psychology (proposed course)	4
Criminology	4
Juvenile Delinquency	4
U.S. History	12
American Government	4
Iowa Government	2
Statistics	5
Economics	9
Black History	4
Minority Group Relations (proposed course)	4
American Indian Civilization (proposed course)	4
Black Literature	4
Man and His Environment	12

\*Students who are interested in working in minority areas should consider courses in the Spanish Language.

<sup>3</sup>Courses in this area may also count for the requirements of Group I requirements. Please check college catalog for detailed information. A.S. and A.A. degrees require a minimum of 90 quarter hours each.

## *Pre-Veterinary Medicine*

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core <sup>3</sup>	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
General Chemistry I, II	10
Organic Chemistry I, II, III	12
College Physics I, II, III	12
Mathematics	10
Invertebrate Zoology	6
Survey of the Vertebrates	6
III. Recommended Related Courses <sup>3</sup>	
Statistics	5
Economics	4
Sociology	4
Philosophy	4
Government	4
General Psychology	4

### *College Parallel-Career*

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

#### *Career Program in Law Enforcement*

##### *(Associate of Arts)*

The Law Enforcement program is designed for persons wishing to prepare for a career in law enforcement and for persons already engaged in law enforcement who

wish to upgrade their present skills and secure advancement in their professional careers.

Courses offered are college level and provide up to the first two years of a four-year college program. The specialized courses in law enforcement are applicable to a major in the field of sociology at several colleges and universities. Students may enroll on either a part-time or full-time basis.

	<i>Cr.</i>
I. Required Courses for A.A. Degree	
Composition I, II	8
Speech	3
Humanities	8
Mathematics and/or Science	8
Social Science	8
II. Required Courses in Police Science	
Administration of Justice	4
Criminal Evidence	4
Criminal Law I	4
Criminal Law II	4
Patrol Procedures	4
Traffic Control	4
Criminology	4
Criminal Investigation	4
III. Related Courses <sup>1</sup>	
Penology	4
Juvenile Delinquency and Deviance	4
Parole, Pardon, Probation	4
Supervision and Management of Correctional Institutions	4
Introduction to Corrections	2
First Aid	2

<sup>1</sup>Any 8 hours of these related courses may be used to fulfill Social Science requirements in Group I, but the hours cannot be counted twice to reach the required 90 for graduation

Introduction to Law Enforcement	2
Introduction to Sociology	4
Social Problems	4
Marriage and the Family	4
Introduction to Psychology	4
Child Development	4
Psychology of Development (Adolescence to Senescence)	4
Economics I, II, III	9
United States History I, II, III	12

Law Enforcement students must take: *35 quarter hour credits* from Group I, and *32 quarter hours credits* from Group II; *27 quarter hour credits* from Group III in order to fulfill the requirements for the A.A. Degree in Law Enforcement.

*Career Program in Corrections  
(Associate of Arts)*

The Corrections program is designed to prepare students wishing to work in a correctional institution or as parole officers or counselors in the field of corrections, as well as for presently employed correctional officers seeking to upgrade their present skills or to advance toward a degree in this area.

Students enrolled in this program may secure either a Certificate in Corrections, or an Associate of Arts Degree in Corrections. The specialized courses in corrections are applicable to a major in the field of Sociology at many colleges and universities. Students may enroll on either a part-time or full-time basis.

I. Required Courses for A.A. Degree	Cr.
Composition I, II	8
Speech	3
Humanities	8
Mathematics and/or Science	8
Social Sciences	8

II. Required Courses for Corrections Degree	
Administration of Justice	4
Criminal Evidence	4
Criminal Law I, II	8
Criminology	4
Parole, Pardons, Probation	4
Supervision and Management of Correctional Institutions	4
Penology	4
Juvenile Delinquency and Deviance	4
III. Related Courses	
American Government	4
State and Local Government	4
Introduction to Corrections	2
Introduction to Sociology	4
Social Problems	4
Marriage and the Family	4
Introduction to Psychology	4
Psychology of Child Development	4
Psychology of Growth and Development (Adolescence to Senescence)	4
U.S. History I, II, III	12
Economics I, II, III	9

Corrections students must take: *35 quarter hour credits* from Group I, and *36 quarter hour credits* from Group II, and *19 quarter hour credits* from Group III in order to fulfill the requirements for the A.A. Degree in Corrections.

*Career Program in Library Services  
(Associate of Arts Degree)*

The Library Services program at Kirkwood Community College is a terminal program designed to prepare qualified students for para-professional work in all types of libraries. Persons who wish to work in libraries, but who do not want to complete the five years of collegiate



work normally required of librarians, will find this program particularly appealing.

The purpose of this program is to prepare individuals to work with professional librarians in ordering and processing books and materials for the shelves, typing cards for the catalog, checking and preparing periodical materials, keeping files and shelves up to date, and working at the circulation desk. It also familiarizes students with visual operations and procedures.

Theory and practice are integrated through a series of internships in library settings in order to assure the competency of students in making practical applications of techniques learned in classroom situations.

The Library Services program combines occupationally oriented courses in Library Services with college-

parallel oriented courses in the arts and sciences areas. Approximately eighty percent of the program is drawn from courses which normally provide credits transferable to other colleges and universities. However, the Library Services courses themselves are not expected to apply toward baccalaureate degrees in Library Science. Completion of the two year curriculum leads to an Associate of Arts Degree.

	Cr.
I. Required Courses for A.A. Degree	
Composition I, II	8
Speech	3
Humanities	8
Mathematics and/or Science	8
Social Sciences	8
II. Required Courses for Library Services Degree	
Instruction in Educational Media	3
Introduction to the Uses of the Library	3
Library Literature	3
Library Procedure	2
Library Routines	2
Technical Processes	2
III. Related Courses	
A wide range of academic courses including courses which build office skills, including typing.	40

Library Services students must take: *35 quarter hour credits* from Group I, and *15 quarter hour credits* from Group II.

#### *Teacher Associate*

The position of teacher associate is a recent addition to the educational field although there are longstanding counterparts in other fields, e.g., the engineering technician in industry, the medical laboratory technician in health and the data processing technician in business.

The teacher associate, like his colleagues in other areas, works with the more highly trained teacher in helping



students learn. He may relieve the teacher of many important duties which do not require the level of skill and training which persons with bachelor and master degrees generally possess. These duties are varied, but can be grouped into three broad categories: supervision of students, reinforcement of learning activities and preparation and operation of audio-visual materials and equipment.

Kirkwood Community College believes that teacher associates are best prepared through study in the humanities, social sciences, natural sciences and communications. It also believes that the preparation program should include specialized study in psychology, human growth and development and education, and should culminate in supervised work experience in a school setting.

An outline of the program follows. Successful completion of the program requires a minimum cumulative grade point average of 1.80 and a total of ninety quarter hours of credit. An associate degree in arts and sciences is awarded upon completion of the program.

*Career Program — Teacher Associate (As of Fall 1972)*

*Leads to Associate Arts Degree in Teacher Associate*

	<i>Cr.</i>
I. Required Courses for A.A. Degree	
Composition I, II	8
Speech	3
Humanities	8
Mathematics and/or Science	8
Social Science or History	8
II. Required Courses for Teacher Associate Degree	
American Public Education	4
Introduction to Teaching	4

General Psychology	4
Psychology of Child Development	4
Practicum for Teacher Associates	4
Effective Reading and Study	2
Introduction to Uses of the Library	2
Instruction in Educational Media	3
Office Machines*	2
Typing*	3
III. <i>Recommended for Teacher Associates</i> <i>in Elementary Grades</i>	
Children's Literature	4
Art Appreciation	3
Music Appreciation	4
Additional Electives (including additional courses in Art & Music)	
<i>Recommended for High School Level (English Language)</i>	
Foreign Language	12-21
Additional Electives (literature, art, music, theater, humanities)	11-21
<i>Recommended for High School Level (Social Science)</i>	
Social Science Sequence, e.g. History, Political Science, Sociology-Anthropology, Economics, Geography, Psychology and/or Humanities (e.g., theater, literature, art, music)	23
<i>Recommended for High School Level (Math-Science)</i>	
Math and Science courses including Man and His Environment in addition to A.A. requirements.	23
<i>Teacher Associate — Music (all levels)</i>	
Applied Music	

\*May be waived if proficiency can be demonstrated.

*Teacher Associate — Art (all levels)*

Drawing

Design

Prints

Ceramics or Sculpture

### *Developmental Program*

Students at Kirkwood Community College enter with a wide range of ability levels. In order to help students achieve the kinds of proficiency skills they need to succeed in college-level work, several special services are available.

1. The Writing Lab is a non-credit "open door" lab for students who feel insecure about their writing skills in general, and specific class related writing assignments. The Writing Lab, located in the LRC, operates on an individual tutorial basis.
2. The Mathematics Lab is a non-credit, "open door" lab for students who have specific deficiencies in mathematics. The lab is staffed by members of the Math Department.
3. The courses *Effective Reading and Study* and *Reading Lab* are college credit courses for students who want to improve their study techniques and reading comprehension.
4. Referral systems are made to other Kirkwood Services, such as the Community Education Development Materials or the specific tutorial programs of the Skills Center. Kirkwood is committed to the idea that it is more interested in the quality of the person that it turns out — than in the ability level of a person who comes in. Education at Kirkwood is designed on the belief that there is a way to teach everyone almost anything.

### *Credit by Examination*

Students in the Arts and Sciences Division may earn up to 40 quarter hours of credit through the College Level Examination Program of the College Entrance Examination Board through its general examinations. In addition a wide variety of subject matter examinations are available for earning credit by testing out of individual courses. Information about these examinations and procedure of taking any of the examinations may be obtained from the office of the head of counseling.



## ARTS AND SCIENCES COURSE INDEX

The following serves as an index for all courses offered in the Arts and Sciences Division, along with the appropriate numbers for each course. The letters following the course titles designate the core group to which the course applies. Those that are not marked do not meet core requirements. H stands for Humanities, S.S. stands for Social Sciences, M.S. stands for Math-Science, R stands for Rhetoric.

### *Accounting*

AC001T Principles of Accounting I  
AC002T Principles of Accounting II  
AC003T Principles of Accounting III  
AC004T Cost Accounting I  
AC005T Cost Accounting II  
AC006T Intermediate Accounting I  
AC007T Intermediate Accounting II  
AC008T Income Tax  
AC009T Intermediate Accounting III  
AC010T Analyzing Financial Statements

### *Administration and Management*

AM001T Agriculture Finance  
AM002T Principles of Finance  
AM003T Business Internship  
AM005T Principles of Management  
AM006T Labor Management Relations: Management's Viewpoint  
AM007T Labor Management Relations: Labor's Viewpoint  
AM008T Survey of Business and Its Occupations  
AM009T Social Problems in Business  
AM010T Stock Market I  
AM011T Stock Market II  
AM012T Business Environment Economics  
AM013T Business Environment Government  
AM014T Capitalism and Economics  
AM015T Consumer Economics  
AM016T International Business Operations  
AM017T Franchising  
AM018T Business Credit  
AM019T Motivation  
AM020T Personal Insurance  
AM021T Business Organization  
AM022T Marketing

AM023T Data Processing  
AM025T Independent Study in Business  
AM026T Independent Study in Business  
AM027T Independent Study in Business  
AM028T Independent Study in Business  
AM029T Bank Management  
AM030T Installment Credit  
AM031T Supervision and Personnel Administration

### *Art*

AT001T Art Appreciation — H  
AT002T Art History I — H  
AT003T Art History II — H  
AT004T Art History III — H  
AT005T Fundamentals of Ceramics I  
AT006T Fundamentals of Ceramics II  
AT007T Fundamentals of Ceramics III  
AT008T Fundamentals of Design I  
AT009T Fundamentals of Design II  
AT010T Fundamentals of Design III  
AT011T Fundamentals of Drawing I  
AT012T Fundamentals of Drawing II  
AT013T Fundamentals of Drawing III  
AT014T Fundamentals of Lettering  
AT015T Fundamentals of Painting I  
AT016T Fundamentals of Painting II  
AT017T Fundamentals of Painting III  
AT018T Fundamentals of Photography I  
AT019T Fundamentals of Photography II  
AT020T Fundamentals of Photography III  
AT021T Fundamentals of Prints and Composition I  
AT022T Fundamentals of Prints and Composition II  
AT023T Fundamentals of Prints and Composition III  
AT024T Fundamentals of Sculpture I  
AT025T Fundamentals of Sculpture II  
AT026T Fundamentals of Sculpture III

### *Biological Sciences*

BY001T Environmental Biology — M.S.  
BY002T Principles of Biology — M.S.  
BY003T Biology of Organisms — M.S.  
BY008T Human Anatomy and Physiology I — M.S.  
BY009T Human Anatomy and Physiology II — M.S.  
BY010T Human Anatomy and Physiology III — M.S.  
BY011T Invertebrate Zoology — M.S.  
BY012T Survey of the Vertebrates — M.S.  
BY013T Independent Study in Biology — M.S.  
BY017T Field Natural History — M.S.  
BY018T Integrated Science II — M.S.

## *Chemistry*

CH001T Principles of Chemistry — M.S.  
CH002T Fundamentals of Organic Chemistry — M.S.  
CH003T Fundamentals of Biochemistry  
CH004T Quantitative Analysis  
CH005T General Chemistry I  
CH006T General Chemistry II  
CH008T Organic Chemistry I  
CH009T Organic Chemistry II  
CH010T Organic Chemistry III  
CH011T Integrated Science I

## *Communications*

CM101T Composition I — R  
CM102T Composition II — R  
CM103T Composition Techniques I — R  
CM104T Composition Techniques II — R  
CM105T Intermediate Composition  
CM106T Effective Reading & Study  
CM107T Reading Lab. (Effective Reading & Study)  
CM108T Critical Reading — H  
CM111T Creative Writing  
CM112T Speeded Reading Laboratory  
CM201T Speech I — Public Speaking — R  
CM202T Speech II  
CM204T Speech I — Interpersonal Communications — R  
CM205T Independent Study in Speech  
CM206T Independent Study in Speech  
CM207T Independent Study in Speech  
CM208T Independent Study in Speech  
CM301T Introduction to Broadcasting  
CM302T Broadcasting Methods I  
CM001D Review English for College  
CM002D Writing Laboratory

## *Corrections*

CO001T Introduction to Corrections  
CO002T Probation, Parole, Pardons  
CO003T Principles of Corrections Management & Supervision  
CO004T Penology  
CO005T Correctional Services in the Community

## *Data Processing*

DP001T Introduction to Data Processing  
DP002T Introduction to Computer Organization & Programming

DP003T Computer Organization & Programming I  
DP004T Computer Organization & Programming II  
DP005T Computer Programming  
DP006T Computer & Data Processing Concepts

## *Drama*

DR101T Introduction to Theatre — H  
DR102T Theatre Workshop

## *Economics*

EC001T The American Economy — S.S.  
EC002T Principles of Business Economics I — S.S.  
EC003T Principles of Business Economics II — S.S.  
EC004T Economics I — S.S.  
EC005T Economics II — S.S.  
EC006T Economics III — S.S.  
EC007T Independent Study in Economics — S.S.  
EC008T Money and Banking

## *Engineering*

EG001T Engineering Problems

## *Environmental Studies and Pollution Control*

EV001T Man and His Environment I  
EV002T Man and His Environment II  
EV003T Man and His Environment III

## *Foreign Languages*

FL001T Elementary French I — H  
FL002T Elementary French II — H  
FL003T Elementary French III — H  
FL004T Intermediate French I — H  
FL005T Intermediate French II — H  
FL006T Intermediate French III — H  
FL007T French Civilization I — H  
FL008T French Civilization II — H  
FL009T French Civilization III — H  
FL010T Elementary German I — H  
FL011T Elementary German II — H  
FL012T Elementary German III — H  
FL013T Elementary Spanish I — H  
FL014T Elementary Spanish II — H  
FL015T Elementary Spanish III — H  
FL016T Intermediate Spanish I — H

FL017T Intermediate Spanish II — H  
 FL018T Intermediate Spanish III — H  
 FL019T Spanish Civilization — H  
 FL020T Spanish-American Civilization — H  
 FL022T Travel French  
 FL023T Intermediate German I — H  
 FL024T Intermediate German II — H  
 FL025T Intermediate German III — H

### *Library Services*

LS001T Instruction in Educational Media  
 LS002T Introduction to Uses of the Library  
 LS003T Library Literature  
 LS004T Library Procedures  
 LS005T Library Routines  
 LS006T Technical Processes

### *Geography*

GE001T Human Geography — S.S.  
 GE002T Human Geography: Independent Study — S.S.  
 GE003T Physical Geography — S.S.

### *Graphics*

GR001T Engineering Graphics  
 GR002T Engineering Graphics II

### *History*

HY001T U.S. History I — S.S. — H  
 HY002T U.S. History II — S.S. — H  
 HY003T U.S. History III — S.S. — H  
 HY004T Western Civilization I — S.S. — H  
 HY005T Western Civilization II — S.S. — H  
 HY006T Western Civilization III — S.S. — H  
 HY007T Black History — S.S. — H  
 HY008T Independent Study in Social Sciences (History) — S.S. — H  
 HY010T Asian Civilization I — H  
 HY011T Asian Civilization II — H  
 HY012T Asian Civilization III — H

### *Journalism*

JO101T Introduction to Journalism  
 JO102T Journalism Laboratory

### *Law Enforcement*

LE001T Introduction to Law Enforcement — S.S.  
 LE002T Patrol Procedures I — S.S.  
 LE003T Traffic Control — S.S.  
 LE004T Criminal Investigation — S.S.

### *Literature*

LT001T Children's Literature — H  
 LT101T Introduction to Literature I — H  
 LT102T Introduction to Literature II — H  
 LT103T Introduction to Literature III — H  
 LT201T Masterpieces of Literature I — H  
 LT202T Masterpieces of Literature II — H  
 LT203T Masterpieces of Literature III — H  
 LT204T Black Literature — H  
 LT205T Independent Study in Literature — H  
 LT206T Independent Study in Literature — H  
 LT207T Independent Study in Literature — H  
 LT208T Independent Study in Literature — H

### *Law*

LW001T Administration of Justice — S.S.  
 LW002T Criminal Evidence — S.S.  
 LW003T Criminal Law I — S.S.  
 LW004T Criminal Law II — S.S.  
 LW005T Business Law I  
 LW006T Business Law II

### *Mathematics*

MA004T College Algebra — M.S.  
 MA005T Analytic Geometry — M.S.  
 MA006T Calculus I — M.S.  
 MA007T Calculus II — M.S.  
 MA008T Calculus III — M.S.  
 MA009T Differential Equations I — M.S.  
 MA010T Trigonometry — M.S.  
 MA011T Fundamentals of Statistics — M.S.  
 MA013T Appreciation of Math — M.S.  
 MA014T Intermediate Algebra — M.S.  
 MA015T Differential Equations II — M.S.  
 MA016T Linear Algebra — M.S.  
 MA017T Math for Elementary School Teachers — M.S.  
 MA018D Beginning Algebra — M.S.

## Marketing

MK001T Principles of Marketing  
MK002T Principles of Retailing  
MK003T Principles of Selling  
MK004T Marketing Channels and Institutions  
MK005T Consumer Behavior  
MK006T Principles of Insurance  
MK007T Principles of Bank Operations  
MK008T Trust Functions and Services  
MK009T Principles of Insurance Underwriting  
MK010T Property and Casualty Insurance  
MK011T Life and Disability Insurance  
MK012T Principles of Investment

## Medical and Surgical

MS001T Emergency and First Aid Procedures

## Music

MU001T Applied Music: Instrumental  
MU003T Applied Music: (Instrumental Keyboard I)  
MU004T Applied Music: (Instrumental Keyboard II)  
MU005T Applied Music: (Instrumental Keyboard III)  
MU006T Applied Music: (Instrumental Keyboard IV)  
MU007T Applied Music: Vocal I  
MU008T Applied Music: Vocal II  
MU009T Applied Music: Vocal III  
MU010T Applied Music: Vocal IV  
MU011T Music Appreciation — H  
MU012T Advanced Harmony, Ear Training, and Sight Singing I  
MU013T Advanced Harmony, Ear Training, and Sight Singing II  
MU014T Advanced Harmony, Ear Training, and Sight Singing III  
MU015T Band  
MU016T Chorus  
MU017T Choral Techniques  
MU018T Conducting  
MU022T Ensemble  
MU023T Music Theory I  
MU024T Music Theory II  
MU025T Music Theory III



## Office Education

OE001T College Shorthand I  
OE002T College Shorthand II  
OE003T College Shorthand III  
OE004T College Shorthand Transcription  
OE006T College Typing I  
OE007T College Typing II  
OE008T College Typing III  
OE009T Office Machines  
OE010T Filing Systems and Records Control  
OE011T Secretarial Procedures  
OE012T College Typing IV

## Personal Development

PD005T Human Potential Lab.

## Physics/Astronomy

PH001T College Physics I — M.S.  
PH002T College Physics II — M.S.  
PH003T College Physics III — M.S.  
PH004T General Physics I — M.S.  
PH005T General Physics II — M.S.

- PH006T General Physics III — M.S.
- PH007T Physical Science — Astronomy — M.S.
- PH008T Physical Science — Physics — M.S.
- PH009T Independent Study — Physics — M.S.

*Philosophy/Religion*

- PR001T Introduction to Philosophy — H
- PR002T Introduction to Religion — H

*Political Science*

- PS001T American Society: Community Politics — S.S.
- PS002T American Federal Government — S.S.
- PS003T State & Local Government — S.S.
- PS004T World Politics — S.S.
- PS005T Independent Study in Political Science — S.S.

*Psychology/Education*

- PY001T Psychology of Adjustment — S.S.
- PY002T General Psychology — S.S.
- PY003T Psychology of Child Development — S.S.
- PY004T Educational Psychology and Measurement — S.S.
- PY005T American Public Education — S.S.
- PY006T Independent Study in Psychology — S.S.
- PY007T Practicum for Teacher Associates — S.S.
- PY008T Psychology of Growth and Development:  
(Adolescence to Senescence) — S.S.
- PY009T Introduction to Teaching — S.S.

*Sociology*

- SO001T American Society: Community Organization — S.S.
- SO002T American Society: Community Problems — S.S.
- SO003T American Society: Minority Group Related — S.S.
- SO004T Introduction to Sociology — S.S.
- SO005T Marriage and the Family — S.S.
- SO006T Social Problems — S.S.
- SO007T Criminology — S.S.
- SO008T Introduction to Cultural Anthropology — S.S.
- SO009T Independent Study in Anthropology — S.S.
- SO010T Independent Study in Sociology — S.S.
- SO011T Juvenile Delinquency & Deviancy — S.S.

# VOCATIONAL- TECHNICAL

## AGRICULTURE

### *Agribusiness*

The Agribusiness program is designed to prepare students for entry employment in the field of farm supply distribution and service. Students receive preparation leading to careers in chemicals, fertilizer, feeds, grain, and general farm supply work. The program is set up so that students can terminate at the end of four quarters of education and go directly into the world of work if they choose. Practical employment experience periods are included.

Students successfully completing this seven-quarter program receive the Associate of Applied Science degree; those completing four quarters receive a diploma.

### First Year

<i>Fall Quarter</i>	<i>Cr.</i>	<i>Hrs.</i>
AG110U Farm Supply Enterprise	5	90
MK003U Ag. Product Marketing I	3	60
AC008U Farm Record Keeping	3	60
MA001U Ag. Computations	2	48
AG006U Seminar	1	12
AG041U Livestock & Crop Problems	<u>5</u>	<u>90</u>
	19	360

<i>Winter Quarter</i>	<i>Cr.</i>	<i>Hrs.</i>
AG111U Farm Supply Enterprise	10	180
AG053U Soil Fertility	3	60
AG004U Livestock Production	3	60
AM007U Enterprise Analysis I	<u>3</u>	<u>60</u>
	19	360

*Spring Quarter*

AG112U	Farm Supply Enterprise	5	90
PY004U	Psy. of Human Relations	2	30
AM008U	Enterprise Analysis II	2	30
AG001U	Farm Machinery Operations	2	30
AG012U	Employment Experience	<u>7</u>	<u>180</u>
		18	360

*Summer Quarter*

AG113U	Farm Supply Enterprise	10	180
AG017U	Field Crop Production	3	60
AG109U	Farm Machinery	3	60
AG003U	Agri-Business Procedures	<u>3</u>	<u>60</u>
		19	360

**Second Year**

*Fall Quarter*

		Cr.	Hrs.
AG110U	Farm Supply Ent.	5	90
MK002U	Salesmanship	2	30
AG016U	Feed Rations	2	30
CM002U	Communication Skills I	2	30
AG012U	Employment Experience	<u>7</u>	<u>180</u>
		18	360

*Winter Quarter*

	Agriculture Ent.	10	180
AM009U	Farm Management	3	60
LW005T	Business Law	3	60
MK004U	Ag. Product Marketing II	<u>3</u>	<u>60</u>
		19	360

*Spring Quarter*

	Agriculture Ent.	5	90
AG005U	Ag. Chemicals	2	30
AM015U	Enterprise Analysis II	2	30
AM001T	Agricultural Finance	2	30
AG012U	Employment Experience	<u>7</u>	<u>180</u>
		18	360

**Agriculture Mechanics**

The Agriculture Mechanics program is designed to prepare individuals for entry employment as specialized machinery mechanics, farm service representatives, parts men, farm machinery salesmen or supervisors.

During the first year of the program, students receive instruction in basic core competencies and are qual-

ified as set-up specialists. They may continue a second year and concentrate in one of two other specialist options: Mechanic or Part Room Sales and Service. Both programs lead, upon completion of six quarters, to an Associate in Applied Science degree.

**First Year**

*Fall Quarter*

		Cr.	Hrs.
MA001U	Agric. Computations	3	36
MH005U	Agricultural Equipment Principles I	6	156
EL027U	Electricity I	3	48
MH019U	Reconditioning & Repair	5	108
AG006U	Seminar	<u>1</u>	<u>12</u>
		18	360

*Winter Quarter*





AG001U	Technical Agriculture	3	48
MH006U	Agricultural Equipment Principles II	6	144
EL028U	Electricity II	5	108
MH013U	Gas Engines I	<u>4</u>	<u>60</u>
		18	360

*Spring Quarter*

MH020U	Gas Engines II	4	72
AG059U	Special Projects	3	60
MH007U	Agricultural Equipment Principles III	5	156
PY004U	Psy. of Human Relations	3	36
CM002U	Communication Skills I	<u>3</u>	<u>36</u>
		18	360

**Second Year**

*MECHANICS (SPECIALIST)  
PARTS ROOM SALES AND SERVICES*

*Summer Quarter*

		Cr.	Hrs.
MH001U	Basic Hydraulics	3	48
MH014U	Gas Engines & Systems	12	264
MH016U	Power Transfer Systems I	<u>3</u>	<u>48</u>
		18	360

*Fall Quarter*

MH003U	Applied Hydraulics	3	48
MH017U	Power Transfer Systems II	3	48
MH008U	Diesel Diagnosis and Overhaul	8	204
AM013U	Implement Business Functions	<u>4</u>	<u>60</u>
		18	360

*Winter Quarter*

MH018U	Power Transfer Systems III	3	48
MH015U	Advanced Hydraulics	3	48
MH021U	Unit Diagnosis and Overhaul	8	204
AG108U	Ag. Shop Maintenance	<u>3</u>	<u>60</u>
		17	360

\*Students are to have successfully completed 400 hours of employment experience prior to graduation.

**Agricultural Education**

These courses are specially designed to offer a balance between practical husbandry and technical up-to-date subject matter. Students are actively engaged in the business-like operation and analysis of their enterprise. No pre-requisites are essential for any quarter, but

needed quarters should be carefully planned by students. Students may repeat quarters if desired. Individual course emphasis for each quarter is stated below:

**Agricultural Electives**

		Cr.	Hrs.
AG063U	Beef Enterprise, Fall	5	90
AG064U	Beef Enterprise, Winter	10	180
AG065U	Beef Enterprise, Spring	5	90
AG066U	Beef Enterprise, Summer	10	180
AG114U	Crop Enterprise, Fall	5	90
AG115U	Crop Enterprise, Winter	10	180
AG116U	Crop Enterprise, Spring	5	90
AG117U	Crop Enterprise, Summer	10	180
AG110U	Farm Supply Ent., Fall	5	90
AG111U	Farm Supply Ent., Winter	10	180
AG112U	Farm Supply Ent., Spring	5	90
AG113U	Farm Supply Ent., Summer	10	180
AG067U	Sheep & Dairy Ent., Fall	5	90
AG068U	Sheep & Dairy Ent., Winter	10	180
AG069U	Sheep & Dairy Ent., Spring	5	90
AG070U	Sheep & Dairy Ent., Summer	10	180
AG071U	Swine Enterprise, Fall	5	90
AG072U	Swine Enterprise, Winter	10	180
AG073U	Swine Enterprise, Spring	5	90
AG074U	Swine Enterprise, Summer	10	180
OE006U	Agribusiness Office Mach.	2	30
AM004U	Agric. Foremanship	2	30
AG055U	Soil & Plant Science	2	30
AG002U	Forage & Oat Production	2	30
AG040U	Pests & Pesticides	2	30

**Electives From Other Departments**

CM003U	Communication Skills II	2	30
MK017U	Principles of Advertising	3	36
AC001T	Principles of Accounting I	3	36



## Ornamental Horticulture

The Ornamental Horticulture program is a two-year program, leading to an Associate in Applied Science degree, designed to prepare individuals for employment as conservationists, insect control specialists, nurserymen, and water and wildlife officers.

During the first year of the program, students receive instruction in basic core competencies. During the second year, they may specialize in one of three career options: Landscape-Nursery-Garden Center, Lawn and Turf, and Park-Recreation-Natural Resources.

### First Year

#### Fall Quarter

	Cr.	Hrs.
AG077U Horticulture Careers	1	24
AG062U Horticulture Equipment	3	60
AG044U Plant Materials I	3	72
AG029U Landscape Construction	3	60
AG042U Weed Identification	3	60
AG057U Turfgrass Management	3	60
AG006U Seminar	1	12
MA001U Agric. Computations	<u>1</u>	<u>12</u>
	18	360

#### Winter Quarter

CM002U Communication Skills I	3	60
AG048U Plant Propagation I	4	80
AG030U Landscape Design I	4	80
AG039U Plant Disease & Insects	3	60
AG045U Plant Materials II	<u>4</u>	<u>80</u>
	18	360

#### Spring Quarter

MH012U Small Engines & Equip.	2	36
AG038U Chemical Applicators	2	36
PY004U Psy. of Human Relations	2	36
AG037U Soils & Fertilizers	2	36
AG049U Plant Propagation II	2	36
AG012U Employment Experience	<u>8</u>	<u>180</u>
	18	360

**Second Year**

*(LANDSCAPE-NURSERY-GARDEN CENTER)*

*Fall Quarter*

	<i>Cr.</i>	<i>Hrs.</i>
CS002U Facility Construction	3	60
AG031U Landscape Design II	3	60
AG047U Herbaceous Plant Material	3	60
AG036U Fruit & Vegetable Prod.	3	60
AG035U Nursery Stock Production	3	60
MK002U Salesmanship	<u>3</u>	<u>60</u>
	18	360

*Winter Quarter*

AG003U AgriBusiness Procedures	3	60
LW005T Business Law	3	60
CM005U Oral Communications	4	80
AG034U Landscape Design III	4	80
AG046U Plant Materials III	<u>4</u>	<u>80</u>
	18	360

*Spring Quarter*

AG026U Garden Center Operations	6	108
AG027U House Plants	2	36
AG028U Greenhouse Facilities and Equipment	2	36
AG012U Employment Experience	<u>8</u>	<u>180</u>
	18	360

**Second Year**

*PARKS, AND LAWN AND TURF*

*Fall Quarter*

	<i>Cr.</i>	<i>Hrs.</i>
CS002U Facility Construction	3	60
AG032U Recreational Area Design	3	60
AG080U Avian Wildlife*	3	60
AG033U Grounds Equipment Management	3	60
AG056U Soil & Water Mechanics	3	60
AG007U Forests Management	<u>3</u>	<u>60</u>
	18	360

*Winter Quarter*

AG008U Mammalian Wildlife*	4	80
AG009U Grounds Law & Programs	3	60
CM005U Oral Communications	4	80
AG010U Park Management Problems	4	80
LE003U Law Enforcement	<u>3</u>	<u>60</u>
	18	360

*Spring Quarter*

MS014V First Aid	2	36
AG013U Aquatic Wildlife*	2	36
AG015U Lakes & Rivers Management	2	36
LW001U Iowa Hunting & Fishing Law	2	36
AG018U Wildlife Reserves*	2	36
AG012U Employment Experience	<u>8</u>	<u>180</u>
	18	360

*\*ALTERNATE COURSES*

AG019U Adv. Turfgrass Management	3	60
AG023U Turfgrass Diseases	4	80
AG024U Turfgrass Fertilization	2	36
AG025U Irrigation Systems	2	36

*Production Agriculture*

The Production Agriculture program is designed to prepare students for entry employment or employment advancement in the science of food production. Students receive preparation leading to employment as farm operators or assistants, livestock technicians, buyers for agriculture products and implement sales, crop technicians and other occupations requiring a knowledge of the agriculture sciences. Special emphasis is placed on management and decision making. A farm laboratory is available for realistic experiences.

The course consists of seven twelve-week quarters or 2,880 clock hours, and leads to an Associate in Applied Science degree. The program is designed to appeal to the student with either a wide or narrow agricultural background. In many instances, students in the various curriculum options are actually engaged in production agriculture (farming) while enrolled.

Beginning the fifth quarter, students may specialize in one of four areas: Farm Operations, Animal Husbandry, Crops and Soils, or Farm Management. A special winter quarter program in Farm Management is also available, which leads to a certificate upon completion.

**First Year**

*Fall Quarter*

	<i>Cr.</i>	<i>Hrs.</i>
Agriculture Enterprise	5	90
MK003U Ag. Product Marketing I	3	60
AC008U Farm Record Keeping	3	60
MA001U Agric. Computations	2	48
AG006U Seminar	1	12
AG041U Livestock & Crop Problems	5	90
AG012U Employment Experience*	19	360

*Winter Quarter*

Agriculture Enterprise	10	180
AG053U Soil Fertility	3	60
AG004U Livestock Production	3	60
AM007U Enterprise Analysis I	3	60
	19	360

*Spring Quarter*

Agriculture Enterprise	5	90
PY004U Psy. of Human Relations	2	30
AM008U Enterprise Analysis II	2	30
AG011U Farm Machinery Operations	2	30
AG012U Employment Experience	7	180
	18	360

*Summer Quarter*

Agriculture Enterprise	10	180
AG017U Field Crop Production	3	60
AG109U Farm Machinery	3	60
CS001U Farm Construction	3	60
	19	360

**Second Year**

*Fall Quarter*

	<i>Cr.</i>	<i>Hrs.</i>
Agriculture Enterprise	5	90
AG014U Farmstead Planning and Mechanization	2	30
CM016U Feed Rations	2	30
CM002U Communication Skills I	2	30
AG012U Employment Experience	7	180
	18	360

*Winter Quarter*

Agriculture Enterprise	10	180
AM009U Farm Management	3	60
LW002U Agricultural Law	3	60

MK004U Ag. Product Marketing II	3	60
	19	360

*Spring Quarter*

Agriculture Enterprise	5	90
AG005U Agric. Chemicals	2	30
AM015U Enterprise Analysis III	2	30
AM001T Agricultural Finance	2	30
AG012U Employment Experience	7	180
	18	360

\*This course is optional. Students must make request to Prog. Chm.

**VETERANS FARM COOP**

The Veterans Farm Coop program is new and unique. It was designed for those returning veterans engaged in farming with an interest in bettering their farm business operations.

Major emphasis of the program includes home farm problems and record keeping. Although much of the work is in the classroom, students have access to Kirkwood's Central Farm Laboratory. Even though the program was designed for the veteran and is approved by the Veteran's Administration, one need not be a veteran to enroll.

Graduates receive a certificate, diploma, or Associate of Applied Science Degree depending on the length of time a student attends.

*Veterans Farm Cooperative Curriculum*

**First Year**

*Summer Quarter*

	<i>Cr.</i>	<i>Hrs.</i>
AG083U VFC Records & Management	5	60
AG084U VFC Monogastric Nutrition	2½	30
AG085U VFC Field Crop Problems	2½	30
AG082U VFC Coop (2 weeks)	2	60
	12	120

<i>Fall Quarter</i>			
AG083U	VFC Records & Management	4½	54
AG086U	VFC Ruminant Nutrition	2¼	27
AG087U	VFC Soil & Plant Science	2¼	27
AG082U	VFC Coop (3 weeks)	<u>3</u>	<u>27</u>
		12	108

<i>Winter Quarter</i>			
AG083U	VFC Records & Management	6	72
AG088U	VFC Swine Production	3	36
AG089U	VFC Soil Fertility	<u>3</u>	<u>36</u>
		12	144

<i>Spring Quarter</i>			
AG083U	VFC Records & Management	4½	54
MA018U	VFC Ag. Computations	2¼	27
CH001U	VFC Ag. Chemicals I	2¼	27
AG082U	VFC Coop (3 weeks)	<u>3</u>	<u>27</u>
		12	108

## Second Year

<i>Summer Quarter</i>			
		<i>Cr.</i>	<i>Hrs.</i>
AG083U	VFC Records & Management	5	60
AG092U	VFC Beef Production	2½	30
AG093U	VFC Forage & Oat Prod.	2½	30
AG082U	VFC Coop (2 weeks)	<u>2</u>	<u>30</u>
		12	120

<i>Fall Quarter</i>			
AG083U	VFC Records & Management	4½	54
AG094U	VFC Grain Marketing	2¼	27
AG095U	VFC Tractor Maintenance	2¼	27
AG082U	VFC Coop (3 weeks)	<u>3</u>	<u>27</u>
		12	108

<i>Winter Quarter</i>			
AG083U	VFC Records & Management	6	72
AG096U	VFC Corn Production	3	36
AG097U	VFC Livestock Marketing	<u>3</u>	<u>36</u>
		12	144

<i>Spring Quarter</i>			
AG083U	VFC Records & Management	4½	54
AG098U	VFC Tillage and Planting		
	Equipment Adjustment	2¼	27
CS003U	VFC Farm Construction I	2¼	27
AG082U	VFC Coop (3 weeks)	<u>3</u>	<u>27</u>
		12	108



## Third Year

<i>Summer Quarter</i>			
		<i>Cr.</i>	<i>Hrs.</i>
AG083U	VFC Records & Management	5	60
CS004V	VFC Farm Construction II	2½	30
EV001U	VFC Land Use and Conservation	2½	30
AG082U	VFC Coop (2 weeks)	<u>2</u>	<u>30</u>
		12	120

<i>Fall Quarter</i>			
AG083U	VFC Records & Management	4½	54
AG102U	VFC Harvesting Equipment Adjustment	2¼	27
AG090U	VFC Ag. Finance	2¼	27
AG082U	VFC Coop (3 weeks)	<u>3</u>	<u>27</u>
		12	108

<i>Winter Quarter</i>			
AG083U	VFC Records & Management	6	72
LW003U	VFC Agric. Law	3	36
AG105U	VFC Farmstead Planning & Mechanization	<u>3</u>	<u>36</u>
		12	144

<i>Spring Quarter</i>			
AG083U	VFC Records & Management	4½	54
CH002U	VFC Agric. Chemicals II	2¼	27
AG107U	VFC Futures Market	2¼	27
AG082U	VFC Coop (3 weeks)	<u>3</u>	<u>27</u>
		12	108

NOTE: Students will not necessarily take Year I, II, and III in their respective order, but will take the most appropriate year in accordance with the overall program.



## BUSINESS

### Administrative Secretary

The Administrative Secretary Program is a two-year program which permits length and depth in the study of secretarial science. It not only prepares a student for a skilled position in the office but permits her to receive a well-rounded education that makes her not only a skilled secretary but a participating member of an executive team.

Graduates receive an Associate of Applied Science Degree.

		Cr.	Hrs.
OE006T	College Typing I	3	60
OE007T	College Typing II	3	60
OE008T	College Typing III	3	60
OE012T	College Typing IV	3	48
OE001T	College Shorthand I	4	60
OE002T	College Shorthand II	4	60
OE003T	College Shorthand III	4	60
OE004T	College Shorthand Transcription	4	48

OE016V	Office Careers	2	48
OE005U	Office Education Laboratory <sup>1</sup>	1-4	arr.
OE011T	Secretarial Procedures	4	48
OE009T/	Office Machines or Office Calculating	2	36
OE004U	Procedures	4	60
OE010T	Filing Systems and Records Control	3	36
AM019U	Office Management	3	36
AC001T	Principles of Accounting I	3	36
AC002T	Principles of Accounting II	3	36
	Micro Courses in Business	4	48
OE015V	Transcribing Machines	2	36
LW005T	Business Law I	3	36
DP046U/	Elements of Data Processing I or	3	36
DP001T	Introduction to Data Processing	3	36
AM003T	Business Internship	12	480
CM101T/	Composition I	4	48
CM002U	or Communication Skills I	3	36
CM102T/	Composition II	4	48
CM003U	or Communication Skills II	3	36
CM201T	Speech I	3	36
PY002T	General Psychology	4	48
EC004T/	Economics I	3	36
EC002T	or Principles of Business Economics I	3	36
	Electives <sup>2</sup>	12	144

<sup>1</sup>May be waived upon coordinator's approval.

<sup>2</sup>Electives must include a minimum of twelve hours from at least two of the following areas: math, science, social science and business.

## Legal Secretary

The Legal Secretary program provides the specialized training necessary for work in a law office, a bank, or in a similar field. In addition to advanced training in basic office skills, the student receives intensified technical course work in the legal secretarial area. The program is four quarters in length.

Graduates receive a diploma.

		Cr.	Hrs.
OE006T	College Typing I	3	60
OE007T	College Typing II	3	60
OE008T	College Typing III	3	60
OE005V	Legal Typing	3	48
OE001T	College Shorthand I	4	60
OE002T	College Shorthand II	4	60
OE003T	College Shorthand III	4	60
OE004T	College Shorthand Transcription	4	48
OE003V	Legal Dictation	3	36
OE004V	Legal Machine Transcription	3	36
OE006V	Legal Terminology	3	36
OE002V	Law Office Procedures	3	36
LW005T	Business Law I	4	48
LW006T	Business Law II	4	48
AC008V	Income Tax Procedures	3	36
OE004U	Office Calculating Procedures	4	60
AC004V	Office Accounting	4	48
OE016V	Office Careers	2	48
OE001U	Office Procedures I	4	60
OE002U	Office Procedures II	3	60
OE015V	Transcribing Machines	2	36
OE010T	Filing Systems and Records Control	3	36
CM002U	Communication Skills I	3	36
CM003U	Communication Skills II	3	36
PY004U	Psychology of Human Relations	2	24
OE005U	Office Education Laboratory	1-4	12-48
AM003T	Business Internship	5	200

## Medical Secretary

The Medical Secretary program is a four-quarter program designed to give students the skills they will need as a secretary in one of numerous health-related occupations — doctor's offices, clinics, insurance offices, hospitals, and laboratories.

Graduates receive a diploma.

		Cr.	Hrs.
OE006T	College Typing I	3	60
OE007T	College Typing II	3	60
OE008T	College Typing III	3	60
OE012T	College Typing IV	3	48
OE012V	Medical Secretarial Typing	4	48
OE001T	College Shorthand I*	4	60
OE002T	College Shorthand II*	4	60
OE003T	College Shorthand III*	4	60
OE007V	Medical Secretarial Dictation*	4	48
BY001V	Medical Secretarial Terminology and Body Structure I	4	60
BY002V	Medical Secretarial Terminology and Body Structure II	4	60
NS001V	Administration of Medication I	4	84
LW001V	Medical Law	1	24
OE011V	Medical Secretarial Office Procedures	4	48
OE010V	Medical Secretarial Machine Transcription	2	36
OE004U	Office Calculating Procedures	4	60
AC004V	Office Accounting	4	48
OE001U	Office Procedures I	4	60
OE010T	Filing Systems and Records Control	3	36
PY004U	Psychology of Human Relations	3	36
OE005U	Office Education Laboratory	9	204
CM002U	Communication Skills I	3	36
CM003U	Communication Skills II	3	36
OE016V	Office Careers	2	48
AM003T	Business Internship	6	240

\*Electives may be taken in lieu of shorthand with approval of the coordinator.

## General Secretary

Students planning a secretarial career in any of dozens of business from advertising agencies and educational institutions will find the General Secretary program suited to them.

Graduates receive a diploma.

		Cr.	Hrs.
OE006T	College Typing I	3	60
OE007T	College Typing II	3	60
OE008T	College Typing III	3	60
OE012T	College Typing IV	3	48
OE001T	College Shorthand I	4	60
OE002T	College Shorthand II	4	60
OE003T	College Shorthand III	4	60

OE004T	College Shorthand Transcription	4	48
AC004V	Office Accounting	4	48
OE016V	Office Careers	2	48
OE001U	Office Procedures I	4	60
OE002U	Office Procedures II	3	60
CM002U	Communication Skills I	3	36
CM003U	Communication Skills II	3	36
DP046U	Elements of Data Processing I	3	36
	Micro Courses in Business	4	48
OE004U	Office Calculating Procedures	4	60
PY004U	Psychology of Human Relations	2	24
OE010T	Filing Systems and Records Control	3	36
AM003T	Business Internship	5	200
OE015V	Transcribing Machines	2	36
OE005U	Office Education Laboratory	1-4	12-48

### Clerical-Receptionist

The Clerical-Receptionist program prepares students for entry into clerical positions in the office. These positions include clerk typist, filing clerk, receptionist, and others providing office services.

Graduates receive a diploma.

		<i>Cr.</i>	<i>Hrs.</i>
OE006T	College Typing I	3	60
OE007T	College Typing II	3	60
OE008T	College Typing III	3	60
OE012T	College Typing IV	3	48
DP046U	Elements of Data Processing I	3	36
CM002U	Communication Skills I	3	36
CM003U	Communication Skills II	3	36
	Micro Courses in Business	4	48
OE004U	Office Calculating Procedures	4	60
OE016V	Office Careers	2	48
AC004V	Office Accounting	4	48
OE001U	Office Procedures I	4	60
OE002U	Office Procedures II	3	60
DP001V	Introductory Key punch	2	48
OE015V	Transcribing Machines	2	36
OE010T	Filing Systems and Records Control	3	36
PY004U	Psychology of Human Relations	2	24
OE005U	Office Education Laboratory	1-4	12-48
AM003T	Business Internship	5	200

### Accountant-Specialist

The Accountant-Specialist seventy-two week curriculum is designed to prepare individuals for the semi-professional levels in accounting. Upon completion of the course, the student will be prepared to enter business in the areas of cost accounting, auditing, general accounting, and many other specialized areas of financial reporting. Requirements include accounting principles and practice, general and occupational information and business internship.

Graduates may receive an Associate of Arts Degree or an Associate of Applied Science Degree.

		<i>Cr.</i>	<i>Hrs.</i>
AC001T	Principles of Accounting I	3	36
AC002T	Principles of Accounting II	3	36
AC003T	Principles of Accounting III	3	36
AC006T	Intermediate Accounting I	3	36
AC007T	Intermediate Accounting II	3	36
AC004T	Cost Accounting I	3	36
AC005T	Cost Accounting II	3	36
AC008T	Income Tax	3	36
AC009T	Intermediate Accounting III	3	36
AC009U	Accounting Problems	12	216
AM003T	Business Internship	12	480
OE009T	Office Machines	3	36
	Business Elective	4	48
LW005T	Business Law I	4	48
LW006T	Business Law II	4	48
AM002T	Principles of Finance	3	36
DP046U	Elements of Data Processing I	3	36
DP047U	Elements of Data Processing II	3	36
EC004T	Economics I*	3	36
EC005T	Economics II*	3	36
EC006T	Economics III*	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
CM201T	Speech I	3	36
MA014T	Intermediate Algebra	5	60
MA011T	Fundamentals of Statistics	5	60
	General Education Elective	6	72

\*The student may elect to enroll in the Business Economics. The requirement then would be Principles of Business Economics I and Principles of Business Economics II.



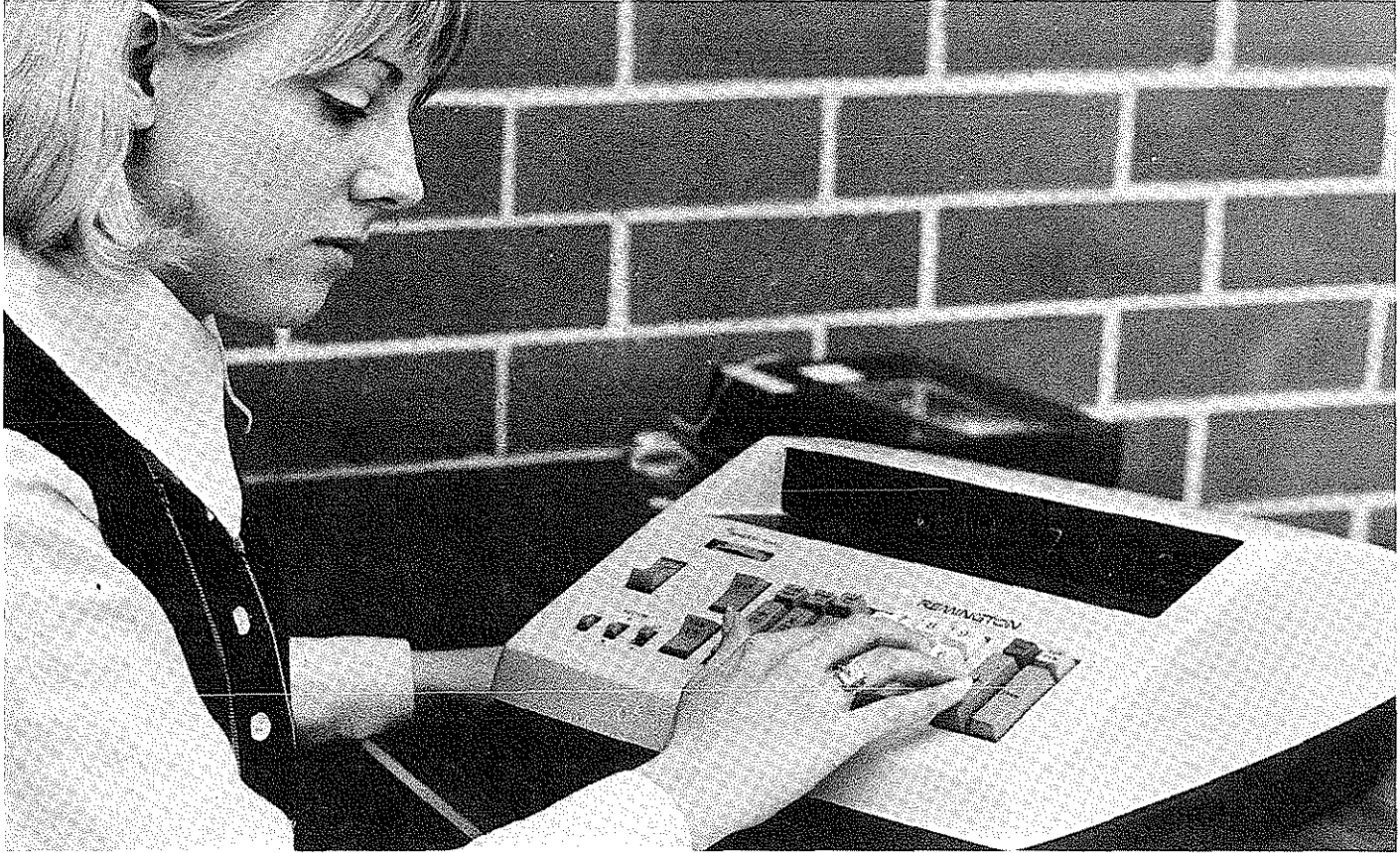
## Junior Accounting

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 to provide students with insight into the characteristics and methods of operating accounting systems.

The Junior Accounting 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.

		Cr.	Hrs.
AC001V	Accounting Fundamentals I	5	60
AC002V	Accounting Fundamentals II	5	60
AC003V	Accounting Fundamentals III	5	60
AC009U	Accounting Problems	15	360
OE009T	Office Machines	2	36
OE006T	College Typing I	3	60
AC008V	Income Tax Procedures	3	36
AM003T	Business Internship	12	480
DP046U	Elements of Data Processing I	3	48
DP047U	Elements of Data Processing II	3	48
LW005T	Business Law I	3	36
EC002T	Principles of Business Economics I	3	36
CM002U	Communication Skills I	3	36
CM008U	Communication Skills II	3	36
MA002U	Basic Mathematics	0	arr.
PD005T	Human Potential Laboratory	2	24



## Industrial Marketing and Wholesale Marketing

Industrial Marketing and Wholesale Marketing is designed to prepare the student to enter and be successful in the field of industrial sales and marketing. The program is organized to give the student a foundation in business and marketing and then to build the industrial marketing concept upon this. Manufacturing processes and industrial product knowledge is also emphasized. The curriculum is implemented with classroom, laboratory, and field training. Upon completion of the program, a student will be prepared for successful employment in the following occupations: manufacturing representative, sales representative, industrial distributor salesman, purchasing, customer service, and order desk salesman.

Graduates receive an Associate of Applied Science Degree.

		Cr.	Hrs.
MA002U	Basic Mathematics	0	arr.
EC002T	Principles of Business Economics I	3	36
EC003T	Principles of Business Economics II	3	36
AM003T	Business Internship	24	960
OE006T	College Typing I*	3	36
LW005T	Business Law I	4	48
CM002U/	Communication Skills I or	3	36
CM101T	Composition I	4	48
CM003U/	Communication Skills II or	3	36
CM102T	Composition II	4	48
MK005T	Consumer Behavior	3	36
AM006U	Credit Procedures	3	36
DF046U	Elements of Data Processing I	3	36
AC006U	Management Accounting	3	36
MK030U	Individual Instruction Laboratory	2	48
	Micro Courses in Business	4	48
MK023U	Industrial Marketing I	3	36
MK025U	Industrial Marketing II	3	36
	Sociology Elective		
SO001T	American Society: Community Organization	4	48
	or		
SO002T	American Society: Community Problems	4	48
	or		
SO003T	American Society: Minority Group Relations	4	48

	or		
SO004T	Introduction to Society	4	48
	or		
SO006T	Social Problems	4	48
MK031U	Marketing Problems	3	36
OE009T	Office Machines	3	36
MK027U	Physical Distribution	4	48
AC001T	Principles of Accounting I	3	36
AC002T	Principles of Accounting II	3	36
AM005T	Principles of Management	4	48
MK001T	Principles of Marketing	3	36
MK003T	Principles of Selling	4	48
AM022U	Principles of Supervision	3	36
MK029U	Product Analysis	3	36
MK026U	Purchasing	4	48
PY004U	Psychology of Human Relations I	3	36
MK021U	Sales Presentation	3	36
MK028U	Sales Promotion	3	36
CM201T	Speech I	3	36

\*Demonstrate typing proficiency or take Typing I.

## 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 buying, fashion promotion, and departmental management.

The Fashion Merchandising program is seven quarters in length and features a combination of general education, business education, and technical fashion study. The program also provides on-the-job training periods in which the students gain actual work experience in retail firms throughout Iowa.

Graduates receive an Associate of Applied Science degree.

		Cr.	Hrs.
MK003T	Principles of Selling	4	48
	Micro Courses in Business	4	48
AM001U	Merchandise Analysis and Control	3	36
MK002T	Principles of Retailing	4	48
EC002T	Principles of Business Economics I	3	36
MK018U	Principles of Display	2	36

MK001T	Principles of Marketing	4	48
MK017U	Principles of Advertising	4	48
AM022U	Principles of Supervision	3	36
AM006U	Credit Procedures	3	36
LW005T	Business Law I	4	48
DP046U	Elements of Data Processing I	3	36
AM020U	Retail Management	4	48
AC001T	Principles of Accounting I	3	36
AM003T	Business Internship	24	864
MK007U	Principles of Fashion Merchandising	3	36
MK014U	Merchandising	4	48
MK006U	Fashion Merchandising Laboratory	4	96
HE002U	Fashion History	3	36
MK008U	Fashion Show Procedures	3	36
AT001U	Fashion Art	3	36
HE003U	Textiles	3	36
HE004U	Textiles Laboratory	1	24
MK009U	Problems in Fashion Merchandising	2	24
CM204T	Speech I	3	36
PY004U	Psychology of Human Relations	3	36
PD001U	Personal Development I	2	24
PD002U	Personal Development II	2	24
MA002U	Basic Mathematics	0	arr.
CM002U/	Communication Skills I or		
CM101T	Composition I	4-3	48-36
CM003U/	Communication Skills II or		
CM102T	Composition II	4-3	48-36
AT004U	Design Relationships	2	24

### *Food Store Marketing*

The Food Store Marketing program is designed to prepare people 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 field of work.

The Food Store Marketing program is seven 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 of Applied Science Degree.

				Cr.	Hrs.
MK012U	Introduction to Food Store Marketing	4	48		
MK011U	Food Store Marketing Laboratory	16	300		
AM003T	Business Internship	24	864		
MK013U	Food Store Planning and Layout	3	36		
AM005U	Checkout Management	3	36		
AM021U	Stock Control	3	36		
MK016U	Product Merchandising	3	36		
AM012U	Food Store Management	5	60		
MK003T	Principles of Selling	4	48		
	Micro Courses in Business	4	48		
LW005T	Business Law I	4	48		
MK001T	Principles of Marketing	4	48		
AC001T	Principles of Accounting I	3	36		
MK017U	Principles of Advertising	4	48		
AM022U	Principles of Supervision	3	36		
AC006U	Management Accounting	4	48		
CM002U/	Communication Skills I or	3	36		
CM101T	Composition I	4	48		
CM003U/	Communication Skills II or	3	36		
CM102T	Composition II	4	48		
PY004U	Psychology of Human Relations I	3	36		
MA002U	Basic Mathematics	0	arr.		
CM204T	Speech I	3	36		
EC004T/	Economics I or	3	36		
EC002T	Principles of Business Economics I	3	36		
EC005T/	Economics II or	3	36		
EC003T	Principles of Business Economics II	3	36		
DP046U	Elements of Data Processing I	3	36		

### *Floriculture*

The Floriculture program is a specialized training program designed to prepare people 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.

The 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.

		Cr.	Hrs.
AG001V	Commercial Flower Forcing Greenhouse I	3	3
AM005V	Retail Flower Shop Operation I	5	5
AT001V	Floral Designing I	4	7½
BY004V	Basics of Plant Growth	3	3
MK003T	Principles of Selling	4	4
MK001T	Principles of Marketing	4	4
MA002U	Basic Mathematics	0	arr.
AM003T	Business Internship	12	440
AG002V	Commercial Flower Forcing Greenhouse II	1	3
AM006V	Retail Flower Shop Operation II	3	4
AT002V	Floral Designing II	2	7½
BY005V	Diagnosing Plant Disorders I	1	2
CM002U	Communication Skills I	3	5
PY004U	Psychology of Human Relations I	3	5
CM003U	Communication Skills II	3	5
AG003V	Commercial Flower Forcing Greenhouse III	1	3
AM007V	Retail Flower Shop Operation III	2	4
AT003V	Floral Designing III	2	7½
BY006V	Diagnosing Plant Disorders II	1	2
MK001V	Retail Advertising and Display	3	5
AG004V	Commercial Flower Forcing Greenhouse IV	2	2
AM008V	Retail Flower Shop Operation IV	4	4
AT004V	Floral Designing IV	3	7½
AC005V	Floriculture Bookkeeping	4	4
MK002T	Principles of Retailing	4	4
MK002V	Floriculture Seminar	1	2
MK021U	Sales Presentation	3	3



## Home Furnishings

The Home Furnishings Program is seven quarters in length and combines general education, business education, and technical courses involving Home Furnishings. Students who complete the program may find employment as assistant to buyers, department managers, consultants to interior decorators, and other related areas of Home Furnishings.

Graduates receive an Associate of Applied Science Degree.

		<i>Cr.</i>	<i>Hrs.</i>
MK003T	Principles of Selling	4	48
	Micro Courses in Business	4	48
MA011U	Merchandise Analysis and Control	3	36
MK002T	Principles of Retailing	4	48
EC002T	Principles of Business Economics I	3	36
MK018U	Principles of Display	2	36
MK001T	Principles of Marketing	4	48
MK017U	Principles of Advertising	4	48
AM022U	Principles of Supervision	3	36
AM006U	Credit Procedures	3	36
LW005T	Business Law I	4	48
DP046U	Elements of Data Processing I	3	36
AM020U	Retail Management	4	48
AC001T	Principles of Accounting I	3	36
AM003T	Business Internship	18	960
	Home Furnishings Seminar	1	24
MK014U	Merchandising	4	48
	Survey of Interiors	2	24
	Home Furnishings I	3	36
	Home Furnishings II	4	48
HE003U	Textiles	3	36
HE004U	Textiles Laboratory	1	24
	Decorative Accessories	2	48
CM201T	Speech I	3	36
PY004U	Psychology of Human Relations I	3	36
PD001U	Personal Development I	2	24
	Design Relationships	2	24
	Consumer Consultant	2	24
	Sociology Elective	4	48
	Consumer Behavior	3	36
CM002U/	Communication Skills I or	3-4	36-48
CM101T	Composition I		
CM003U/	Communication Skills II or	3-4	36-48

CM102T Composition II  
MA002U Basic Mathematics

0 arr.

## Retail Marketing

The Retail Marketing program is designed to prepare students for careers in the retailing industry. These programs stress an understanding of business procedures and the 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 the on-the-job training periods, the student gains actual work experience in retail firms throughout Iowa.

Graduates receive an Associate of Applied Science Degree.

		<i>Cr.</i>	<i>Hrs.</i>
MK010U	Retail Marketing Seminar	6	152
MK005T	Consumer Behavior	3	36
MK003T	Principles of Selling	4	48
MK002T	Principles of Retailing	4	48
MK001T	Principles of Marketing	4	48
MK017U	Principles of Advertising	4	48
MK018U	Principles of Display	2	36
MK014U	Merchandising	4	48
	Micro Courses in Business	4	48
AM022U	Principles of Supervision	3	36
AM006U	Credit Procedures	3	36
AM020U	Retail Management	4	48
AM003T	Business Internship	24	864
CM002U/	Communication Skills I or		
CM101T	Composition I	3-4	36-48
CM003U/	Communication Skills II or		
CM102T	Composition II	3-4	36-48
MA002U	Basic Mathematics	0	arr.
AM001U	Merchandise Analysis and Control	3	36
PY004U	Psychology of Human Relations I	3	36
EC004T/	Economics I or		
EC002T	Principles of Business Economics I	3	36
EC005T/	Economics II or		
EC003T	Principles of Business Economics II	3	36
CM204T	Speech I	3	36
AC001T	Principles of Accounting I	3	36
AC006U	Management Accounting	4	48

LW005T	Business Law I	4	48
DP046U	Elements of Data Processing I	3	36
HE003U	Textiles/Elective	3	36
HE004U	Textiles Laboratory	1	24

Students must demonstrate a typing proficiency or enroll in College Typing I.

## DATA PROCESSING

### Programmer/Programmer Analyst

Students majoring in programming and systems analysis may complete a six-quarter curriculum as a programmer and can continue to graduate, with an Associate of Applied Science degree, as a programmer-analyst. These curricula are business oriented with much of the second year used to broaden the student's knowledge in business systems. The training in programming is aimed at providing applied technical knowledge so that the student can step directly into the occupation of programming. New students can start training each of the four quarters. Units of training change frequently to keep pace with the industry.

#### First Year

<i>First Quarter</i>		Cr.	Hrs.
DP001U	Self-Service Aids	1	12
DP002U	Punched Card Data Processing	2	36
DP006T	Computer and DP Concepts	3	36
DP007U	Assembler Language I	7	108
DP004U	Flowcharting Techniques	2	24
	Electives	<u>3</u>	<u>36</u>
		18	254

<i>Second Quarter</i>		Cr.	Hrs.
DP020U	Program Analysis	2	36
DP043U	Documentation I	2	24
DP040U	Related Equipment I	1	24
DP022U	Disk Operating System (DOS) Coding	5	84
DP008U	Assembler Language II	5	84
	Electives	<u>3</u>	<u>36</u>
		18	288

#### Third Quarter

DP023U	Advanced Disk Operating System (DOS) and Data Mang.	5	84
DP013U	Introduction to Cobol Prog.	5	84
DP016U	Introduction to Fortran Prog.	3	48
DP049U	Introduction to Systems	<u>3</u>	<u>36</u>
		16	252

#### Fourth Quarter

DP014U	Advanced Cobol Programming	5	84
DP028U	Telecommunications Concepts	3	36
CM002U	Communication Skills I	3	36
AC001U	Accounting Survey	3	36
	Electives	<u>3</u>	<u>36</u>
		17	128

#### Second Year

##### *Fifth Quarter*

		Cr.	Hrs.
DP015U	Cobol Projects	5	108
MA009U	Math IIC	4	48
DP026U	Programming Systems	2	24
DP030U	DOS Telecommunications Coding	5	84
DP011U	Introduction to Report Program Generator	<u>2</u>	<u>36</u>
		18	300

##### *Sixth Quarter*

AM002U	Business Org. & Mang.	3	36
DP037U	Installation Management I	3	36
DP006U	Applied Statistics	3	36
DP036U	Assigned Programming Projects	5	108
	Electives	<u>3</u>	<u>37</u>
		17	252

##### *Seventh Quarter*

DP032U	Numerical Analysis	3	36
DP062U	On the Job System Projects	3	36
DP061U	Payroll/Personnel Systems	3	36
DP057U	Accounting Systems	3	36
DP050U	Advanced Systems	3	36
	Electives	<u>3</u>	<u>36</u>
		18	216

##### *Eighth Quarter*

DP033U	Introduction to Operations Research	3	36
DP058U	Production and Material Control Systems	3	36

DP059U	Project Management Systems	3	36
DP051U	Applied Systems I	3	36
	Electives	<u>6</u>	<u>72</u>
		18	216

### Computer Operations

Computer Operations trains for a cluster of closely related occupations in data processing. A student completing the two quarter program would be trained to work as a data librarian, work scheduler, records auditor, documentation specialist, operations assistant or computer operator. Students may enter Fall, Winter, or Spring quarters.

Graduates receive a certificate.

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
DP001U	Self-Service Aids	1	12
DP006T	Computer and Data Processing Concepts	3	36
DP002U	Punched Card Data Processing	2	36
DP005U	Introduction to S/360-370	3	36
DP003U	Operating Techniques	2	36
DP021U	Disk Operating System (DOS)		
	Concepts & Facilities	3	36
DP009U	Assigned Operations Projects	<u>3</u>	<u>72</u>
		17	264

<i>Second Quarter</i>			
DP026U	Programming Systems	2	36
DP039U	Records and Scheduling of Data Processing Oper.	3	36
AM002U	Business Org. & Management	3	36
DP048U	Business Applications of DP	3	36
DP011U	Introduction to RPG	2	36
DP040U	Related Equipment I	1	24
DP009U	Assigned Operations Projects	<u>3</u>	<u>72</u>
		17	276

### 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 which will serve as input to unit record and computer equipment. Training will be done on the latest available equipment.

Graduates receive a certificate.

	<i>Cr.</i>	<i>Hrs.</i>	
DP003V	Vocational Keypunch	8	180
DP002U	Punched Card Data Processing	2	36
DP046U	Elements of Data Processing I	3	36
PD001U	Personal Development I	1	12
OE010T	Filing Systems & Record Control	<u>3</u>	<u>36</u>
		17	300



## HEALTH OCCUPATIONS

### Nursing Education

#### Associate Degree Nursing Program (RN)

The Associate Degree nursing curriculum is designed to prepare students, men and women, to care for patients in hospitals, extended care and long term care facilities (nursing homes). The graduate is eligible to write the examination for licensure for Registered Nurse (RN). The program is eight quarters (24 months) in length and offers theory and clinical experience in all major phases of nursing: Medical and surgical, maternal and child health, and psychiatric. Theory and clinical experiences are offered concurrently at Kirkwood Community College and at cooperating medical facilities in this area.

Graduates receive an Associate of Applied Science Degree.

#### First Year

<i>Fall Quarter</i>		Cr.	Hrs.
NS003U	Nursing ADN (I)	9	156
BY008T	Human Anatomy & Physiology I	4	60
NS002U	Metrology	1	12
PY002T	General Psychology	4	48
<i>Winter Quarter</i>			
NS004U	Nursing ADN II	11	204
CH011T	Integrated Science I	4	60
BY009T	Human Anatomy & Physiology II	4	60
<i>Spring Quarter</i>			
NS005U	Nursing ADN III	11	204
BY018T	Integrated Science II	4	72
PY003T	Psychology Child Development	4	48
<i>Summer Quarter</i>			
NS006U	Nursing ADN IV	13	252
CM201T	Speech I	3	36
PY008T	Psychology of Growth & Development (Adolescence to Senescence)	4	48

#### Second Year

##### *Fall Quarter*

NS007U	Nursing ADN V	13	252
CM101T	Composition I	4	48
SO004T	Sociology — Introduction to	4	48

##### *Winter Quarter*

NS008U	Nursing ADN VI	13	252
CM102T	Composition II	4	48
SO006T	Social Problems	4	48

##### *Spring Quarter*

NS009U	Nursing ADN VII	14	276
	Elective — Optional H P L	2	24
NS001U	Changing Patterns of Health Care & Nursing	2	24

##### *Summer Quarter*

NS010U	Nursing ADN VIII	17	348
NS011U	Nursing ADN IX (Seminar)	2	24

### Nursing Education

#### Practical Nursing Program

Practical Nursing is a one-year program consisting of four, twelve-week quarters. During the first quarter, students spend an average of twenty hours per week in the classroom and nine hours per week in the clinical area. In the second quarter, they spend approximately sixteen hours in the classroom and twelve hours in clinic. In the third and fourth quarters, students are in the clinical area twenty hours per week and six to eight hours in class. The last two weeks of the program are a transition period, during which students are in the clinical area for thirty-two hours per week, and eight hours in class.

Clinical experience is obtained by students at Mercy Hospital in Cedar Rapids, the Americana Rehabilitation Center, and other cooperating medical facilities.

Graduates receive a diploma.



<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
BY007V	Body Structure and Function I	4	60
SO002V	Personal, Vocational & Community Relations I	2	24
NS011V	Normal Nutrition and Diet Therapy	4	48
SO001V	Family and Life Span	2	24
NS001V	Administration of Medications I	4	48
NS009V	Fundamentals of Practical Nursing I	4	72
CM002V	Spelling	.5	12
NS005V	Supervised Laboratory Experience I	1	36
	Seminar	0	0
	Study Skills	0	0
<i>Second Quarter</i>			
NS003V	Care of Adult Patients I	6	72
NS002V	Administration of Medications II	3	48
NS010V	Fundamentals of Practical Nursing II	3	60
NS006V	Supervised Laboratory Experience II	8	216
<i>Third Quarter</i>			
NS004V	Care of Adult Patients II	6	72
NS012V	Nursing Care of Children I	3	36
NS014V	Nursing Care of Mothers and Infants I	3	44
NS007V	Supervised Laboratory Experience III	10	254
<i>Fourth Quarter</i>			
NS015V	Nursing Care of Mothers and Infants II	1	12
SO003V	Personal, Vocational & Community Relations II	2	24
NS013V	Nursing Care of Children II	1	12
NS018V	First Aid, Disaster and Community Health	3	48
NS008V	Supervised Laboratory Experience IV	10	254
	Medical-Surgical Nursing Review	0	0

### *Dental Assistant Program*

The Dental Assistant Education program prepares students for successful employment in private dental offices, group practice, dental services and clinics and hospitals as well as public health installations.



The objective of this one year (4 quarters) program is to prepare the students to directly assist the dentist in the treatment of patients; manage a smooth functioning business office; and perform the basic laboratory procedures in a dental office.

Graduates receive a diploma.

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
DN102V	Dental Materials	5	72
DN108V	Dental Assisting	6	84
DN101V	Dental Orientation	3	36
DN115V	Dental Lab. Assisting I	4	84
BY110V	Dental Anatomy (DA)	3	48
BY111V	Head & Neck Anatomy	3	36

<i>Second Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
DN113V	Dental Radiography I	2	36
DN116V	Dental Lab. Assisting II	2	36
DN109V	Lab. Practicum I	6	156
DN106V	Pedodontics	1	12
DN107V	Oral Surgery	1	12
DN117V	Periodontics	1	12
DN118V	Endodontics	1	12
BY109V	Oral Microbiology	2	36
DN120V	Dental Pharmacology	1	12
CM101T	Composition I	4	48

<i>Third Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
DN114V	Dental Radiography II	2	24
AM009V	Dental Office Management I	3	36
DN110V	Lab. Practicum II	6	144
PY002T	General Psychology	4	48
PD004U	First Aid	1	12
CM201T	Speech I	3	36
DN121V	Preventive Dentistry	2	36
DN122V	Oral Pathology	1	12
DN123V	Orthodontics	1	12

<i>Fourth Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
AC007V	Dental Bookkeeping	2	36
AM010V	Dental Office Management II	3	36
DN111V	Clinic I	4	144
DN112V	Clinic II	4	144

## *Dental Laboratory Technician Program*

The Dental Laboratory Technician is prepared for employment in commercial dental laboratories, Veterans Administration, University laboratories, private dental offices or in his own commercial 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 appliances.

Graduates receive an Associate of Applied Science Degree.

### *First Year*

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
DN004U	Dental Terminology (DLT)	2.5	36
DN001U	Dental Materials (DLT)	3	60
DN005U	Dental Equipment (DLT)	4	72
BY003U	Oral Anatomy	3	36
BY002U	Dental Anatomy I	2.5	36
PH004U	Technical Chemistry and Physics I	3	48
DN012U	Projects Lab. I (DLT)		48

<i>Second Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
PH005U	Technical Chemistry and Physics II	3	48
DN021U	Denture Techniques I	6.5	120
DN023U	Articulators and Articulation	3.5	60
DN024U	Cast Inlay and Crown	5	96
DN013U	Projects Lab. II (DLT)		42

<i>Third Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
DN006U	Clinical Experience I & Seminar	12	384

<i>Fourth Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
PH006U	Technical Physics III	2	24
DN025U	Crown and Bridge	10	192
DN026U	Partial Denture Techniques I	4	84
BY001U	Dental Anatomy II	2	60
DN014U	Projects Lab. III (DLT)		24

## Second Year

### Fifth Quarter

DN008U	Acrylic Jacket Crowns and Veneers	5.5	102
DN027U	Partial Denture Techniques II	5	60
DN022U	Denture Techniques II	6	120
PY004U	Psychology of Human Relations I	4	48
DN015U	Projects Lab. IV (DLT)		36

### Sixth Quarter

DN009U	Precision Attachment Partials	6	120
DN010U	Cast Metal Base Dentures	3	60
DN011U	Porcelain On Metal	5	96
CM002U	Communication Skills I	2	36
DN020U	Laboratory Management (DLT)	2.5	48

### Seventh Quarter

DN017U	Porcelain Jacket Crown	6.5	132
DN018U	Denture Techniques & Articulation (Clinic)	5	108
DN019U	Special Partial Techniques	4	72
PY007U	Sales Psychology and Human Relations	3	36
DN016U	Projects Lab. V (DLT)		12

### Eighth Quarter

DN007U	Clinical Experience II & Seminar (DLT)	12	384
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## Environmental Health Assistant Program

Kirkwood Community College offers a one-year Environmental Health Assistant program consisting of four, twelve-week quarters. The course provides for laboratory, classroom and practical field experiences.

The environmental assistant is employed by public health departments and industry to safeguard the health and welfare of the community by inspecting housing conditions, milk, water, sewage disposal facilities, air, food and other potential health hazards.

Graduates receive a diploma.

### First Quarter

		Cr.	Hrs.
EV004V	Introduction to Public Health	3	48
MS014V	First Aid	0	24
MS001V	Diseases of Man	4	60
EV003V	Housing Inspection	5	60
EV016V	Water Sanitation	5	72

MA002U	Basic Math I	3	36
PY004U	Psychology of Human Relations I	4	48

### Second Quarter

CM002U	Communication Skills I	3	36
EV006V	Food Sanitation	4	60
EV012V	Sewage Sanitation	5	72
EV007V	Milk Sanitation	3	72
PY005U	Psychology of Human Relations II	4	48
EV015V	Insect and Rodent Control	3	36

### Third Quarter

CM003U	Communication Skills II	3	36
EV005V	Institutional Sanitation	3	48
EV008V	Occupational Health & Ind. Safety	4	60
EV009V	Recreational Sanitation	3	48
EV010V	Refuse Sanitation	5	72
EV001V	Community Improvement	3	48

### Fourth Quarter

EV013V	Supervised Field Studies	10	384
EV014V	Seminar — Environmental Health	2	24

## Inhalation Therapy Education

The Inhalation Therapy curriculum is designed to prepare students as para-medical specialists in the field of Inhalation Therapy.

The role of the Inhalation 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. His role also often encompasses other related therapeutic and diagnostic functions such as, pulmonary function testing, electro-cardiography and cardio-vascular monitoring.

Classroom, laboratory and supervised clinical experience will be provided by Kirkwood Community College and the Veteran's Administration Hospital, Iowa City, as well as other cooperating hospitals in this area.

Graduates receive an Associate of Applied Science Degree.

**First Year**

		Cr.	Hrs.
<i>First Quarter</i>			
BY008T	Human Anatomy and Physiology I	4	5
CH001T	Principles of Chemistry	4	5
CM101T	Composition I	4	4
MS025U	Introduction to Health Care and Personnel Relations	4	4
MS014U	Fundamentals of Inhalation Therapy I	4	5
<i>Second Quarter</i>			
BY009T	Human Anatomy and Physiology II	4	5
CH002T	Fundamentals of Organic Chemistry	4	5
CM102T	Composition II	4	4
MA018D	Beginning Algebra	5	5
MS017U	Fundamentals of Inhalation Therapy II	4	5
<i>Third Quarter</i>			
	Elective	4	4
CM201T	Speech I	3	3
PD005T	Human Potential Lab	2	3
MS018U	Fundamentals of Inhalation Therapy III	7	12
PH001T	Physics	4	5
<i>Fourth Quarter</i>			
MS019U	Supervised Laboratory Experience I	16	30

**Second Year**

<i>Fifth Quarter</i>			
BY004T	Microbiology I	3	6
	Elective — Sociology	4	4
MS023U	Inhalation Therapy Techniques I	4	6
MS020U	Inhalation Therapy Supervised Lab. Experience II	6	12
<i>Sixth Quarter</i>			
BY005T	Microbiology II	3	6
	Elective — Sociology	4	4
MS024U	Inhalation Therapy Techniques II	2	3
MS020U	Inhalation Therapy Supervised Lab. Experience III	9	17
<i>Seventh Quarter</i>			
AM023U	Medical Department Management	3	3
MS022U	Inhalation Therapy Supervised Lab. Experience IV	12	23
<i>Eighth Quarter</i>			

*Medical Assistant Program*

The Medical Assistant program is a one-year program comprised of four, twelve-week quarters. The course content emphasizes business courses, English, biological sciences, medical psychology, medical law and personal development to prepare students for employment in a physician's office.

Following graduation, the student must satisfactorily complete two years of continuous employment as a medical assistant, after which the student is able to take the certified examination offered by the American Association of Medical Assistants. Those passing this examination may be certified as either a clinical or administrative medical assistant, or both, depending upon the area of concentration.

Graduates receive a diploma.

		Cr.	Hrs.
<i>First Quarter</i>			
MS002V	Medical Laboratory Procedures I	1	24
OE008V	Medical Office Practice I	4	84
MS004V	Medical Terminology I	2	48
BY007V	Body Structure and Function I	2	48
PY004U	Psychology of Human Relations I	4	48
MS001V	Diseases of Man	4	60
AM003V	Insurance	1	24
PD001U	Personal Development Project Lab	1 0	24 0
<i>Second Quarter</i>			
MS003V	Medical Laboratory Procedures II	3	60
OE009V	Medical Office Practice II	2	24
MS005V	Medical Terminology II	2	36
BY005V	Body Structure and Function II	2	36
PY005U	Psychology of Human Relations II	4	48
MS007V	Pharmacology I	2	36
OE013V	Medical Typing	2	36
AC006V	Medical Bookkeeping Project Lab.	4 0	48 0
CM002U	Communication Skills I	3	36

*Third Quarter*

MS012V	Medical Laboratory Procedures III	1.5	24
MS006V	Body Structure and Function III	3	36
MS013V	Pharmacology II	1	12
LW001V	Medical Law	1	24
MS014V	First Aid	.5	24
MS008V	Supervised Clinical Experience I — MA	6	192
MS010V	Seminar I — MA	.5	12
	Project Lab.	0	0
CM003U	Communication Skills II	3	36

*Fourth Quarter*

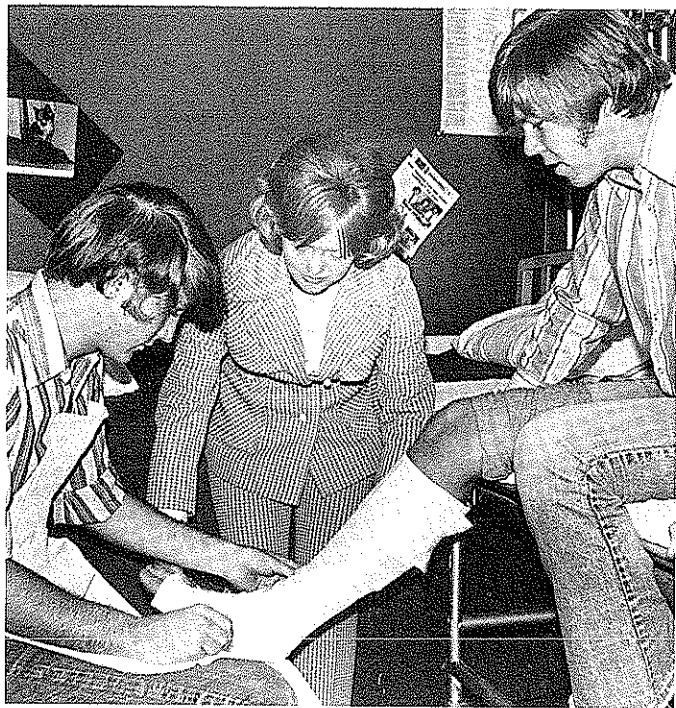
AM004V	Medical Office Management	.5	12
MS009V	Supervised Clinical Experience II — MA	12	288
MS011V	Seminar II — MA	1	12
	Project Lab.	2	48

*Occupational Therapy Assistant Program*

The Occupational Therapy Assistant program is one year in length and consists of four, twelve-week quarters. The program includes classroom instruction and clinical experiences which are provided concurrently at Kirkwood Community College and through local and statewide cooperating medical facilities.

Students completing this program will be eligible to work in hospitals, nursing homes, mental health clinics, health centers and rehabilitation centers, under the supervision of a registered Occupational Therapist. The work includes applying crafts and manual arts and other rehabilitative activities which are designed to assist handicapped individuals.

Graduates receive a diploma.



*First Quarter*

		<i>Cr.</i>	<i>Hrs.</i>
BY007V	Body Structure and Function	4	60
PY004U	Psychology for Occupational Therapy	4	60
TH010V	Orientation to Occupational Therapy	2	36
PY004V	Normal Growth and Development	3	60
TH007V	Media and Skills I	2	96
CM002U	Communication Skills I	3	36
TH013V	Project Lab. OTA	1	12

*Second Quarter*

TH016V	Introduction to Medical Science	4	60
TH004V	Function and Dysfunction	5	72
PY002V	Interpersonal Relationships	3	48
TH008V	Media and Skills II	2	96
CM001V	Medical Communications	3	36
MS014V	First Aid	1	24
TH013V	Project Lab OTA	1	24

<i>Third Quarter</i>		
TH005V	Management of Phys-Dis Clinical Conditions	4 60
TH006V	Management of Psychosocial Clinical Cond.	4 60
TH011V	Principles and Practices of Rehabilitation	5 72
TH015V	Media and Skills III	2 48
TH001V	Clinical Experience I, II or III — OTA	5 150
TH002V	(This clinical period extends one week into	
TH003V	the fourth quarter)	

<i>Fourth Quarter</i>		
	Clinical Experience I, II or III — OTA	5 150
	Clinical Experience I, II or III — OTA	5 150
TH014V	Seminar OTA	2 30

### *Orthopaedic Physician's Assistant Program*

The Orthopaedic Physician's Assistant Program is an eighteen month course consisting of two academic years, three quarters each (summer quarter is recessed). Theory and practice is integrated and concurrent during the program. Classroom and laboratory activities are provided at Kirkwood Community College, while practical experience is obtained in selected hospitals and private physician's offices.

The Orthopaedic Physician's Assistant is concerned with patients having special medical problems associated with the musculoskeletal system. Under the direction of the Orthopaedic Surgeon, the OPA removes and assists with the application of casts and splints, applies and maintains traction equipment, assists in the operating room and emergency area, and teaches simple exercises and crutch walking. The graduate is prepared to be employed in physicians' offices, hospitals and clinics.

The program is approved by the American Medical Association.

Graduates receive an Associate of Applied Science Degree.

<i>First Quarter</i>			<i>Cr.</i>	<i>Hrs.</i>
BY008T	Human Anatomy and Physiology I	4	4	60
MS003U	Introduction to Health Care & Personnel Relations	3	3	48
MS002U	Emergency Care	4	4	60
MS007U	Principles of Immobilization I	3	3	60
	General Education (1)	4	4	48

<i>Second Quarter</i>			<i>Cr.</i>	<i>Hrs.</i>
BY009T	Human Anatomy and Physiology II	4	4	60
CH011T	Integrated Science I	4	4	60
MS006U	Operating Room Techniques	3	3	48
MS004U	Orthopaedic Conditions I	4	4	48
MS008U	Supervised Laboratory Experience I (OPA)	6	6	144

<i>Third Quarter</i>			<i>Cr.</i>	<i>Hrs.</i>
BY018T	Integrated Science II	4	4	72
MS005U	Orthopaedic Conditions II	4	4	48
MS013U	Principles of Immobilization II	3	3	60
MS009U	Supervised Laboratory Experience II (OPA)	7	7	180

<i>Fourth Quarter</i>			<i>Cr.</i>	<i>Hrs.</i>
MS015U	Introduction to Physical Therapy, Orthotics and Prosthetics	3	3	48
MS010U	Supervised Laboratory Experience III (OPA)	9	9	216
	General Education (2)	7	7	84

<i>Fifth Quarter</i>			<i>Cr.</i>	<i>Hrs.</i>
OE007U	Office Procedures (OPA)	2	2	36
MS011U	Supervised Laboratory Experience IV (OPA)	7	7	180
MS016U	Seminar (OPA)	3	3	36
	General Education (2)	8	8	96

<i>Sixth Quarter</i>			<i>Cr.</i>	<i>Hrs.</i>
MS012U	Supervised Clinical Experience V (OPA) and Seminar	12	12	360

### *HOME ECONOMICS*

#### *Food Service Training*

Food Service Training is designed to prepare men and women with the technical and specialized knowledge and skills needed to enter the quantity food preparation and service business.

The three-quarter (36 week) program for cooks includes general education, related food service instruction and food preparation skill courses to prepare students for jobs in restaurants, hotels, motels, schools, hospitals, nursing homes, industrial cafeterias and clubs. Learning modules used in conjunction with a food production laboratory enable the student to acquire food preparation skills at his own rate. The program also provides on-the-job training during which the student gains actual work experience in a commercial or institutional food service kitchen.

Graduates receive a diploma.

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
HE008V	Fundamentals of Professional Food Service	2	24
CM003V	Food Service Communication Skills	3	36
MA001V	Related Food Service Mathematics I	3	36
HE004V	Fundamentals of Nutrition	2	24
HE005V	Food Production I	7	180
HE001V	Food Service Seminar I	2	24
<i>Second Quarter</i>			
MA002V	Related Food Service Mathematics II	5	60
HE010V	Menu and Servicing Fundamentals	3	36
HE006V	Food Production II	7	180
HE002V	Food Service Seminar II	2	24
<i>Third Quarter</i>			
HE009V	Food Service Employment Experience	12	216
HE007V	Food Production III	5	120
HE003V	Food Service Seminar III	2	24

### *Restaurant Management*

Courses providing technical, related and general education instruction applicable to restaurant management will be available for the student interested in restaurant management. The three-quarter program for cooks is a pre-requisite to these additional courses.

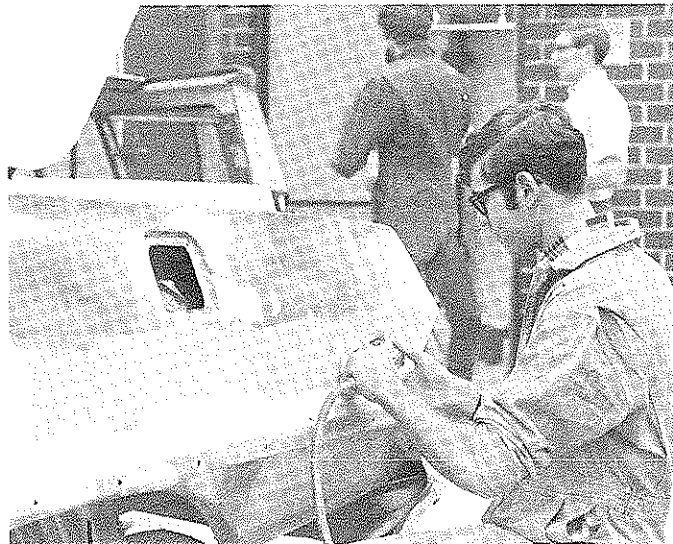
## *TRADES AND INDUSTRY*

### *Architectural Draftsman*

The Architectural Draftsman course 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, electrical, and mechanical layouts. Attention is given to accuracy, neatness and proper drawing procedure. The drawing is primarily of commercial construction rather than of homes. The total course is four twelve-week quarters or 1,440 clock hours.

Graduates receive a diploma.

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
GR008V	Architectural Drafting I	13	24
MA011U	Mathematics I	3	3
CS003V	Construction Materials	3	3
<i>Second Quarter</i>			
GR009V	Architectural Drafting II	13	24
MA003U	Mathematics II	3	3
CS004V	Construction Methods	3	3



<i>Third Quarter</i>			
GR010V	Architectural Drafting III	11	23
GR012V	Related Disciplines	2	2
CS001V	Estimating	3	3
CS002V	Presentations	2	2

<i>Fourth Quarter</i>			
GR011V	Architectural Drafting IV	14	26
PY003V	The Profession	1	1
CM002U	Communication Skills I	3	3

### *Automotive Collision Repair*

Automobile collision repairmen are employed in body and fender shops, dealerships, and garages with repair service. Other employers are trucking, taxicab, bus companies and automotive manufacturers.

Those completing the course will have had the total range of shop processes from the damaged vehicle to its restoration as it was originally. They will be able 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 extends over three twelve-week quarters for a total of 36 weeks. Class periods are six hours per day, five days per week and include seven and one-half hours of related instruction.

Graduates receive a diploma.

	<i>Clock Hrs.</i>
Shop personality processes and responsibilities	10
Safe use and care of equipment	40
Auto body construction materials	25
Metalworking	100
Filling (lead and plastic)	100
Welding	50
Chassis and body shell	200
Glass and trim and upholstery	120
Preparation and refinishing	300
Accessories and electrical	50
Body to frame relationships	10
Shop management	10
Shop responsibility	5
Estimating	20

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
MH009V	Collision Lab I	12	25
MH012V	Collision Related I	5	2

<i>Second Quarter</i>			
MH010V	Collision Lab II	12	25
MH013V	Collision Related II	5	5

<i>Third Quarter</i>			
MH011V	Collision Lab III	12	25
MH014V	Collision Related III	3-5	3-5
AM003U	Business Practices*	2	3

\*Will be offered as schedule allows.

### *Automotive Mechanics*

The Automotive 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, with training in 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 percent of their time in classroom and laboratory instruction, and the balance of their time in one of Iowa's largest and best equipped automotive shops.

Graduates receive a diploma.

Included in the curriculum are the following training areas:

	<i>Clock Hrs.</i>
Shop practices, safety and math	40
Service station procedures	90
Brakes	90
Front-end service	90
Automotive electrical system	90
Fuel system and fuels	80
Engine testing and trouble shooting	210
Engine rebuilding and maintenance	200



Clutch and transmission service	60
Automatic transmissions	90
Drive line service	30
Body services	10
Welding	30
Dynamometer	30
Advanced tune-up and emission control	60
Air conditioning	30
Specialization	180
Customer relations and employer-employee relations	30

<i>First Quarter</i>		
MH001V Auto Mechanics Lab I	Cr. 10	Hrs. 20
MH005V Auto Mechanics Related I	10	10

<i>Second Quarter</i>		
MH002V Auto Mechanics Lab II	10	20
MH006V Auto Mechanics Related II	8	8
AM003U Business Practices	1	2
PY001V Human Relations & Shop Supervision	1	2

<i>Third Quarter</i>		
MH003V Auto Mechanics Lab III	10	20
MH007V Auto Mechanics Related III	10	10

<i>Fourth Quarter</i>		
MH004V Auto Mechanics Lab IV	10	20
MH008V Auto Mechanics Related IV	10	10

### *Electronics Technology*

The Electronic Technology curriculum consists of two programs. Communication Electronics and Electronic Engineering Technology. The Communication Electronics program is oriented toward the fields of radio and television braodcasting and servicing. The Electronic Engineering Technology program is oriented toward the scientific approach and is intended to educate the student to become an engineering technician or industrial technician.

### *Communication Electronics*

Successful completion of this curriculum will prepare the student for a career as a test technician, broadcast engineer, radio-television serviceman, commercial sound technician, two-way radio technician, and many other

types of technician occupations. The course length is four twelve-week quarters.

Graduates receive a diploma.

<i>First Quarter</i>			
EL001U Introduction to Electronics	Cr. 3	Hrs. 6	
EL029U Electronic Circuits I	12	16	
MA012U Technical Mathematics I	4	5	
EL001V Electronic Shop Methods	1	3	

<i>Second Quarter</i>			
EL030U Electronic Circuits II	10	15	
EL002V Audio Systems	5	7	
CM002U Communication Skills I	3	3	
MA016U Technical Mathematics II-C	4	5	

<i>Third Quarter</i>			
EL004V Television I	11	17	
EL003V Broadcast Systems	4	5	
EL007U Communication Electronics I	5	8	

<i>Fourth Quarter</i>			
EL006V Troubleshooting	6	11	
EL008U Communication Electronics II	6	9	
AM003U Business Practices	3	3	
EL005V Television II	4	7	

### *Electronics Engineering Technology*

The student successfully completing the two years of study will have the necessary skills and knowledge to secure an entry position as an electronics technician in any one of many industries. The course length is six twelve-week quarters.

Graduates receive an Associate of Applied Science Degree.

<i>First Quarter</i>			
EL001U Introduction to Electronics	Cr. 3	Hrs. 6	
EL002U Electric Circuits I	7	9	
MA012U Technical Mathematics I	4	5	
EG003U Engineering Problems	3	5	
CM002U Communication Skills I	3	5	

### *Second Quarter*

EL003U	Electric Circuits II	7	9
EL035U	Active Devices	7	10
MA014U	Technical Mathematics II-E	4	5
CM003U	Communication Skills II	3	3
PY004U	Psychology of Human Relations I	3	3

*Third Quarter*

EL081U	Electric Circuits III	7	9
EL015U	Solid State Circuit Analysis & Design	7	10
GR001U	Electronic Drawing	3	6
MA015U	Technical Mathematics III	4	5

*Fourth Quarter*

EL013U	Industrial Electronics	3	5
EL083U	Electronic Test Methods	3	5
EL084U	Transform Circuit Analysis	4	5
EL006U	Communication Electronics	7	10
PH001U	Applied Physics I	4	5

*Fifth Quarter*

EL022U	Network Analysis and Design	4	5
EL014U	Pulse and Switching Circuits	6	7
PH002U	Applied Physics II	4	5
EC003U	American Institutions	3	3
EL010U	Television Circuit Analysis	6	10

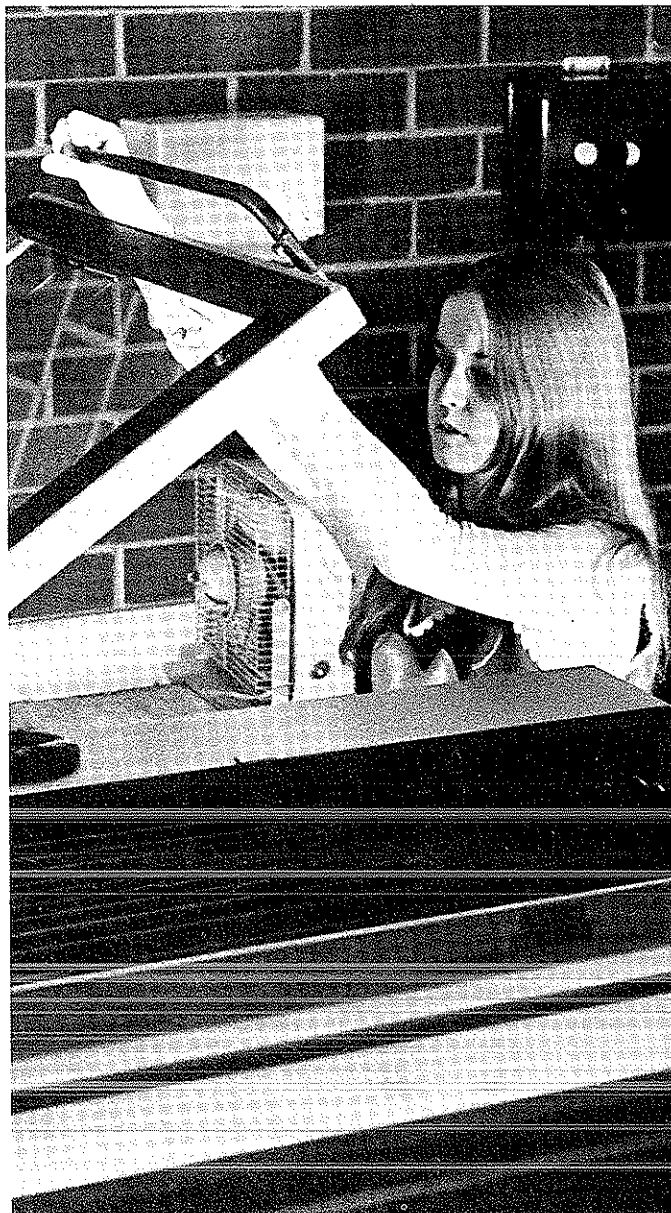
*Sixth Quarter*

EL024U	Advanced Electronic Problems	4	5
EL025 U	Design Project	3	6
CM004U	Technical Reporting	3	5
EL021U	Electronic Computers	4	6
EL012U	Transmission Systems	6	8

### 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, processes, functional typography, letterpress operations, lithography, layout and design, mathematics and bindery operations.

Advancing through the program, the student will learn more about lithography including camera and darkroom, photo-composition, paste-makeup, theory of color, stripping and plate-making, and advanced letterpress 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.

<i>First Quarter</i>		<i>Cr.</i>	<i>Hrs.</i>
GR011U	Cold Type Processes I	7	144
GR007U	Graphic Design I	4	96
GR009U	Typography I	5	108
EC001U	Printing Economics I	1	12

<i>Second Quarter</i>			
GR012U	Cold Type Processes II	7	144
GR008U	Graphic Design II	4	96
GR010U	Typography II	5	108
EC002U	Printing Economics II	1	12

<i>Third Quarter</i>			
GR013U	Camera and Stripping I	6	120
GR015U	Offset Presswork and Platemaking	11	240

<i>Fourth Quarter</i>			
GR014U	Camera and Stripping II	6	120
GR016U	Presswork and Finishing Operations	11	240

Additional Minimal requirements for Associate of Arts Degree (Optional) and Associate of Applied Science Degree (Optional)

I. Composition	8
Speech	3
Humanities	8
Social Sciences	8
Math/Science	<u>8</u>
	35
II. Recommended Courses	
U.S. History	4
Art History	4
Economics I	3
Psychology	4
Mathematics	5
Man & His Environment	4
Studio Art	6

The last twenty-four hours of course work for residency must be in the Arts and Sciences division at Kirkwood for the Associate of Arts degree.

An Associate of Applied Science degree will be awarded if the diploma and Group I requirements are met regardless of sequence.

Courses in Group II with the exception of studio art courses may be used in fulfilling the required courses in Group I. Student wishing the Associate of Arts degree should carefully read page which describes the general requirements and transfer of credits from Applied Science degree program.

### *Machinist*

The machine shop curriculum is planned to prepare students to become skilled machinists or machine tool operators. Related instruction is provided in mathematics, blueprint reading, human relations, and communications. Students also study heat treatment of various metals and other basic metallurgical procedures. They have the opportunity to learn the proper care and use of measuring.

They learn care and use of measuring and layout tools, and develop skills on various production machine tools. The day program involves 1080 clock hours and 45 credits. The evening program contains the same course content, with classes meeting 920 hours for 48 weeks.

Graduates of either program receive a diploma.

	<i>Clock Hrs.</i>
Measuring tools	60
Bench work	55
Drill Press	40
Sawing	40
Lathe operation	250
Turrent lathe	75
Milling machine	200
Grinding	80

Special production machines				40
Mathematics and Blueprint Reading				200
Safety procedures				40
				<u>1080</u>
		Day	Evening	
		Hrs.	Hrs.	
<i>First Quarter</i>	Cr.			
MM001V Machinist Lab I	10	20	8	16
MM005V Machinist Related I	10	10	4	4
<i>Second Quarter</i>				
MM002V Machinist Lab II	12	24	8	16
MM006V Machinist Related II	6	6	4	4
<i>Third Quarter</i>				
MM003V Machinist Lab III	13	26	8	16
MM007V Machinist Related III	4	4	4	4
<i>Fourth Quarter</i>				
MM004V Machinist Lab IV			8	16
MM008V Machinist Related IV			4	4

### Mechanical Draftsman

Those completing the thirty-six week course will have the necessary knowledge and skills required to prepare clear, complete and accurate drawings of mechanical devices and parts. They will be capable of redrawing, making revisions, working from sketches and verbal instructions, and performing any necessary mathematical computations. They will be able to use the basic drafting equipment and tools and will be acquainted with the more common manufacturing processes.

Graduates receive a diploma.

		Cr.	Hrs.
<i>First Quarter</i>			
GR002V Mechanical Drafting I		8	15
MA011U Mathematics I		5	5
GR005V Applied Problems I		2	5
MM001U Manufacturing Processes I		3	5
<i>Second Quarter</i>			
GR003V Mechanical Drafting II		8	15
MA003U Mathematics II		5	5
GR006V Applied Problems II		2	5
MM040V Manufacturing Materials & Methods		3	5

### Third Quarter

GR004V Mechanical Drafting III	8	15
MA004U Mathematics III	5	5
GR007V Applied Problems III	2	5
CM002U Communication Skills I	3	5

### Mechanical Engineering Technology

The graduate mechanical engineering technician will have obtained a high degree of ability in analytical problem solving as well as the ability to translate his own and others' thought into graphical representations. A thorough knowledge of the machine and manufacturing processes will allow him to follow a design to its conclusions in the actual manufacture and ultimate production of a special tool or product. The design option provides the student possessing mechanical and mathematical aptitudes with an unlimited opportunity for work in research and development in a wide range of industrial endeavors from farm machinery to electronics.

Mechanical Engineering Technology is a two-year program consisting of six twelve week quarters. The curriculum includes practical experience in the drafting room, shops and laboratories but is more heavily weighted towards technical studies in the classroom.

Graduates receive an Associate of Applied Science Degree.

		Cr.	Hrs.
<i>First Quarter</i>			
CM002U Communication Skills I		3	5
GR002U Engineering Drawing I		6	10
MA012U Technical Mathematics I		4	5
MM001U Manufacturing Processes I		3	6
MA007U Engineering Computations I		2	4
<i>Second Quarter</i>			
CM003U Communication Skills II		3	5
GR003U Engineering Drawing II		6	10
MA013U Technical Mathematics II		5	5
MM002U Manufacturing Processes II		3	6
MA008U Engineering Computations II		2	4

### Third Quarter

MA015U	Technical Mathematics III	4	4
GR004U	Engineering Drawing III	5	10
EG001U	Statics	8	10
MH002U	Hydraulics	4	6

*Fourth Quarter*

PY004U	Psychology of Human Relations I	3	5
EG006U	Strength of Materials I	4	5
EG002U	Kinematics of Mechanisms	7	10
EG003U	Dynamics	7	10

*Fifth Quarter*

EC003U	American Institutions	3	3
EL026U	Electricity	3	5
EG007U	Strength of Materials II	5	5
EG004U	Machine Design	7	12
GR005U	Design Problems I	2	5

*Sixth Quarter*

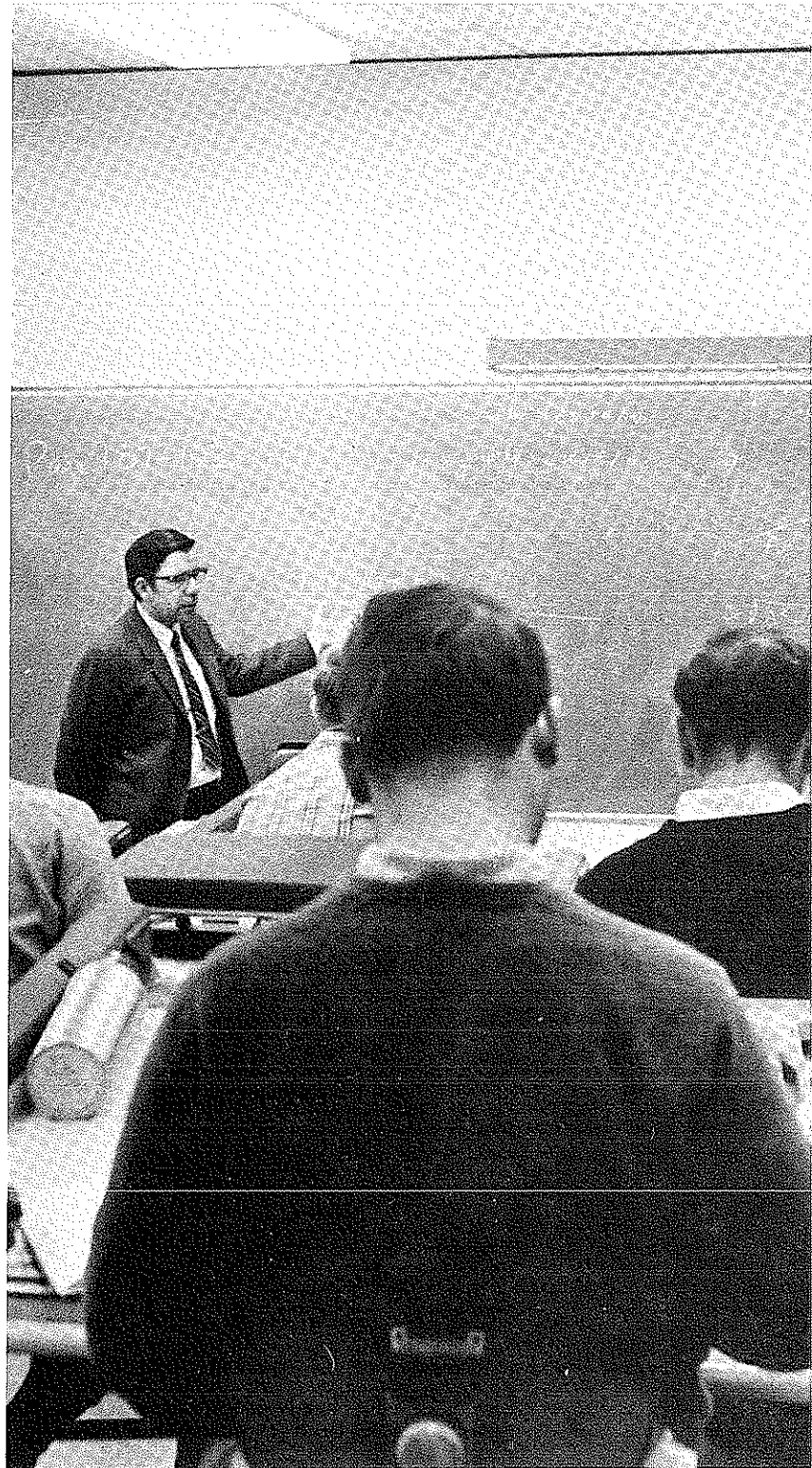
CM004U	Technical Reporting	3	5
PH003U	Heat, Light and Sound	5	6
EG005U	Engineering Materials	2	4
GR006U	Design Problems II	6	12
SO001U	Industrial Organizations	3	3

*Welding*

The complete welding program at Kirkwood is approximately 1080 hours, or 36 weeks. This is broken down into three main phases, each being about 12 weeks. The first one is metallic arc welding, or commonly referred to as stick welding. A student satisfactorily completing this section of the program will have the necessary skills required for passing the American Welding Societies Guide Bend Test in 3 positions with  $\frac{3}{8}$ " steel plate using low hydrogen electrodes. Also included in this section is oxy-acetylene cutting.

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, communication skills. The set-up and use of production machinery,



welding inspection methods, and a student project are included also. This quarter is to provide the students with the background needed to obtain work in industry as a supervisor, methods man, inspector or specialist weldor. 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 speed since the lessons are of the self instructing type with all necessary demonstrations on video-tape. The instructors provide individual help as necessary.

After the fall quarter registration, students can enroll at any time if space is available. Students who enroll in the daytime must enroll on a full time basis or 30 clock hrs. per week. The third quarter courses will only be offered spring term.

<i>First and Second Quarters</i>		<i>Cr.</i>	<i>Hrs.</i>
MM011V	Introduction to Arc Welding	1	26
MM025V	Weaving the Electrode	.5	12
MM026V	Introduction to Joint Welding	1	28
MM027V	Powdered Iron Weld Methods	1	28
MM028V	Flame Cutting	1	18
MM029V	Butt Joints — Flat	1	30
MM030V	Horizontal Weld Techniques	1	24
MM031V	Vertical Welding Techniques	1	24
MM032V	Overhead Welding Techniques	.5	12
MM033V	A.W.S. Test — Low Hydrogen Electrodes	3.5	76
MA011U	Mathematics I	3	36
MM034V	Blue Print Reading for Welders	3	36
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 Metals	1	20
MM019V	Heliarc Welding	5	114
MM020V	Special Arc Welding Techniques	3	60
MA003U	Mathematics II	3	36
		<u>36.5</u>	<u>720</u>

<i>Third Quarter</i>			
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	<u>1</u>	<u>24</u>
		17	360

TOTALS 53.5 1080

### *Apprenticeship Programs*

The Vocational-Technical Division cooperates fully with the local Building and Construction Trade Council as well as the Joint Apprenticeship Committees in providing related classroom and laboratory instruction to approximately 215 indenture apprentices, involving seven apprenticeship programs.

Represented in these programs are carpentry, electrical, ironworkers, millwright, plumbing and steamfitting, sheetmetal, and tool and die. All are equal opportunity programs. Classes are presently being conducted at local school buildings, the college, and private facilities.

During the term of apprenticeship, each apprentice receives training and experience in all branches of the trade. Apprentices also receive instruction in safety practices and techniques as applied to all hand tools, power machinery, construction materials used in each specific trade during the apprenticeship, both on-the-job and as a part of the related instruction curriculum.

Students interested in enrolling in these programs should contact the Apprenticeship Coordinator, Vocational-Technical Division, Kirkwood Community College. The college telephone number is 319 — 398-5505.

### *Carpentry*

The term of apprenticeship shall be not less than four years to be divided as follows: 8,000 hours of work experience and not less than 144 hours per year of related instruction.

**Suggested Schedule of Work Processes for Carpentry Apprentices:**

	<i>Approx. Hrs.</i>
Rough Framing (floor, wall, roof, scaffolding — house and heavy construction)	1200
Form Building (floor, beam, wall column, stairs, joints, etc.)	1200
Interior Finishing (application of door and window trim, fitting and sanding doors and windows. Application of baseboards, construction and setting cases, stair work, etc.)	1500
Acoustics and Drywall	1000
Exterior Finishing	800
Layout	500
Foundations, concrete forms, cabinet making, millwright, heavy timber construction.	800
Care and use of tools and woodworking machinery.	500
Welding	500

The related instruction will pertain to the study of mathematics related to the trade, blueprint reading and estimating, history and ethics of the trade, etc.

**Electrical**

The term of apprenticeship shall be not less than four years to be divided as follows: 8,000 hours of work experience and not less than 144 hours per year of related instruction.

**Suggested Schedule of Work Processes for Electrical Apprentices:**

Residential — wiring of residences, duplexes and small apartment buildings and necessary shop work and preparations.	400 — 2,000
Commercial — wiring of public, commercial, school and hospital buildings; the installation and repair of all equipment therein; and necessary shop work and preparation.	4000 — 7,200
Industrial — wiring of all industrial buildings and equipment; the maintenance, repair and alterations of the same; and necessary shop work and	

preparation.

400 — 2,000

**Ironworkers**

The term of apprenticeship shall not be less than four years to be divided as follows: 8,000 hours of work experience and not less than 144 hours per year of related instruction.

**Suggested Schedule of Work processes for Ironworkers Apprentices:**

Contact local business representative or college apprenticeship coordinator for this year's curriculum breakdown.

**Sheetmetal**

The term of apprenticeship shall be not less than four years to be divided as follows: 8,000 hours of work experience and not less than 144 hours per year of related instruction.

**Suggested Schedule of Work Processes for Sheetmetal Apprentices:**

Ventilation and air conditioning controls	1000
General Sheet Metal Work	1000
Hotel, restaurant, kitchen equipment	1000
Industrial sheet metal work (blow piping, collection systems, etc.)	1000
Warm air furnace and heating equipment; servicing same.	750
Operation of hand tools and power machinery.	500
Handling of substitute materials, such as plastic.	500
Specialty installation and specialty work (acoustical ceiling, etc.)	500

**Steamfitter-Plumber**

The term of apprenticeship shall not be less than five years to be divided as follows: 8,000 hours of work experience or more and not less than 162 hours per year of related instruction.

## Suggested Schedule of Work Processes for Steamfitter-Plumber Apprentices:

*Total Hours*  
*8000+ Hours*

Installation of cast iron pipe, copper tube and threaded pipe.  
Installation of residential and commercial fixtures and equipment installation.  
Proper use of tools and equipment and safety.  
Assembling, yarning, pouring and calking horizontal soil pipe joints.  
Welding — oxy-acetylene, arc, inert gas, brazing and cutting and fabrication.  
Refrigeration I and II.  
Plumbing drainage and installing house drain and its branches.  
Installation of building sewer.  
Installation of building water system.  
Gas piping installation.  
Lead work.  
Care of tools.

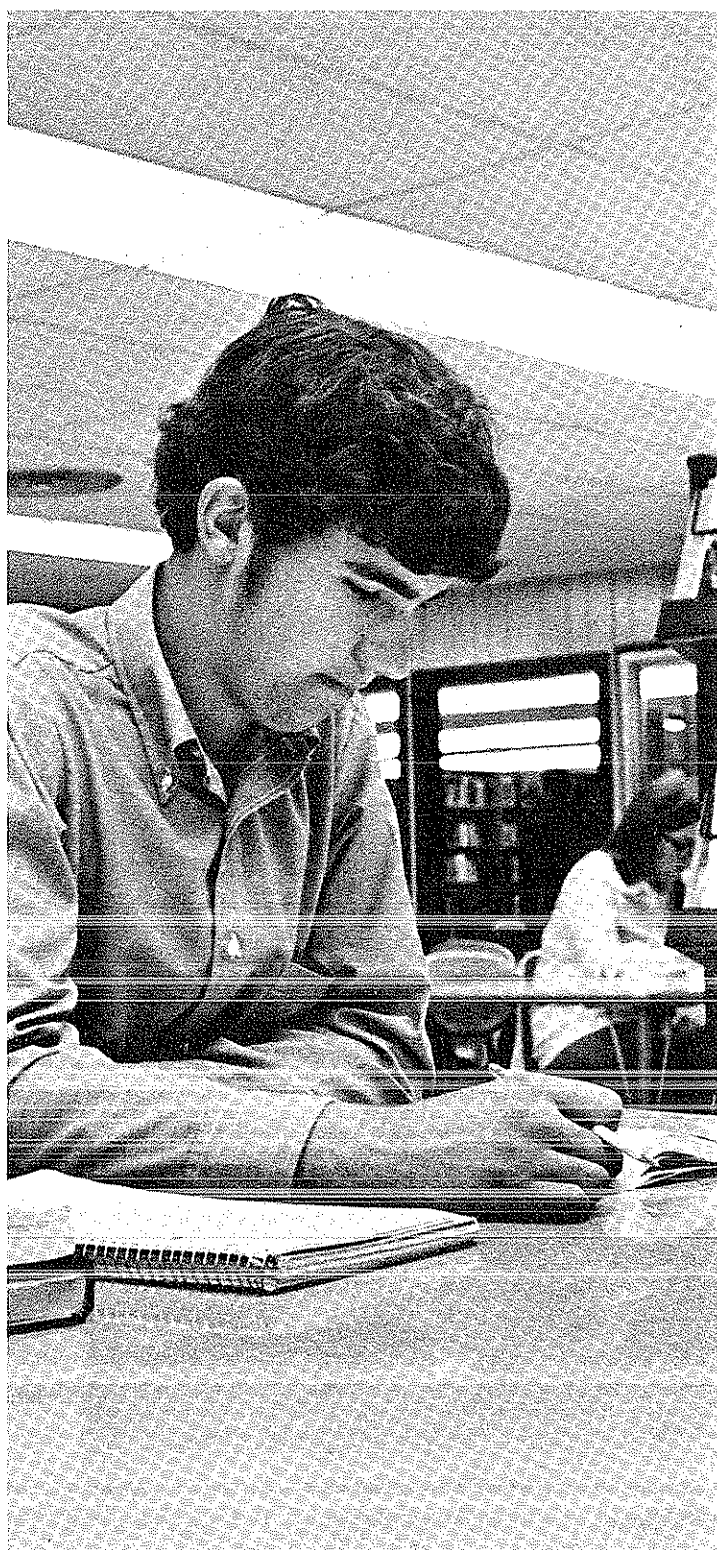
The related instruction will pertain to mathematics, blueprint reading, drawing, heating, instrumentation, pipe bending, welding, science, pneumatic controls, etc.

### *Tool and Die*

The term of apprenticeship shall be not less than four years to be divided as follows: 8,000 hours of work experience and not less than 144 hours per year of related instruction.

### Suggested Schedule of Work Processes for Tool and Die Apprentices:

Contact local business representative or college apprenticeship coordinator for this year's curriculum breakdown.





# COURSE DESCRIPTIONS

## THE COURSE NUMBERING SYSTEM

Course numbers appearing in this catalog should be interpreted according to the following guidelines:

- 1) The two letter prefix denotes the area of study in which the course may be found. The area of study is the academic discipline that most nearly describes the content of the course. Example "BY" is the prefix for courses that have biology as their basic subject matter. See the list of areas of study below. BY101V
- 2) The three numerals in the body of the course number are random, and do not imply sequence. BY101V
- 3) The letter at the end of the course number represents the level of instruction, according to the following code. BY101V

A = 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 Voc. Tech.

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 lecture and lab sessions involved. Thus, (3/1) indicates 3 lectures and 1 lab session. An irregular course length or arrangement

is also indicated. Thus (3/2-7 wks) means 3 lectures and 2 lab sessions for 7 weeks.

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

## ACCOUNTING

### College Parallel

### Credit

- AC001T PRINCIPLES OF ACCOUNTING I (0647) 3**  
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. (3/0)
- AC002T PRINCIPLES OF ACCOUNTING II (0733) 3**  
Emphasizes partnership and corporate entities, worksheet adjustments and asset valuation. (3/0) Prereq: Principles of Accounting I.
- AC003T PRINCIPLES OF ACCOUNTING III (0831) 3**  
Emphasizes management uses, and studies introduction to cost accounting, cost analysis, budgeting, fund flow, and statement analysis. (3/0) Prereq: Principles of Accounting II.
- AC004T COST ACCOUNTING I (0026) 3**  
Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. (3/0) Prereq: Principles of Accounting III.
- AC005T COST ACCOUNTING II (0116) 3**  
Emphasizes standard costing and budgeting. (3/0) Prereq: Principles of Accounting III.
- AC006T INTERMEDIATE ACCOUNTING I (0228) 3**  
Includes a review of accounting procedures and reporting process. An in depth analysis of cash, receivables, and inventories. (3/0) Prereq: Principles of Accounting III.
- AC007T INTERMEDIATE ACCOUNTING II (0329) 3**  
Emphasis on investment accounting, tangible and intangible assets, and liabilities. (3/0) Prereq: Intermediate Accounting I.
- AC008T INCOME TAX (0426) 3**  
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. (3/0) Prereq: Principles of Accounting I.
- AC009T INTERMEDIATE ACCOUNTING III 3**  
Covers corporation accounting, consignment and installment sales and income correction and statement changes. (3/0) Prereq: Intermediate Accounting II.
- AC010T ANALYZING FINANCIAL STATEMENTS 3**  
Presents management's viewpoint on cost analysis, budgeting, fund flow, and statement analysis. (3/0) Prereq: Recommended Principles of Accounting II.

## Vocational-Technical

- AC001U ACCOUNTING SURVEY I (0773) 3**  
(Accounting for the data processor) Covers basic concepts, definitions, terminology, techniques, and characteristics of accounting and accounting systems as found in medium/large organizations. Attention is given to the functions of accounting as they might be performed by data processing systems. (3/0)
- AC002U ACCOUNTING SURVEY II (0864) 3**  
(Cost accounting and financial control for the data processor) Includes classifications of costs, cost control, standard costs, budgeting, depreciation, financial reporting and managerial use of accounting information as found in medium/large organizations. Special attention given to use of computerized data processing systems in performing accounting functions. (3/0) Prereq: Accounting Survey I.
- AC006U MANAGEMENT ACCOUNTING (1522) 4**  
Presents management's viewpoint on cost analysis, budgeting, fund flow, and statement analysis. (4/0) Prereq: Principles of Accounting I.
- AC008U FARM RECORD KEEPING (0847) 3**  
Designed to familiarize students with farm records: accounting inventories, valuation, cash flow, net worth, depreciation, and different types of record systems. (1/4)
- AC009U ACCOUNTING PROBLEMS 2-5**  
Provides the student with the opportunity to secure assistance in his accounting course work and to provide him with the opportunity for more-in-depth study. Time arranged.
- AC001V ACCOUNTING FUNDAMENTALS I (0488) 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 (0580) 5**  
Continues Accounting Fundamentals I with expansion of the accounting for purchases, sales, inventory, prepaid expenses, long-lived assets, and accounting for owner's equity. (5/0) Prereq: Accounting Fundamentals I.
- AC003V ACCOUNTING FUNDAMENTALS III (0683) 5**  
Continues Accounting Fundamentals II, with emphasis on corporate organizations and introduction to cost accounting. (5/0) Prereq: Accounting Fundamentals II.
- AC004V OFFICE ACCOUNTING (0253) 4**  
Provides understanding of basic accounting concepts and procedures. Includes the recording and 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 placed on units of recording basic transactions, credit, payroll and banking.

**AC006V MEDICAL BOOKKEEPING (0157) 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 statements. Special attention is given to patient billing, preparing for audits, peg board accounting, use of data processing services, and insurance tax forms. (4/0)

**AC007V DENTAL BOOKKEEPING (0243) 2**

Covers basic principles of bookkeeping from the viewpoint of the dental assistant. Areas of study include journalizing, posting to the ledgers and taking a trial balance and preparation of financial statements. Special attention is given to patient billing, preparing for audits, peg board accounting, use of data processing services, and insurance and tax forms. (2/1)

**AC008V INCOME TAX PROCEDURES (0927) 3**

Training in the preparation of federal and state income tax returns. (3/0)



## AGRICULTURE

### Vocational-Technical

**AG001U TECHNICAL AGRICULTURE I 3**

Studies application of chemicals, attachments, up-to-date production practices, and current trends. (2/2)

**AG002U FORAGE AND OAT PRODUCTION 2**

Involves study in the technical areas of various forages and of oats as a cash crop. Includes varieties, fertility programs, and various management practices. (2/3)

**AG003U AGRI-BUSINESS PROCEDURES 3**

Deals with problems in the operations of a supply business. It includes types of businesses, sources of capital, sales tickets, pricing, credit control, inventory control, and financial statements. (1/4)

**AG004U LIVESTOCK PRODUCTION 3**

Provides basic information needed by salesmen, herdsman, and farmers in meeting the feed requirements of livestock and breeds and breeding. It includes an understanding of biological principles and body processes of animals. (1/4)

**AG005U AGRICULTURAL CHEMICALS (1501) 2**

Studies use of insecticides, fungicides, nematocides, rodenticides, plant regulators, and internal parasites of livestock, poultry and pets. Types of materials, the methods of use, storage, and safety measures to be followed are emphasized with stress placed on the student developing ability to interpret and to explain to customers the directions for use and the cautions to be observed with the products. (2/3)

**AG006U AGRICULTURE SEMINAR (1061) 1**

Assists the student in managing his affairs as an employee. Includes "mini courses" on current topics. (1/0)

**AG007U FORESTS MANAGEMENT 3**

Presents a basic understanding of the principles of forests management. The major emphasis is placed on maintaining the balance of nature while providing supplemental practices to improve the forests. (1/4)

**AG008U MAMMALIAN WILDLIFE 4**

Presents an exhaustive study of the natural life habitats, as well as identification of Iowa mammals. Special attention is devoted to conservation practices that are recommended for each individual species. (2/4)

**AG009U GROUNDS LAW AND PROGRAMS** 3  
Examines various statutes of the Code of Iowa that pertain to park operations. Considerable attention is given to federal and state cost sharing programs. (1/4)

**AG010U PARK MANAGEMENT PROBLEMS** 4  
Deals with the routine and irregular problems encountered when serving with management responsibilities. Coordination of the local park with state and federal agencies is included. (2/4)

**AG011U FARM MACHINERY OPERATIONS (0762)** 2  
Features approved methods of operating all farm machines with emphasis on safety. (2/3)

**AG012U EMPLOYMENT EXPERIENCE (0132)** 7  
Offers employment arranged to give students practical full-time on-the-job training with an employer or self-employed.

**AG013U AQUATIC WILDLIFE** 2  
Covers fish and fish management including identification, habitat and reproduction. In addition, management technique is stressed. (1/2)

**AG014U FARMSTEAD PLANNING AND MECHANIZATION (1534)** 2  
Covers analyzing a farmstead, replanning it, and using capital to replace labor when profitable. The course includes types of equipment and methods of mechanization. (2/3)

**AG015U LAKES AND RIVERS MANAGEMENT** 2  
Concerns industrial and agricultural technology which has necessitated proper management of water bodies in order to maintain them as a proper environment for aquatic wildlife. (1/2)

**AG016U FEED RATIONS (1214)** 2  
Deals with the technical work of the feed mill-farm supply center where formulating and mixing feed rations for customers are practiced: selection of ingredients to provide specified amounts for nutrients, use of feed additives, types of feeds to recommend for different classes of livestock and for different purposes, and appropriate food and drug regulations of the state and federal governments. Alternative ingredients are considered in formulation feeds. (2/3)

**AG017U FIELD CROP PRODUCTION (1266)** 3  
Develops understanding and abilities in crop production: variety selection, certified seed, classification of crop management practices, harvesting grain and feed crops, and plant growth factors. (1/4)

**AG018U WILDLIFE RESERVES** 2  
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. (1/2)

**AG019U ADVANCED TURFGRASS MANAGEMENT** 3  
Is tailored to the needs of the student seeking employment as a golf course groundskeeper, sod farm manager, etc. Special purpose grasses, and new turfgrass varieties are grown in laboratory situations for analysis. (1/4)

**AG023U TURFGRASS DISEASES** 4  
Studies in depth the major turfgrass diseases, as well as chemical and cultural management treatments and prepares the student for facing this major problem area in the industry. (2/4)

**AG024U TURFGRASS FERTILIZATION** 2  
Studies and compares inorganic and organic fertilizers, various top dressings and other soil amendments. Test plots which are managed by students illustrate the values of various products. (1/2)

**AG025U IRRIGATION SYSTEMS** 2  
Provides a thorough knowledge of water systems from the water source to the sprinkler head which is a prerequisite to professional turfgrass management. This course contains materials in these areas as well as control systems, wells, water additives, etc. (1/2)

**AG026U GARDEN CENTER OPERATIONS** 6  
Covers the successful operation of the garden center as a business which requires skillful attention, including labor supervision, work detailing, and over-all operations management. (3/6)

**AG027U HOUSE PLANTS** 2  
Covers mini-gardens, part-time green housing, house gardening — all related leisure time activities which require successful production practices for the house plants. (1/2)

**AG028U GREENHOUSE FACILITIES AND EQUIPMENT** 2  
Presents a thorough knowledge of greenhouse constructions which is of utmost importance to persons in horticulture. Glass, fiberglass, and polyethylene structures are studied. Watering systems, ventilators, and other related equipment are evaluated. (1/2)

**AG029U LANDSCAPE CONSTRUCTION (1097)** 3  
Includes layout and execution of landscape plans incorporating the use of horticultural equipment, and land leveling, soil and water mechanics. (1/4)

**AG030U LANDSCAPE DESIGN I (1094) 4**

Develops understanding of the function of the landscape plan showing the types and location of vegetation for the lot and home. (2/4)

**AG031U LANDSCAPE DESIGN II (1110) 3**

Involves student in execution of a landscape design for the beautification of a specific area. Included in the design are estimating, selling, and supervising the execution of the design. (1/4)

**AG032U RECREATIONAL AREAS DESIGN 3**

Deals with the problem of basic layout of parks and golf courses. Students spend much time analyzing existing areas and culminate their study with their own design for a selected area. (1/4)

**AG033U GROUNDS EQUIPMENT MANAGEMENT 3**

Presents an advanced study of management of grounds equipment which includes records maintenance schedules, guarantees, service contracts, and leasing. Maintenance skills are taught on many machines.

**AG034U LANDSCAPE DESIGN III 4**

Is the final course offered to students in their second year of landscape training. Institutional, industrial, and recreational area landscaping are emphasized in this course. (2/4)

**AG035U NURSERY STOCK PRODUCTION 3**

Provides intensified study in the greenhouse involving specific production shortcuts and nursery stock production practices. (1/4)

**AG036U FRUIT AND VEGETABLE PRODUCTION 3**

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. (1/4)

**AG037U SOILS AND FERTILIZERS 2**

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. (1/2)

**AG038U CHEMICAL APPLICATORS 2**

Provides the proper understanding and application of modern chemicals in the horticultural industry which is a necessity. This course concentrates on subject matter necessary for receiving a chemical applicator's license and permit. (1/2)

**AG039U PLANT DISEASE AND INSECTS 3**

Studies diseases and insects that are found on midwestern plant materials. A study of appropriate chemicals for treating these problems is also undertaken. (1/4)

**AG040U PESTS AND PESTICIDES (1503) 2**

Includes weed and insect control, insect and weed identification, and the safe use of pesticides. (2/3)

**AG041U LIVESTOCK AND CROP PROBLEMS 5**

Is a continuation of the enterprise class. Students are enrolled in the first one-half of the quarter. It is taken by students who are not released for employment experience during fall quarter. (5/10)

**AG042U WEED IDENTIFICATION (1108) 3**

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)

**AG044U PLANT MATERIALS I (1088) 3**

Develops knowledge of adaptable plant materials used in the landscaping field. (1/5)

**AG045U PLANT MATERIALS II (1095) 4**

Continues Plant Materials I with increased emphasis on the adaptability of specific varieties and new varieties of nursery stock. (2/4) Prereq: Plant Materials I.

**AG046U PLANT MATERIALS III (1098) 4**

Continues Plant Materials I and II, offering intensive study of new varieties of plant materials. (2/4) Prereq: Plant Materials I & II.

**AG047U HERBACEOUS PLANT MATERIAL (1109) 3**

Studies herbaceous ornamentals: flowers and foliage plants which, combined with trees, shrubs, vines, and lawn, complete the ornamental plantings. (1/4)

**AG048U PLANT PROPAGATION I (0770) 4**

Covers the study of plant propagation, methods of propagating plants, and the basic types of reproduction including plant nomenclature. (2/4)

**AG049U PLANT PROPAGATION II (0861) 2**

Explores the technique of plant propagation by sexual and asexual methods including cutting, grafting, budding, and propagation by specialized stems and root methods. (1/4) Prereq: Plant Propagation I.

**AG053U SOIL FERTILITY (1511) 3**

Prepares the student to recommend, formulate, sell, and apply fertilizer. Covers fertilizer requirements, soil moisture, and plant growth, fertilizers of the soil, soil micro-organisms, sources of raw materials, formulation of fertilizers, recommending a fertilizer, method of application, loss of fertilizer, storage of fertilizer, and use of micro-nutrients. (1/4)

**AG055U SOIL AND PLANT SCIENCE (1427) 2**  
 Provides the background necessary for work on a farm or in the fertilizer department of the farm supply store: physical, chemical, and biological properties of soils in relation to plant growth; soil texture, structure, moisture relations, temperature, biological activities, and organic matter content, the functions of the soil as a medium to support plant life.

**AG056U SOIL AND WATER MECHANICS (1099) 3**  
 Studies soil formation, types, classes and groups, soil erosion and control, soil fertility and fertilizers, their sources and effect on plants, land leveling, terracing, and use of survey equipment. (1/4)

**AG057U TURFGRASS MANAGEMENT (1104) 3**  
 Considers maintenance practices and their effects on each other. (1/4)

**AG059U SPECIAL PROJECTS (0258) 3**  
 Offers self-planned project work in individual interest areas. (0/6)

**AG062U HORTICULTURE EQUIPMENT (1102) 3**  
 Studies equipment needed to handle the multiple maintenance problems posed by widely different landscaped areas on the campus, golf course, woodlands, paved areas, nursery proper, and in the tree service areas. (1/4)

### AGRICULTURE ENTERPRISE

These courses are specially designed to offer a balance between practical husbandry and technical up-to-date subject matter. Students are actively engaged in the business-like operation and analysis of their enterprise. No prerequisites are essential for any quarter, but needed quarters should be carefully planned by students. Students may repeat quarters if desired. Individual course emphasis for each quarter is stated below.

**AG063U BEEF ENTERPRISE, FALL 5**  
 Studies acclimation, facilities, and calving. (5/10)

**AG064U BEEF ENTERPRISE, WINTER 10**  
 Discusses nutrition, budgeting, and breeding. (5/10)

**AG065U BEEF ENTERPRISE, SPRING 5**  
 Discusses marketing, showing, and calving. (5/10)

**AG066U BEEF ENTERPRISE, SUMMER 10**  
 Studies selection of stock, breeding, and the cow-calf operation. (5/10)

**AG067U SHEEP AND DAIRY ENTERPRISE, FALL 5**  
 Discusses selection and health. (5/10)

**AG068U SHEEP AND DAIRY ENTERPRISE, WINTER 10**  
 Studies nutrition, equipment, and reproduction. (5/10)

**AG069U SHEEP AND DAIRY ENTERPRISE, SPRING 5**  
 Discusses management, marketing, and purchasing. (5/10)

**AG070U SHEEP AND DAIRY ENTERPRISE, SUMMER 10**  
 Studies fitting, showing, and parasite control. (5/10)

**AG071U SWINE ENTERPRISE, FALL 5**  
 Discusses nutrition and record keeping. (5/10)

**AG072U SWINE ENTERPRISE, WINTER 10**  
 Studies production and breeding programs. (5/10)

**AG073U SWINE ENTERPRISE, SPRING 5**  
 Studies life-cycle management practices. (5/10)

**AG074U SWINE ENTERPRISE, SUMMER 10**  
 Discusses facilities and equipment, and selection of breeding stock. (5/10)

**AG110U FARM SUPPLY ENTERPRISE, FALL 5**  
 Discusses office procedures. (5/10)

**AG111U FARM SUPPLY ENTERPRISE, WINTER 10**  
 Discusses records management. (5/10)

**AG112U FARM SUPPLY ENTERPRISE, SPRING 5**  
 Discusses sales and service. (5/10)

**AG113U FARM SUPPLY ENTERPRISE, SUMMER 10**  
 Discusses product merchandising. (5/10)

<b>AG114U CROP ENTERPRISE, FALL</b>	<b>5</b>	<b>AG090U VFC AGRICULTURAL FINANCE</b>	<b>2.25</b>
Studies harvesting and drying techniques. (5/10)		Is an applied home farm business course for Farm Coop program students in the area of agricultural finance. (2¼/0)	
<b>AG115U CROP ENTERPRISE, WINTER</b>	<b>10</b>	<b>AG092U VFC BEEF PRODUCTION</b>	<b>2.5</b>
Discusses machinery costs and crop planning. (5/10)		Is an applied home farm business course for Farm Coop program students in the area of beef production. (2½/0)	
<b>AG116U CROP ENTERPRISE, SPRING</b>	<b>5</b>	<b>AG093U VFC FORAGE AND OAT PRODUCTION</b>	<b>2.5</b>
Studies tillage, planting corn and soybeans. (5/10)		Is an applied home farm business course for Farm Coop program students in the area of forage and oat production. (2½/0)	
<b>AG117U CROP ENTERPRISE, SUMMER</b>	<b>10</b>	<b>AG094U VFC GRAIN MARKETING</b>	<b>2.25</b>
Discusses weed control and crop observation. (5/10)		Is an applied home farm business course for Farm Coop program students in the area of grain marketing. (2¼/0)	
<b>AG080U AVIAN WILDLIFE</b>	<b>3</b>	<b>AG095U VFC TRACTOR MAINTENANCE</b>	<b>2.25</b>
Presents a practical study of life habits, migration, protection laws, habitats, and general information about avian (birds) wildlife. (1/4)		Is an applied home farm business course for Farm Coop program students in the area of tractor maintenance. (2¼/0)	
<b>AG082U VFC COOP</b>	<b>2-3</b>	<b>AG096U VFC CORN PRODUCTION</b>	<b>3</b>
Is a supervised home farm work period for Farm Coop program students. (0/4-6)		Is an applied home farm business course for Farm Coop program students in the area of corn production. (3/0)	
<b>AG083U VFC RECORDS AND MANAGEMENT</b>	<b>4.5-5-6</b>	<b>AG097U VFC LIVESTOCK MARKETING</b>	<b>3</b>
Is an applied home farm business course for Farm Coop program students in the area of records and management. (4.5/5-6)		Is an applied home farm business course for Farm Coop program students in the area of livestock marketing. (3/0)	
<b>AG084U VFC MONOGASTRIC NUTRITION</b>	<b>2.5</b>	<b>AG098U VFC TILLAGE AND PLANTING EQUIPMENT ADJUSTMENT</b>	<b>2.25</b>
Is an applied home farm business course for Farm Coop program students in the area of monogastric nutrition. (2.5/0)		Is an applied home farm business course for Farm Coop program students in the area of tillage and planting equipment adjustment. (2¼/0)	
<b>AG085U VFC FIELD CROP PROBLEMS</b>	<b>2.5</b>	<b>AG102U VFC HARVESTING EQUIPMENT ADJUSTMENT</b>	<b>2.25</b>
Is an applied home farm business course for Farm Coop program students in the area of field crop problems. (2.5/0)		Is an applied home farm business course for Farm Coop program students in the area of harvesting equipment adjustment. (2¼/0)	
<b>AG086U VFC RUMINANT NUTRITION</b>	<b>2.25</b>	<b>AG105U VFC FARMSTEAD PLANNING AND MECHANIZATION</b>	<b>3</b>
Is an applied home farm business course for Farm Coop program students in the area of ruminant nutrition. (2¼/0)		Is an applied home farm business course for Farm Coop program students in the area of farmstead planning and mechanization. (3/0)	
<b>AG087U VFC SOIL AND PLANT SCIENCE</b>	<b>2.25</b>	<b>AG107U VFC FUTURES MARKET</b>	<b>2.25</b>
Is an applied home farm business course for Farm Coop program students, in the area of soil and plant science. (2¼/0)		Is an applied home farm business course for Farm Coop program students in the area of the futures market. (2¼/0)	
<b>AG088U VFC SWINE PRODUCTION</b>	<b>3</b>	<b>AG108U AGRICULTURAL SHOP MAINTENANCE</b>	<b>3</b>
Is an applied home farm business course for Farm Coop program students in the area of swine production. (3/0)		Concentrates on skills needed to keep the physical plant in repair. Areas of study include electric motors, electric wiring, plumbing, and general carpentry. (2/2)	
<b>AG089U VFC SOIL FERTILITY</b>	<b>3</b>		
Is an applied home farm business course for Farm Coop program students in the area of soil fertility. (3/0)			

**AG109U FARM MACHINERY (1523)** 3  
Features actual operation of farm machines, including adjustment, maintenance, and safer operation of the equipment. (1/4)

**AG001V COMMERCIAL FLOWER FORCING GREENHOUSE I (0402)** 2  
Studies commercial flower forcing including light, humidity, temperature, photoperiodism, irrigation, sanitation, soils, sexual and vegetative propagation, and forcing and production of various plant varieties. (1/2)

**AG002V COMMERCIAL FLOWER FORCING GREENHOUSE II (0489)** 1  
Studies commercial flower forcing including sanitation, irrigation, propagation, forcing and production of various plant varieties. Prereq: Commercial Flower Forcing I. (1/2)

**AG003V COMMERCIAL FLOWER FORCING GREENHOUSE III (0581)** 1  
Studies commercial flower forcing including sexual and vegetative propagation, bedding plants, forcing and sales, forcing and production of various plant varieties. Prereq: Commercial Flower Forcing II. (1/2)

**AG004U COMMERCIAL FLOWER FORCING GREENHOUSE IV** 2  
Studies commercial flower forcing including greenhouse structure and equipment, greenhouse management, forcing and production in the greenhouse. Prereq: Commercial Flower Forcing III (2/0)

**AG077U HORTICULTURE CAREERS** 1  
Involves a number of field trips to successful businesses within our area to determine real and actual careers and opportunities. (0/2)

**AG103U AGRICULTURAL FINANCE (1530)** 2  
Includes credit and its relation to maximizing farm income: credit sources, proper use, how to secure credit, and repayment capacities. (2/3)

## ADMINISTRATION & MANAGEMENT

### Micro Courses in Business

#### College Parallel

Provides a broad overview of business by offering one-half credit hour courses on many subjects and a one hour credit lecture featuring career opportunities in business. For transfer purposes recommend six, one-half hour micros plus lecture over the two-year enrollment period.





<b>AM008T SURVEY OF BUSINESS AND ITS OCCUPATIONS</b>	<b>1</b>		
Utilizes a different speaker from business each week. Each speaker provides information on the nature and details of his business occupation or firm. The speakers are also asked to give information on career opportunities in their field. Each session includes a question and answer period. (1/0)			
<b>AM006T LABOR MANAGEMENT RELATIONS: MANAGEMENT'S VIEWPOINT</b>	<b>.5</b>		
Designed to identify and present not only management's present perspective of the labor movement but also to give consideration to actions and labor policies of the future which will be beneficial to management, labor and society. Instructors will be from the field of business and industry. (2/0)			
<b>AM007T LABOR MANAGEMENT RELATIONS: LABOR'S VIEWPOINT</b>	<b>.5</b>		
Identifies labor's broad range of objectives during the seventies which include not only wages and working conditions but also the welfare of all the citizens of the community and the efforts of labor to achieve these objectives. It will cover the following: where labor is and where labor is going. Instructors will be from the various labor organizations in the area. (2/0)			
<b>AM009T SOCIAL PROBLEMS IN BUSINESS</b>	<b>.5</b>		
Helps student become aware of sex and racial discrimination in business and in themselves and ways of dealing with the problem. (2/0)			
<b>AM010T STOCK MARKET I</b>	<b>.5</b>		
Shows the mechanics and logic of stock trading activity. Students learn to understand security investments. (2/0)			
<b>AM011T STOCK MARKET II</b>	<b>.5</b>		
Covers how a person decides to invest and what companies' annual reports tell the investor. (2/0)			
<b>AM012T BUSINESS ENVIRONMENT ECONOMICS</b>	<b>.5</b>		
Covers those fundamental functions of economic movements which each citizen needs to know in order to be complementary to a democratic market society. (2/0)			
<b>AM013T BUSINESS ENVIRONMENT GOVERNMENT</b>	<b>.5</b>		
Covers those governmental and legal factors that influence business activity in the United States. (2/0)			
<b>AM014T CAPITALISM AND ECONOMICS</b>	<b>.5</b>		
Covers a conceptual arrangement of those economic factors which influence business activity in the United States. (2/0)			
<b>AM015T CONSUMER ECONOMICS</b>	<b>.5</b>		
Studies the basic fundamentals of consumer finance and the effects of these fundamentals on the United States economy. (2/0)			
<b>AM016T INTERNATIONAL BUSINESS OPERATIONS</b>	<b>.5</b>		
Devoted to a discussion of the economic and governmental aspects of international trade, marketing, and business. (2/0)			
<b>AM017T FRANCHISING</b>	<b>.5</b>		
Describes what franchising is, tells how it is useful, and acquaints the student with its legal aspects. (2/0)			
<b>AM018T BUSINESS CREDIT</b>	<b>.5</b>		
Encourages an appreciation of the importance and extent of short term business credit. (2/0)			
<b>AM019T MOTIVATION</b>	<b>.5</b>		
Acquaints students with the art of motivational theory and its relationship to organizational behavior. (2/0)			
<b>AM020T PERSONAL INSURANCE</b>	<b>.5</b>		
Analyzes the need and benefits of personal insurance. (2/0)			
<b>AM021T BUSINESS ORGANIZATION</b>	<b>.5</b>		
Provides an overview of the major forms of business ownerships. (2/0)			
<b>AM022T MARKETING</b>	<b>.5</b>		
An overview of the channels, institutions and functions involved in the distribution of goods and services. (2/0)			
<b>AM023T DATA PROCESSING</b>	<b>.5</b>		
Surveys data processing to give the students some insight into its objectives, techniques, applications and results. (2/0)			
<b>AM001T AGRICULTURE FINANCE</b>	<b>3</b>		
Reflects the rapid growth of the off-farm agribusiness sectors, emphasizes general principles associated with the evaluation of management and the use of capital. An understanding of agricultural finance should help the banker in satisfying the credit needs of modern agriculture.			

**AM002T PRINCIPLES OF FINANCE (0413)** 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)  
Prereq: Principles of Accounting III.

**AM003T BUSINESS INTERNSHIP (0596)** 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. (0/12)

**AM005T PRINCIPLES OF MANAGEMENT** 4  
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.

**AM025T INDEPENDENT STUDY IN BUSINESS** 4  
This study is taken concurrently with a standard course in the student's area of specialty. Special projects and/or individual readings are assigned by the program coordinator or an individual staff member. Projects must be approved before the beginning of the quarter in which the work is to be done. Prereq: Consent of instructor and department head before registering.

**AM026T INDEPENDENT STUDY IN BUSINESS** 1  
(Same as AM025T)

**AM027T INDEPENDENT STUDY IN BUSINESS** 2  
(Same as AM025T)

**AM028T INDEPENDENT STUDY IN BUSINESS** 3  
(Same as AM025T)

**AM029T BANK MANAGEMENT** 3  
Presents new trends which have emerged in the philosophy and practice of management. The study and application of the principles outlined provide new and experienced bankers with a working knowledge of bank management.

**AM030T INSTALLMENT CREDIT** 3  
Presents the techniques of installment lending. Emphasis is placed on establishing the credit, obtaining and checking information, servicing the loan, and collecting the amounts due. Each phase of a bank's installment credit operation is carefully scrutinized. Other topics discussed are inventory financing, special loan programs, business development and advertising, and the public relations aspect of installment lending.

**AM031T SUPERVISION AND PERSONNEL ADMINISTRATION** 3  
Is designed to enable students to understand human relations at the management level and the methods of getting things done through

people. Basic principles and current practices of personnel administration are studied.

## Vocational-Technical

**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.

**AM002U BUSINESS ORGANIZATION AND MANAGEMENT (0412)** 3  
Studies the structure, operation and control of a business organization. Organization theory, managerial planning and controlling, and human relations. (3/0)

**AM003U BUSINESS PRACTICES (1379)** 2-3  
Includes basic bookkeeping, purchasing, inventory records, employee-employer relations, advertising, and customer relations. (2-3/0)

**AM004U AGRICULTURE FOREMANSHIP** 2  
Is designed to provide students with the opportunity to study and apply skills of supervision and personnel management in Agri-business. Projects will be developed according to the students' enterprise. Management techniques will be stressed. (2/3)

**AM005U CHECKOUT MANAGEMENT (1541)** 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. (2/0)

**AM006U CREDIT PROCEDURES (0919)** 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. (5/0)

**AM007U ENTERPRISE ANALYSIS I (0005)** 3  
Offers a detailed farm management record program giving instruction in analysis of each individual agricultural enterprise connected with the farm business, and that enterprise's relationship to the total farm business. (1/4)

**AM008U ENTERPRISE ANALYSIS II** 2  
Stresses farm business program planning and enterprise budgets. Students actually analyze realistic budgets for the up-coming year, production enterprises, as well as some analysis on completed enterprises. Prereq: Enterprise Analysis I. (2/3)

**AM009U FARM MANAGEMENT (0759)** 3  
Focuses on the abilities needed to manage a farm. The farm laboratory, area demonstration farms, and the students' home farms are used. (1/4)

**AM012U FOOD STORE MANAGEMENT (0246)** 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 are practically provided through the use of case problem situations. (5/0)

**AM013U IMPLEMENT BUSINESS FUNCTIONS (1091)** 4  
Offers instruction in the actual applied functions of an implement business. Time is spent analyzing successful practices of community implement businesses. (3/2)

**AM015U ENTERPRISE ANALYSIS III** 2  
Applies the enterprise record system to the total home farm and includes analysis of short run, as well as long run, enterprises. Analyses of such enterprises as capital, machinery, buildings, and labor are carried out. (2/3) Prereq: Enterprise Analysis I and II.

**AM019U OFFICE MANAGEMENT (0818)** 3  
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. (3/0)

**AM020U RETAIL MANAGEMENT (0700)** 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. (5/0) Prereq: Sophomore standing.

**AM021U STOCK CONTROL (0025)** 3  
Studies intensively the basic principles of food merchandising including inventory, stock-turnover, and control. (5/0-6 wks.)

**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 the company goals are best achieved by coordinating the requirements and needs of employees and management is also examined. (3/0)

**AM003V INSURANCE LAB (0058)** 2  
Provides practice in completing many types of insurance forms. Includes Medicare and A.D.C. forms. (3/0)

**AM004V MEDICAL OFFICE MANAGEMENT (0147)** 1  
Consists of office etiquette, mailing services, and basic systems of filing maintained in medical offices, e.g., alphabetic, numeric, and terminal digit. (1/0)

**AM005V RETAIL FLOWER SHOP OPERATION I (0501)** 5  
Introduces the florist business and efficient shop layout. Studies expediting floral orders, purchasing and pricing, and selling floral products.

**AM006V RETAIL FLOWER SHOP OPERATION II (0599)** 3  
Studies the floral business: etiquette and sales, additional purchasing and pricing, advertising and floral terminology. Prereq: Retail Flower Shop Operation I.

**AM007V RETAIL FLOWER SHOP OPERATION III (0699)** 2  
Studies the floral business: proper merchandise display, selling, and expediting a floral order and terminology. Prereq: Retail Flower Shop Operation II.

**AM008V RETAIL FLOWER SHOP OPERATION IV** 4  
Studies the floral business: etiquette and sales of wedding flowers, business records and cost analysis, credit and collection, shop management and policies, merchandising. Prereq: Retail Flower Shop Operation III.

**AM009V DENTAL OFFICE MANAGEMENT I (0225)** 3  
Presents general concepts of office administration and management. Work flow, supervision, delegation of tasks and human relations are covered in detail. (3/0)

**AM010V DENTAL OFFICE MANAGEMENT II (0324)** 3  
Concentrates on the management of a dental office; receiving patients, telephone manners, appointment control, management of supplies and general office systems. (2/0) Prereq: Dental Office Management I.

**AM023U MEDICAL DEPARTMENT MANAGEMENT** 3  
Principles of managing a medical department including, staffing, physical layout, inventory control, budgeting, public relations, etc., are studied.



## ART

### College Parallel

- AT001T ART APPRECIATION (0827)** 3  
Provides an overview of art from a historical, contemporary and aesthetic frame of reference. Recommended for non-art majors. (3/0)
- AT002T ART HISTORY I (0915)** 3  
Studies architecture, sculpture and painting from pre-history to Rome. (3/0)
- AT003T ART HISTORY II (0078)** 3  
Studies architecture, sculpture and painting from the medieval period through the 18th century. (3/0)
- AT004T ART HISTORY III (0174)** 3  
Studies architecture, sculpture and painting in the 19th and 20th centuries. (3/0)
- AT005T FUNDAMENTALS OF CERAMICS I (0600)** 2  
Introduces high-fire, hand-built and wheel-thrown pottery, fundamental glaze and clay experimentation. (0/4)
- AT006T FUNDAMENTALS OF CERAMICS II (0701)** 2  
Continues Ceramics I. (0/4) Prereq: Ceramics I or permission of instructor.
- AT007T FUNDAMENTALS OF CERAMICS III (1201)** 2  
Continues Ceramics I and II with emphasis on form, throwing, and advanced glaze techniques. (0/4) Prereq: Fundamentals of Ceramics II or permission of instructor.
- AT008T FUNDAMENTALS OF DESIGN I (0496)** 2  
Introduces basic design concepts, utilizing contemporary concepts of the visual experience. (0/4)
- AT009T FUNDAMENTALS OF DESIGN II (0590)** 2  
Continues Design I. Problems of design form and structure. (0/4) Prereq: Design I or permission of instructor.
- AT010T FUNDAMENTALS OF DESIGN III (1202)** 2  
Continues Design I and II with emphasis being placed on the third dimension, motion and space. (0/4) Prereq: Fundamentals of Design II or permission of instructor.
- AT011T FUNDAMENTALS OF DRAWING I (0317)** 2  
Practices basic elements of perspective drawing, analytical drawing and figure drawing. (0/4)

**AT012T FUNDAMENTALS OF DRAWING II (0409) 2**  
 Continues Drawing I. Analysis of subject matter and accurate descriptive visual drawing. (0/4) Prereq: Drawing I or permission of instructor.

**AT013T FUNDAMENTALS OF DRAWING III (0380) 2**  
 Emphasis placed on the figure using the various media of drawing. (0/4) Prereq: Drawing II or permission of instructor.

**AT014T FUNDAMENTALS OF LETTERING (1073) 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 (0318) 2**  
 Introduces oil painting. (0/4)

**AT016T FUNDAMENTALS OF PAINTING II (0410) 2**  
 Continues Painting I. Includes oil and various water color methods. (0/4) Prereq: Painting I or permission of instructor.

**AT017T FUNDAMENTALS OF PAINTING III (1203) 2**  
 Continues Painting I and II with emphasis on composition and color. (0/4) Prereq: Fundamentals of Painting II or permission of instructor.

**AT018T FUNDAMENTALS OF PHOTOGRAPHY I (1075) 2**  
 Use of camera, light meter and dark room: theory of photography and contemporary photography methods. (0/4) (Will not be offered before the fall of 1973)

**AT019T FUNDAMENTALS OF PHOTOGRAPHY II (1208) 2**  
 Emphasizes creative aspects of contemporary techniques. (0/4) Prereq: Photography I or permission of instructor. (Will not be offered before the fall of 1973)

**AT020T FUNDAMENTALS OF PHOTOGRAPHY III (1210) 2**  
 Emphasizes individual problems and modern aesthetics in photography. (0/4) Prereq: Photography II or permission of instructor. (Will not be offered before fall of 1973)

**AT021T FUNDAMENTALS OF PRINT AND COMPOSITION I (1066) 2**  
 Introduces wood cut, engraving, dry point and silk screen techniques in contemporary and traditional methods of reproducing. (0/4)

**AT022T FUNDAMENTALS OF PRINTS AND COMPOSITION II (1204) 2**  
 Introduces basic methods of Intaglio printing and etching. (0/4) Prereq: Fundamentals of Prints and Composition I or permission of instructor.

**AT023T FUNDAMENTALS OF PRINTS AND COMPOSITION III (1209) 2**  
 Continues Fundamentals of Prints and Composition I and II with emphasis on advanced composition and technical methods. (0/4) Prereq: Fundamentals of Prints and Composition I and II.

**AT024T FUNDAMENTALS OF SCULPTURE I (1070) 2**  
 Introduces carving, modeling and casting. (0/4)

**AT025T FUNDAMENTALS OF SCULPTURE II (1205) 2**  
 Continues Sculpture I with emphasis on welding and combining medias in the sculpture area. Exploration of form and color as they relate to sculpture. (0/4) Prereq: Sculpture I or permission of instructor.

**AT026T FUNDAMENTALS OF SCULPTURE III (1206) 2**  
 Emphasizes advanced techniques and form with concern for applying methods of the construction of a major project in sculpture. (0/4) Prereq: Sculpture I or permission of instructor.

### Vocational-Technical

**AT001U FASHION ART 3**  
 Sketching skill for quick illustrative purposes is developed 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**  
 Study of creative textile design for the home. Emphasis on weaving, painted and printed fabrics, and wall hangings. (2/0)

**AT003U SURVEY OF INTERIORS 2**  
 Surveys the development of historical and contemporary home furnishings styling and its relationship to today's home and changing habits. (2/0)

**AT004U DESIGN RELATIONSHIPS 2**  
 Studies the elements of visual perception and organization to provide the fundamental concepts for the application of design to merchandising activities. Includes vocabulary and color theory. (2/0)

## BIOLOGICAL SCIENCES

### College Parallel



**AT001V FLORAL DESIGNING I** 4  
Introduces basic designing principles and rules, study of geometric designs of bouquets, corsages, Christmas arrangements, foliage arrangements, and potted plants, care of cut flowers and foliages, use of tools and supplies, identification of flowers and foliages and pricing and expediting a floral gift. (1/6.5)

**AT002V FLORAL DESIGNING II** 2  
Floral designing of geometric forms including cut flowers, corsages, funeral and memorial flowers, plastic arrangements, potted plant decoration, cost pricing and expediting floral gifts. Prereq: Floral Designing I. (0/7.5)

**AT003V FLORAL DESIGNING III** 2  
Floral designing of geometric forms including cut flowers, funeral and memorial flowers, and basic wedding designs. Prereq: Floral Designing II. (0/7.5)

**AT004V FLORAL DESIGNING IV** 3  
Continuation of geometric forms in wedding designs, advanced cut flowers and corsage designing. Prereq: Floral Designing III. (0/7.5)

**BY001T ENVIRONMENTAL BIOLOGY (0708)** 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: Principles of Biology and Biology of Organisms or one quarter of Man and His Environment and departmental approval. (3/2)

**BY002T PRINCIPLES OF BIOLOGY (0794)** 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. (3/2)

**BY003T BIOLOGY OF ORGANISMS (0087)** 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: Principles of Biology or departmental approval. (3/2)

**BY004T MICROBIOLOGY I** 3  
Medically oriented with emphasis on pathogenic bacteria, viruses and Rickettsia; their morphology, cultural characteristics, pathogenicity and diagnosis along with epidemiology, transmission and diagnostic test. Laboratory emphasis on culturing, identification, sterilization, disinfection and asepsis. Prereq: One year college chemistry recommended. (2/5)

**BY005T MICROBIOLOGY II** 3  
The morphology, physiology and taxonomy of pathogenic and non-pathogenic microorganisms (includes the fungi) with application to sanitation, industry and agriculture. Prereq: Microbiology I. (2/5)

### AUDIO-TUTORIAL LAB FOR PRINCIPLES, ORGANISMS, AND ENVIRONMENTAL BIOLOGY

Uses audio-tutorial approach in the laboratory sections. The student meets in a lecture session one period per week, in a clarification seminar two days per week and in the lab as his schedule permits. Emphasis in the course is on the lab, and the student arranges his own

time for attendance. Single-concept films, demonstrations and individual experimentation are integrated with taped information to provide an opportunity for the student to approach the subject matter at his own pace. Instructors are always available in the laboratory and student-instructor discussions are encouraged.

**BY008T HUMAN ANATOMY AND PHYSIOLOGY I (1350) 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 is 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 on selected body systems such as the skeletal, muscular, and nervous systems. Laboratory work is based on current topics of study. Prereq: Instructor's approval. (3/2)

**BY009T HUMAN ANATOMY AND PHYSIOLOGY II (1354) 4**

Continues Anatomy and Physiology I. Further study of the structure and function of systems such as circulatory, respiratory, digestive, excretory, etc. is 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: Human Anatomy and Physiology I. (3/2)

**BY010T HUMAN ANATOMY AND PHYSIOLOGY III (1275) 4**

Continues Anatomy and Physiology II. Emphasis is placed on a more detailed inquiry into the homeostatic relationships of structure and function. Numerous factors that influence normal structure and function are studied as well as their relationship to patho-physiology. Lectures and laboratories designed to complement each other. Prereq: Human Anatomy and Physiology I and II. (3/2)

**BY011T INVERTEBRATE ZOOLOGY (1301) 6**

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: Principles of Biology and Biology of Organisms. (4/4)

**BY012T SURVEY OF THE VERTEBRATES (1320) 6**

Introduces vertebrate zoology, with emphasis upon ecological relationships, vertebrate morphology, taxonomy and systematics, phylogeny and evolutionary significance, distribution and diversity. In addition, a special problem is required. Prereq: Principles of Biology and Biology of Organisms. (4/4)

**BY013T INDEPENDENT STUDY IN BIOLOGY 1**

Provides small group seminar studies of topics in the biological sciences. These will require library (and possible field) research on the part of the students. Topics will be announced prior to the quarter offered.

**BY017T FIELD NATURAL HISTORY 4**

Introduces basic information in the life sciences for elementary teacher aides, associates, and other similar careers. Material includes a survey of major plant, animal, and microbial organisms; identification of common species; introductory ecology, geology, and meteorology; techniques of field observation; and collection of resource materials in the life sciences. (3/1½)

**BY018T INTEGRATED SCIENCE II (1362) 4**

Is divided into two sections: a biology section and a physics section. The first 6 weeks is medically orientated, involving the morphology and physiology of microorganisms, with emphasis on the pathogenicity of bacteria and viruses. Involves studies in the transmission of communicable disease, immunology, immunological products, allergy, and the physical and chemical effects on microorganisms. Techniques in culture and sterilization utilized. The final 4 weeks are devoted to physics. Topics include vectors, forces, simple machines, gas laws, electricity and radio-activity. (3/3)



## Vocational-Technical

**BY002U DENTAL ANATOMY I (DLT) (1327)** 5  
Introduces the description and individual characteristics of each tooth in the permanent dentition. The wax carving of fourteen teeth in the maxilla and mandible. Extends over two quarters. (3/4)

**BY003U ORAL ANATOMY (0646)** 3  
Studies the anatomical features, structure and function that must be considered in the fabrication of dental prosthesis. (3/0)

**BY001V MEDICAL SECRETARIAL TERMINOLOGY AND BODY STRUCTURE I (1407)** 4  
Introduces the medical secretary to cells, the skeletal, muscular, circulatory and endocrine systems. Emphasis is placed on the ability to spell, define and apply terms related to conditions and diseases (of the above systems) appearing in medical reports. (4/0)

**BY002V MEDICAL SECRETARIAL TERMINOLOGY AND BODY STRUCTURE II (1387)** 4  
Studies the urinary, respiratory, digestive, nervous and reproductive systems. Emphasis is placed on the ability to spell, define and apply terms related to conditions and diseases appearing in medical reports. (4/0) Prereq: Medical Secretarial Terminology and Body Structure I.

**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 and asexual methods including cutting, grafting, and budding. Introduces soils, physical properties and the effect these have on fertility. (3/0)

**BY005V DIAGNOSING PLANT DISORDERS I** 1  
Introduces the causes of plant disorders caused by the control of environmental conditions, soil and fertility, plant diseases and insects. (2/0)

**BY006V DIAGNOSING PLANT DISORDERS II** 1  
Continues into the causes of plant disorders caused by the control of environmental conditions, soil and fertility, plant diseases and insects. Prereq: Diagnosing Plant Disorders I. (2/0)

**BY001U DENTAL ANATOMY II (DLT)** 2.5  
This phase of dental anatomy will include the carving of seven maxillary and seven mandibular teeth out of wax blocks reproducing all details in natural teeth. (1/6)

**BY007V BODY STRUCTURE AND FUNCTION I (0723)** 2-4  
Studies human anatomy with each of its systems with particular emphasis in area of specialization. (4/1)

**BY008V BODY STRUCTURE AND FUNCTION II (0817)** 1-2  
Offered for students in the Medical Assistant, and Medical Secretary programs. A continuation of Body Structure and Function I. (3/0)

**BY109V ORAL MICROBIOLOGY** 2  
Emphasizes pathogens of the oral cavity, their morphology, cultural characteristics, diagnosis, pathogenicity, immunology, and transmission. Sterile techniques, along with various modes of sterilization, disinfection, drug fastness, and asepsis are discussed. Laboratory oriented emphasizing the dental office, patient treatment, and plaque control. (1/2)

**BY110V DENTAL ANATOMY** 3  
Studies the structure, function and form of the teeth, individual teeth, and their supportive structures. (2/1)

**BY111V HEAD AND NECK ANATOMY** 3  
Examines general plan of the body as an integrated whole. Emphasis on the structure and function of the head and neck. (3/1)

## CHEMISTRY

### College Parallel

**CH001T PRINCIPLES OF CHEMISTRY (1302)** 4  
Designed for nurses transferring to four-year programs, agriculture students, home economics majors, nutrition majors, and all other non-science majors. Covers the basics of inorganic chemistry with a minimal amount of mathematics needed. Also covers an introduction to measurement, atomic structure, bonding, chemical reactions, kinetic molecular theory, chemical and physical properties of economically important metals and non-metals and their industrial aspects. (3/2)

**CH002T FUNDAMENTALS OF ORGANIC CHEMISTRY (1910)** 4  
Provides a survey of organic chemistry as a continuation of Principles of Chemistry. Designed to give the student a practical application of nomenclature, chemical and physical properties, and industrial applications of carbon compounds such as hydrocarbons, alcohols, ketones, aldehydes, acids, etc. Prereq: Principles of Chemistry. (3/2)

**CH003T FUNDAMENTALS OF BIOCHEMISTRY (1304)** 4  
Continues Fundamentals of Organic Chemistry to give the student a survey of the chemistry of living organisms. Basic chemistry of carbohydrates, lipids, proteins, and nucleic acids and an introduction to metab-



olism is presented. Nutritional and energy relationships are presented for normal and some abnormal chemical functioning of plants and animals. Prereq: Fundamentals of Organic Chemistry or Instructor's consent. (3/2)

**CH004T QUANTITATIVE ANALYSIS (0593) 5**  
Studies fundamental principles of quantitative analysis. The theory and practice of volumetric, gravimetric and elementary instrumental methods with emphasis on modern separations and procedures. (3/3) Prereq: General Chemistry III.

**CH005T GENERAL CHEMISTRY I (0709) 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 structure and properties of matter. Prereq: Principles of Chemistry, or High School Chemistry and working knowledge of algebra (4/2)

**CH006T GENERAL CHEMISTRY II (0795) 5**  
Studies colligative properties along with thermodynamics and kinetics, chemical equilibrium, electrochemistry, acids, bases, and complexions, and an introduction to organic chemistry. Prereq: General Chemistry. (4/2)

**CH008T ORGANIC CHEMISTRY I (0366) 4**  
Introduces theory and practice of organic chemistry with the emphasis on the chemical bond approach to compounds of carbon. Laboratory emphasis is on scientific technique. (2/1)

**CH009T ORGANIC CHEMISTRY II (0457) 4**  
Continues the chemical bond approach to organic compounds. Series of compounds are investigated and an integrated laboratory sequence provides an opportunity for introductory organic instrumental analysis. (2/1) Prereq: Organic Chemistry I.

**CH010T ORGANIC CHEMISTRY III (0551) 4**  
Studies in depth classes of aromatic and heterocyclic organic compounds. Laboratory methods include an introduction to practical organic synthesis. (2/1) Prereq: Organic Chemistry II.

**CH011T INTEGRATED SCIENCE I (1358) 4**  
Designed for students in health occupations; covers basic principles in chemistry. Emphasis is placed on an introduction to organic chemistry and biochemistry. (Permission of instructor required for students not in a health occupations program.) (3/2)

## Vocational-Technical

**CH001U VFC AG. CHEMICALS I 2.25**  
Is an applied home farm business course for Farm Coop program students in the area of Agricultural Chemicals. (2¼/0)

**CH002U VFC AGRICULTURAL CHEMICALS II 2.25**  
Is an applied home farm business course for Farm Coop program students in the area of agricultural chemicals. (2¼/0)

## COMMUNICATIONS

### Developmental

**CM001D REVIEW ENGLISH FOR COLLEGE (0893) D**  
Provides help in developing writing skills. Covers such problems as focusing on a topic, supporting generalizations, and using detail, with emphasis on diagnosing and curing deficiencies that are unique to individual students. Aims to provide practice in the basic skills needed in a freshman composition course. (3/0)

**CM002D WRITING LABORATORY (0266) D**  
Provides students who need or desire additional work in writing with an opportunity secure it. Periods to be arranged.

### College Parallel

**CM101T COMPOSITION I (0537) 4**  
Studies expository writing: the rhetorical techniques of description, exemplification and definition, the organization of a coherent and unified paper and critical thinking for the purpose of dealing with propaganda and persuasive techniques. Required of all freshmen. (4/0)

**CM102T COMPOSITION II (0631) 4**  
Deals with the formulation of valid propositions for argumentation as well as evaluation and manipulation of evidence for the purposes of persuasion and motivation. Teaches the research paper as a technique of scholarly investigation and emphasizes efficient use of library research tools. The course is also involved with classification and analysis as rhetorical techniques and the impact of stylistic techniques on communication. Required of all freshmen. (4/0) Prereq: Successful completion of Composition I.

**CM103T COMPOSITION TECHNIQUES I (0351) 4**  
Offers help for students who are concerned about mechanics and literacy skills. Emphasis on clear and correct exposition. Must complete Comp. Techniques I, Comp. Techniques II and Composition II to fulfill core requirements. (4/0)

**CM104T COMPOSITION TECHNIQUES II (0444) 3**  
Continues the study of language literacy skills, Emphasis on vocabulary and organization and accuracy of content. Comp. Techniques I, Comp. Techniques II, and Composition II, are required to fulfill rhetoric core requirements. (4/0)

**CM105T INTERMEDIATE COMPOSITION (0796) 3**  
Develops students' understanding of modern rhetorical theory and English prose style. Instruction and practice in the art and craft of writing, and guidance in enlarging the student's power of thought. (3/0) Prereq: Composition II or equivalent.

**CM106T EFFECTIVE READING AND STUDY (0064) 3**  
Provides instruction in college study skills including techniques for improving concentration, comprehension, and retention of information from textbooks, graphic materials, lectures, and seminars. The course includes diagnostic testing of each student's reading, listening, and other basic education-related skills as a guide to individualized work in Reading Laboratory. Prereq: Must be concurrently enrolled in Reading Laboratory (CM107T) (3/0)

**CM107T READING LABORATORY (EFFECTIVE READING AND STUDY) (0048) 1**  
Provides practice and instruction for the improvement of specific reading and study skills. Under the guidance of the instructor, students work independently with programmed materials selected to serve their individual needs. (Must be concurrently enrolled in Effective Reading and Study (CM106T) (0/2)

**CM108T CRITICAL READING (1216) 3**  
Designed for students with no basic reading problems, the course provides instruction in the advanced reading techniques needed for college courses requiring extended reading in primary and secondary sources. These include both comprehension techniques and techniques for evaluating source, logic, assumptions, implications, intent, and attitude. Readings are drawn from several media with an emphasis on contemporary works of serious non-fiction. (3/0)

**CM111T CREATIVE WRITING 3**  
Offers students an opportunity to be creative in writing literary art forms such as fiction, poetry, and drama. (3/0)

**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)

**CM201T SPEECH I — PUBLIC SPEAKING (0358) 3**  
Studies the fundamentals of speaking, emphasizing the development of speaking skills. (3/0)

**CM202T SPEECH II (0451) 3**  
An examination of the theory and techniques used in discussion and group processes. The development of leadership and group skills are provided through frequent practical applications in varying group sizes and opportunities. (3/0)

**CM204T SPEECH I — INTERPERSONAL COMMUNICATION 3**  
The study of the research — based foundations of interpersonal communication, with speaking activities designed toward improving communication with others. Fulfills freshman rhetoric/speech requirement. (3/0)

**CM205T INDEPENDENT STUDY IN SPEECH 1**  
Provides readings and research opportunities under the guidance of a staff member. Consent of instructor and department chairman before registering.

**CM206T INDEPENDENT STUDY IN SPEECH 2**  
(Same as CM205T)

**CM207T INDEPENDENT STUDY IN SPEECH 3**  
(Same as CM205T)

**CM208T INDEPENDENT STUDY IN SPEECH 4**  
(Same as CM205T)

**CM301T INTRODUCTION TO BROADCASTING 4**  
Provides a background in the origin and history of broadcasting. The course attempts to familiarize the student with the organization, operation and dimensions of the industry and to make him aware of the legal, social commercial and artistic aspects of broadcasting.

**CM302T BROADCASTING METHODS I 3**  
Provides techniques of planning and producing radio programs. Emphasis is on announcing, control board techniques, tape editing. Provides experience in the use of basic studio equipment and in relating speech and personality to actual on the air broadcasting.

### Vocational-Technical

**CM001U BUSINESS WRITING (0499) 3**  
Develops the principles, procedures and practices of clear communication and their relationship to sound management. (3/0)

**CM002U COMMUNICATION SKILLS I (0627) 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 program. (2, 3/1,2)

**CM003U COMMUNICATION SKILLS II (0719)** 3  
Offers additional practice and application of skills acquired in Communication Skills I, with application to student's individual vocational needs. Emphasis will be on developing of oral skills in careers-situations. (2,3/0,2)

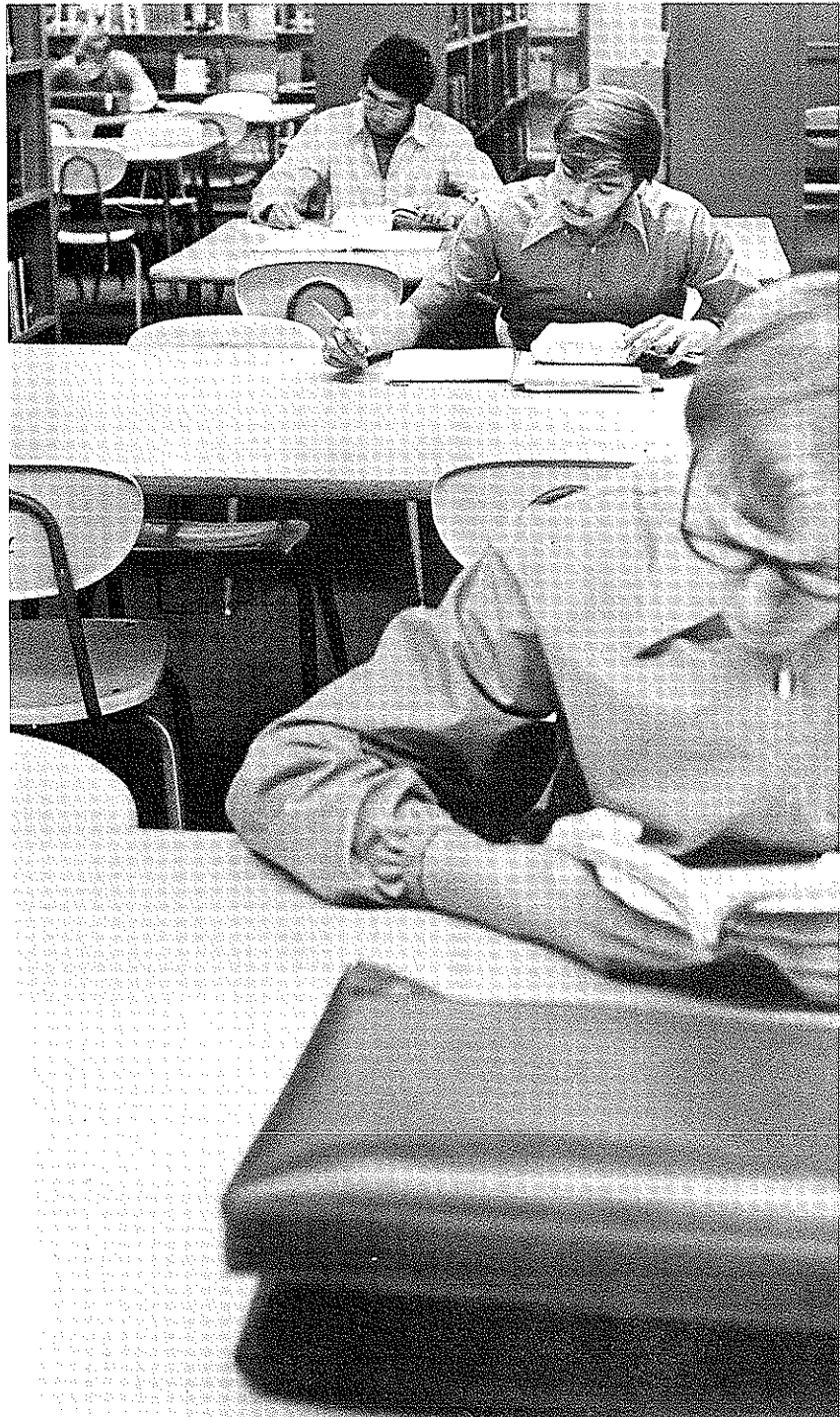
**CM005U ORAL COMMUNICATIONS** 4  
Persons in all phases of horticulture stress the necessity of proper communications. This particular course concentrates on public speaking, demonstrations and leading group discussions. (2/4)

**CM001V MEDICAL COMMUNICATIONS (1048)** 3  
Includes writing medical reports, understanding reports, oral and written, and presenting oral reports. (3/0)

**CM002V SPELLING (PN) (1394)** .5  
Includes a remedial study in word construction and usage as it relates to office communications and general medicine. (1/0)

**CM003V FOOD SERVICE COMMUNICATIONS SKILLS** 3  
Studies communication principles with emphasis on developing effective oral and written two-way communication skills. Includes food terminology and spelling as well as reading and interpretation of trade — related materials. Offers practice in application of communication skills in the employment environment. (3/0)

**CM004U COMMUNICATION SKILLS III: TECHNICAL REPORTING (0811)** 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. (3, 4/0,3)



## CORRECTIONS

### College Parallel

**CO001T INTRODUCTION TO CORRECTIONS (1527) 2**

Offers a career oriented examination of the history and philosophy of the correctional process from law enforcement through administration of justice, correctional institutions, probation and parole. (2/0)

**CO002T PROBATION, PAROLE AND PARDONS (1518) 4**

Surveys the organization, administration of the correctional process. Probation, parole and pardons as applied in the community setting. (4/0)

**CO003T PRINCIPLES OF CORRECTIONS MANAGEMENT AND SUPERVISION (1513) 4**

Studies the principles and methods of correctional supervision, management, administration, and evaluation. Emphasis is placed upon budgeting and control, staff recruitment and development, administrative decision-making and public relations as they relate to the correctional setting. (4/0)

**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)

**CO005T CORRECTIONAL SERVICES IN THE COMMUNITY (1516) 4**

Surveys and evaluates community and regional resources available to the correctional process. Emphasis is placed on vocational rehabilitation, employment services, welfare services, child guidance and mental health services and clinics, and professional and private volunteer services and agencies. (4/0)

## CONSTRUCTION

### Vocational-Technical

**CS001U FARM CONSTRUCTION (1524) 3**

Develops competencies necessary for the construction of a farm building from the planning stage through the concrete and carpentry work, to the final electrical wiring. (1/4)

**CS002U FACILITY CONSTRUCTION 3**

Covers concrete work, carpentry, basic welding and electricity which are all areas where most horticulturists need training. This course provides basic understandings and skills development in these areas. (1/4)

**CS003U VFC FARM CONSTRUCTION I 2.25**

Is an applied home farm business course for Farm Coop program students in the area of farm construction. (2¼/0)

**CS004U VFC FARM CONSTRUCTION II 2.5**

Is an applied home farm business course for Farm Coop program students in the area of farm construction. A continuation of VFC Farm Construction I. (2½/0)

**CS001V ESTIMATING (1377) 3**

Is designed for Architectural Draftsman: the course includes the techniques of estimating and quantity survey. (3/0)

**CS002V PRESENTATIONS (1381) 2**

Includes instruction in color, proportion, and delineation; offered for architectural draftsmen. (2/0)

**CS003V CONSTRUCTION MATERIALS (0529) 3**

Covers study of building codes, construction standards, wood, concrete, steel, and unit masonry. (3/0)

**CS004V CONSTRUCTION METHODS (0624) 3**

Covers study of floor ceiling systems, masonry walls, foundation systems, and sound control. (3/0)

## DATA PROCESSING

### College Parallel

**DP001T INTRODUCTION TO DATA PROCESSING (0687) 3**

Surveys data processing concepts and applications. Oriented to the business students or of general interest. (3/0)

**DP002T INTRODUCTION TO COMPUTER ORGANIZATION AND PROGRAMMING (0895) 3**

Studies logical basis of digital computer system; machine representation of numbers and characters; flow of control; arithmetic and logical operations; indexing; input-output; subroutines; linkage and recent advances in computer organization. Covers programming in problem oriented languages. Concepts illustrated and problems programmed on available computers. (3/0)

**DP003T COMPUTER ORGANIZATION AND PROGRAMMING I (0066) 4**

Studies number systems; symbol and number representation; basic algorithmic processes; flow-charting; decisions tables; switching matrices. Formulation and solution of a wide range of algorithmic processes. Prereq: 10 credits in mathematics or statistics. (4/0)

**DP004T COMPUTER ORGANIZATION AND PROGRAMMING II (0164) 4**

Studies organization of a large scale digital computer; instructions and format; basic assembler language coding and formulation and solution of a variety of numerical and non-numerical problems in one or more high-level problem-oriented languages. Prereq: DP003T

**DP005T COMPUTER ORGANIZATION AND PROGRAMMING III (0252)** 3  
Studies Fortran, Cobol and PL/I programming; Prereq: DP004T (3/0)

**DP006T COMPUTER AND DATA PROCESSING CONCEPTS (0906)** 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)

**Vocational-Technical**

**DP001V INTRODUCTORY KEYPUNCH (0766)** 2  
Offers training for the occupation of key-punching: punching and verifying of cards which serve as input to unit record and computer equipment. (0/4)

**DP003V VOCATIONAL KEYPUNCH** 8  
Provides extensive training in occupation of key punching. Provides training on several types of machines. (1/14)

**DP001U SELF-SERVICE AIDS FOR PROGRAMMERS (0515)** 1  
Presents basic operation of unit record equipment, using pre-wired panels. Includes key-punch, sorter, interpreter, reproducer, and tabulator to make personnel self-sufficient in the operation of those machines. (1/2)

**DP002U PUNCHED-CARD DATA PROCESSING (0603)** 2  
Studies functional wiring and basic operation of unit record equipment. Includes the interpreter, reproducer, sorter, collator, and accounting machine. (1/2)

**DP003U COMPUTER OPERATING TECHNIQUES (0352)** 2  
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)

**DP004U FLOWCHARTING TECHNIQUES (1430)** 2  
Covers the study and practice of the most commonly used techniques for the graphic representation of system or program logic. (2/0)

**DP005U INTRODUCTION TO S/360-370 (0538)** 3  
Presents the System 360 and System 370 architecture and hardware includes direct access storage devices. The techniques of file organizations and the programming systems support for these devices. (3/0)

**DP006U APPLIED STATISTICS** 4  
Covers theory and application of statistics in business and economics.

Includes distributions, measures, probability, sampling, correlation and forecasting. Basic knowledge of FORTRAN required. (4/0)

**DP007U ASSEMBLER LANGUAGE I (0345)** 7  
Covers architecture and hardware of Systems 360-370 and instructions to program in assembler language. (5/4)

**DP008U ASSEMBLER LANGUAGE II (0102)** 5  
Continues Assembler Language I. (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)

**DP011U INTRODUCTION TO REPORT PROGRAM GENERATOR (0894)** 2  
Studies RPG on a tape and disk system. Covers methods for having data processed by a computer through use of the report program generator technique. (1/2)

**DP013U INTRODUCTION TO COBOL PROGRAMMING (0149)** 5  
Studies Cobol programming concepts and techniques, and writing and testing of Cobol programs. (3/4)

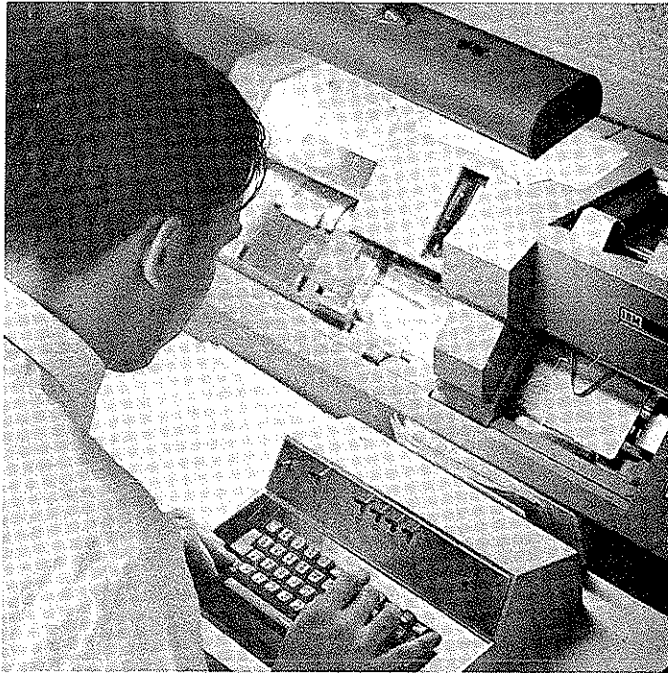
**DP014U ADVANCED COBOL PROGRAMMING (1253)** 5  
Continues Introduction to Cobol Programming. (3/4)

**DP015U COBOL PROJECTS (1252)** 5  
Provides experience in some of the more complex aspects of Cobol programming. To a large extent the course will operate in a simulated business atmosphere. Prereq: DP013U and DP014U. (1/8)

**DP016U INTRODUCTION TO FORTRAN PROGRAMMING (0615)** 3  
Introduces Fortran programming concepts and techniques, with numerical analysis and other methods for solving mathematical/scientific/business problems. Prereq: DP005U or DP006U or equivalent. (2/2)

**DP017U ADVANCED LANGUAGES (0037)** 3  
Covers programming with advanced compiler languages, such as Cobol and Fortran. (2/2)

**DP018U INTRODUCTION TO PROGRAMMING LANGUAGE I (0439)** 3  
Introduces language specifications for System 360 PL/I. (2/2)



**DP020U PROGRAM ANALYSIS (0462) 2**  
 Covers methods, skills and techniques for program testing and program improvement. Students are required to detect and correct program malfunctions and to increase the efficiency of working programs. (1/2)

**DP021U DISK OPERATING SYSTEM (DOS) CONCEPTS AND FACILITIES (0346) 3**  
 Is designed to acquaint the operator, analyst and DP manager with the general structure of the Disk Operating Systems, examining its concepts and facilities it provides to the DP installation. (3/0)

**DP022U DISK OPERATING SYSTEM (DOS) CODING (0440) 5**  
 Is designed for programmers who plan to use the Disk Operating System of the S/360. Covers all facilities of the Disk Operating System, including the job control language, supervisor services, systems maintenance, the linkage editor functions, and multiprogramming facilities. (3/4) Prereq: DP007U

**DP023U ADVANCED DISK OPERATING SYSTEM (DOS) AND DATA MANAGEMENT (1251) 5**  
 Studies advanced concepts of DOS using supervisor macros, system utilities and file organization techniques. Prereq: DP022U (3/4)

**DP024U OPERATING SYSTEM (OS) CONCEPTS & FACILITIES (0156) 3**  
 Studies concepts, organization and functions of Operating System 360. Designed to acquaint the operator, programmer, systems analyst and DP manager with the facilities provided by the Operating System and how they can be effectively used. (3/0)

**DP025U OPERATING SYSTEM (OS) CODING (0242) 5**  
 Continues Operating System Facilities, teaches programmers to use the supervisor services provided in OS/360 Assembly Language. Covers the use of I/O definition and macros, as they relate to writing programs to be run under the Operating System. (3/4)

**DP026U PROGRAMMING SYSTEMS (0740) 3**  
 Surveys the programming systems area: assemblers, compilers, sorts, merges, monitors, and consideration of future trends in programming. (2/2)

**DP027U SYSTEMS UTILITIES (0833) 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)

**DP028U TELECOMMUNICATION CONCEPTS (0475) 3**  
 Introduces concepts, consideration, devices and control in data communications for computerized data transmission. (3/0)

**DP029U TELECOMMUNICATIONS CODING (0527) 3**  
 Offers an extension of OS Coding, including teleprocessing systems. Prereq: DP025U and DP028U. (2/2)

**DP030U DOS TELECOMMUNICATIONS CODING (0623) 5**  
 Is designed to acquaint the programmer with the concepts and assembler language coding necessary to handle teleprocessing hardware under DOS BTAM. Covers the DOS multiprogramming conventions, BTAM MACROS, and assembler language programming methods for on-line teleprocessing programs. Prereq: DP028U (3/4)

**DP031U ADVANCED PROGRAMMING STUDIES (0351) 3**  
 Investigates advanced areas of computerized data processing; provides specially selected computer related topics which are researched in depth by the students. (3/0)

**DP032U NUMERICAL ANALYSIS (0497) 3**  
Includes theory and application of numerical processes to the computer assisted solution of mathematical/scientific/engineering problems. Covers iterative techniques, polynomial interpolation, numerical differentiation and integration. Computer usage in problem solution is stressed. Prereq: College Algebra (3/0)

**DP033U INTRODUCTION TO OPERATIONS RESEARCH (0335) 3**  
Offers seminar type class meetings dealing with operations research topics. What is O.R., inventory models, assignment problem, allocation, sequencing, replacement, linear programming, simulation, mathematical models, gaming theory, queueing theory, networks and graphs, optimizing algorithms in O.R., etc. All units will begin with a basic introduction to the theory needed to develop an understanding of the subject at a rather elementary level. Prereq: College Algebra (3/0)

**DP034U ADVANCED OPERATIONS RESEARCH (0584) 3**  
Develops the topics considered in introduction to operations research. Applies O.R. techniques to problem situations so as to develop application abilities. Prereq: DP033U (3/0)

**DP035U CERTIFICATE IN DATA PROCESSING REVIEW (0506) 3**  
Provides review of topics found in the certificate in data processing examination: automatic data processing equipment, computer programming and software systems, data processing systems, accounting, mathematics and statistics. (3/0)

**DP036U ASSIGNED PROGRAMMING PROJECTS (0877) 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 (0604) 3**  
Offers seminar coverage of specialized subjects peculiar to supervising or managing a data processing department. Prereq: 3 quarters of data processing. (3/0)

**DP038U INSTALLATION MANAGEMENT II (0704) 3**  
Continues seminar coverage of specialized subjects begun in Installation Management I. Prereq: 3 quarters of data processing and DP037U. (3/0)

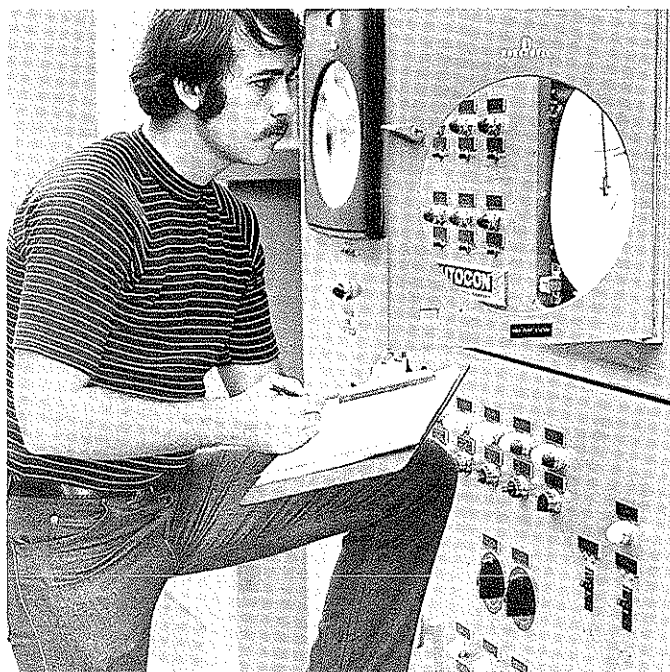
**DP039U RECORDS AND SCHEDULING OF DATA PROCESSING OPERATIONS (0799) 3**  
Studies types, formats, and typical systems for maintaining records for a data processing installation. Prereq: DP006T

**DP040U RELATED EQUIPMENT I (0788) 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)

**DP045U SPECIAL ACTIVITIES (0447) 1**  
Offers topics of current interest to the data processor in forms of lectures, films, discussions, articles, field trips, etc., to present information to broaden and deepen the knowledge of the data processor within his field. (1/0)

**DP046U ELEMENTS OF DATA PROCESSING I (0932) 3**  
Explores the use of various manual and mechanized data processing systems for business applications and familiarizes the student with the functional characteristics of D.P. systems. Basic business applications of order writing, billing, accounts receivable, inventory accounting and sales analysis are covered. (3/0)

**DP047U ELEMENTS OF DATA PROCESSING II (1433) 3**  
Continues Elements of Data Processing I. (2/2)



**DP048U BUSINESS APPLICATIONS OF DATA PROCESSING (0566)** 2-3  
 Applies data processing to a business organization, and considers functional areas such as production, personnel and accounting. (2-3/0)

**DP043U DOCUMENTATION I (0533)** 3  
 Includes documentation, standards, and forms designed for a computerized data processing installation. (2/0)

**DP049U INTRODUCTION TO SYSTEMS (0334)** 3  
 Includes systems, procedures, systems analysis and systems design, purposes, responsibilities, applications and techniques of the systems activity as found in a business organization. (3/0)

**DP050U ADVANCED SYSTEMS (0689)** 3  
 Applies systems analysis/design to particular functions of a business organization. General consideration of data processing systems to service the manufacturing, marketing, personnel, and accounting activities. Systems examined range from a small procedure to a total management information system. (3/0)

**DP051U APPLIED SYSTEMS I (0071)** 3  
 Provides practical experience in systems analysis and design at several levels. Student performs analysis and design functions in simulated business environments. Prereq: DP055U, DP050U.

**DP052U APPLIED SYSTEMS II (0167)** 3  
 Continues Applied Systems I. (2/2)

**DP053U APPLIED SYSTEMS III (0256)** 3  
 Continues Applied Systems II. (2/2)

**DP054U SEMINAR SERIES (0428)** 3  
 Provides a specialized series of topics to fit specific occupational groups such as accountants/auditors, banking, present data processing users, manufacturing, personnel, industrial engineering, advanced programmers/systems analysts, corporate management, etc. Topics cover such areas as computer concepts, data transmission, audit trails, banking uses, management control, advanced computer/systems techniques, etc. (3/0)

**DP055U MANAGEMENT SYSTEMS (0755)** 3  
 Offers fundamentals of the systems approach to management in the areas of manufacturing, marketing, personnel and accounting. Examines systems ranging from a small procedure to a total management information system. Prereq: DP049U (3/0)

**DP056U MANAGEMENT INFORMATION SYSTEMS (0869)** 3  
 Studies procedures and techniques useful in the design and evaluation of integrated management information systems, including data base management. Prereq: DP055U (3/0)

**DP057U ACCOUNTING SYSTEMS (0032)** 3  
 Offers in-depth study of systems analysis/design as applied to the function of accounting. The subject of accounting is covered more fully in this course than in the Advanced Systems course. Prereq: DP050U (3/0)

**DP058U PRODUCTION AND MATERIAL CONTROL SYSTEMS (0177)** 3  
 Offers in-depth study of systems analysis/design as applied to the function of production and material control. The subjects are covered more fully in this course than in the Advanced Systems course. Prereq: DP050U (3/0)

**DP059U PROJECT MANAGEMENT SYSTEMS (0264)** 3  
 Applies scientific management techniques to the planning and control of project scheduling, completion, profit and cost. Includes critical path methods, PERT costing, and the use of computers to implement those techniques. (3/0)

**DP060U MATERIAL CONTROL SYSTEMS (0760)** 3  
 Applies systems analysis/design to the function of material control. The subject of material control is covered more fully in this course than in the Advanced Systems course. Prereq: DP050U (3/0)

**DP061U PAYROLL/PERSONNEL SYSTEMS (0881)** 3  
 Offers in-depth study of systems analysis/design as applied to the function of personnel/payroll. The subject of personnel/payroll is covered more fully in this course than in the Advanced Systems course. Prereq: DP050U (3/0)

**DP062U ON-THE-JOB SYSTEMS PROJECTS (0325)** 3  
 Offers supervised assignment of systems analysis design tasks which develop skill, knowledge, and ability in the responsibilities, activities and methods of systems work. Prereq: DP050U (3/0)

## DENTAL

### Vocational-Technical

**DN001U DENTAL MATERIALS (0136)** 3  
 Gives students an opportunity to acquire a basic understanding of the various types of dental materials, their uses and their manipulating techniques. (2/2)

**DN004U DENTAL TERMINOLOGY (0605)** 2.5  
 Includes study of basic terms, charts, weights and measurements related to dental laboratory technology. (3/0)



**DN005U DENTAL EQUIPMENT (D.L.T.) (0793) 4**  
 Studies proper arrangement, care and maintenance, safety procedures and availability. (3/2)

**DN006U CLINICAL EXPERIENCE AND SEMINAR I (D.L.T.) (0579) 12**  
 Provides practical experience in dental laboratories located at the University of Iowa, commercial laboratories located in Iowa, the Veterans Administration Hospital and possibly some private dental offices. (0/12)

**DN007U CLINICAL EXPERIENCE II AND SEMINAR, (D.L.T.) (0679) 12**  
 Continues and develops skills practiced in Clinical Experience I. (0/12)

**DN008U ACRYLIC JACKET CROWN AND VENEERS II (D.L.T.) (0774) 5.5**  
 Covers the procedures and actual construction of acrylic jacket crowns and veneers. (2/7)

**DN009U PRECISION ATTACHMENTS PARTIALS (D.L.T.) (0917) 6.5**  
 Covers the designing and construction of different types of attachment partials. (3/7)

**DN010U CAST METAL BASE DENTURES (0010) 3**  
 Continues complete denture construction, including cast metal bases (Titanium). (2/2)

**DN011U PORCELAIN ON METAL (D.L.T.) (0158) 3**  
 Reviews crown bridge with the emphasis on aesthetics, using porcelain glazed to a metal framework. (2/2)

**DN012U PROJECTS LAB I (D.L.T.) (1303) 0**  
 Provides specific assignments to aid in learning, with experiences and depth of training planned and offered on an individual basis. Assignments made to develop each phase and growth of students.

**DN013U PROJECTS LAB II (D.L.T.) (1307) 0**  
 Offers individualized student assignments.

**DN014U PROJECTS LAB III (D.L.T.) (1311) 0**  
 Continues projects lab I and II.

**DN015U PROJECTS LAB IV (D.L.T.) (1315) 0**  
 Continues projects lab I, II, and III.

**DN016U PROJECTS LAB V (D.L.T.) (1323) 0**  
 Continues projects lab I, II, III, and IV.

**DN017U PORCELAIN JACKET CROWN (D.L.T.) (0245) 5**  
 Covers adapting a matrix, applying porcelain, completion of the crown,

changing shades through staining and removing the matrix prior to shipping to the dentist. (2/6)

**DN018U DENTURE TECHNIQUES AND ARTICULATION (0326) 5**  
 Studies special techniques (such as implants) and articulators that the technicians may come in contact with while constructing dental prosthesis. Clinicians demonstrate the application of their special techniques with relation to the dental laboratory technician. (1/8)

**DN019U SPECIAL PARTIAL TECHNIQUE (D.L.T.) (0448) 4**  
 Includes analyzing, designing and construction of partials via such techniques as Westgard, P.B.P. saddlelock, stress-breakers, cleft plate objurators. (2/4)

**DN020U LABORATORY MANAGEMENT (D.L.T.) (0375) 2.5**  
 Discusses psychology and inter-laboratory relations; certification (how, when, why?); bookkeeping and cost analysis, and where these services may be secured. (2.5/0)

**DN021U DENTURE TECHNIQUES I (D.L.T.) (0907) 6.5**  
 Provides a complete outline and study of the procedures related to denture construction. (3.5/6)

**DN106V PEDODONTICS (DA) 1**  
 Covers dentistry for the child patient. Inclusive of child behavior, management, growth, and development, diagnosis and treatment planning, physical-mental handicaps and operative procedures. (1/0)

**DN107V ORAL SURGERY (DA) 1**  
 Covers surgical procedures for the assistant in the treatment of diseases and injuries to the oral cavity. (1/0)

**DN109V LAB PRACTICUM I (DA) (0212) 6**  
 Assigns each student to clinical areas of operative, crown-bridge and prosthetics at the college of Dentistry in Iowa City for practical experience. (0/13)

**DN110V LAB PRACTICUM II (DA) (0307) 6**  
 Provides experience in the various departments of periodontics, endodontics, orthodontics, oral diagnosis, oral surgery, and x-ray at the college of Dentistry in Iowa City. An overview of dental assisting in all areas of dentistry. (0/12)

**DN111V CLINIC I (DA) (0397) 4**  
 Provides overview experience in chairside assisting, business office procedures, and dental office laboratory procedure in a private dental office. (0/12)

<b>DN112V CLINIC II (DA)</b>	<b>4</b>	
Continues clinic I in a private dental office. (0/12)		
<b>DN113V DENTAL RADIOGRAPHY I (DA)</b>	<b>2</b>	
Presents a basic background of dental radiation and safety. Emphasis is given to exposing, processing and mounting dental films. (2/1)		
<b>DN114V DENTAL RADIOGRAPHY II (DA)</b>	<b>2</b>	
Continues Dental Radiography I. Emphasis on exposure angulation, evaluation of films and corrective measures. (2/1)		
<b>DN022U DENTURE TECHNIQUES II (D.L.T.) (0067)</b>	<b>5</b>	
Delves into the aesthetics, phonetics and function, working with special advanced articulators and advanced work in tooth arrangements. (2/6)		
<b>DN023U ARTICULATORS AND ARTICULATION (0185)</b>	<b>3.5</b>	
Studies mechanical devices used to simulate the movements of the oral anatomy with relation to the construction of dental prosthesis. (1/5)		
<b>DN024U CAST INLAY AND CROWN (D.L.T.) (0205)</b>	<b>5</b>	
Covers the technique of pouring models, mounting, trimming and construction of inlays and crown. (2/6)		
<b>DN025U CROWN AND BRIDGE (D.L.T.) (0370)</b>	<b>10</b>	
Studies procedures used in constructing actual bridges, offers practice in actual construction of bridges. (4/12)		
<b>DN026U PARTIAL DENTURE TECHNIQUES I (D.L.T.) (0385)</b>	<b>4</b>	
Includes the construction of simple removable partial dentures. (2/4)		
<b>DN027U PARTIAL DENTURE TECHNIQUES II (D.L.T.) (0476)</b>	<b>5</b>	
Introduces casting partials, and the actual designing and construction of the cast removable partial prostheses. (2/6)		
<b>DN101V DENTAL ORIENTATION (DA) (0089)</b>	<b>3</b>	
Provides information necessary to build a complete and knowledgeable foundation upon which to anchor a meaningful career as a dental assistant. Includes dental terminology, understanding of dental assistant certification, history and organization of dentistry and its allied organizations, and a thorough study of State Practice Acts. (3/0)		
<b>DN102V DENTAL MATERIALS (DA) (0136)</b>	<b>5</b>	
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. (4/2)		
<b>DN103V DENTAL ASSISTING (DA) (0270)</b>	<b>6</b>	
Designed to teach the student the basic principles of chairside assisting.		
		It includes the identification, use and maintenance of equipment and instruments: sterilization of instruments, passing and receiving instruments, oral evacuation, charting, and to work as a member of the dental health team. (4/3)
<b>DN115V DENTAL LAB. ASSISTING I (DA) (0792)</b>	<b>4</b>	
Provides practice and application of laboratory skills commonly performed in a private dental office. Includes pouring and trimming of study casts, construction of biteblocks, soldering and construction of removable acrylic appliances. (1/6)		
<b>DN116V DENTAL LAB. ASSISTING II (DA) (0883)</b>	<b>2</b>	
Involves the construction of dies and wax patterns for casting crowns and inlays. Also the assistant's responsibilities in the use of a commercial laboratory. (1/2)		
<b>DN117V PERIODONTICS (DA)</b>	<b>1</b>	
Covers theory of diseases relating to the tissues surrounding the teeth. Treatment of the diseases and preventive therapeutic measures. (1/0)		
<b>DN118V ENDODONTICS (DA)</b>	<b>1</b>	
Covers causes of disease and therapeutic procedures relating to the pulpal tissues of the teeth. (1/0)		
<b>DN120V DENTAL PHARMACOLOGY (DA)</b>	<b>1</b>	
Deals with the origin, effects, uses and dosage of commonly used drugs in dentistry. Also storage and measuring of medicaments, state and dental profession safety precautions required in the use of medicaments and indications, contraindications, and patient reactions associated with drugs. (1/1)		
<b>DN121V PREVENTIVE DENTISTRY (DA)</b>	<b>2</b>	
Presents concepts of prevention through an understanding of oral problems and treatment, control of bacterial plaque formation and methods of oral hygiene instruction for patients. (2/1)		
<b>DN122V ORAL PATHOLOGY (DA)</b>	<b>1</b>	
Introduces the dental assistant to the intrinsic, extrinsic and developmental factors which causes oral disorders. Emphasis on the major types of oral pathological conditions and basic types of procedures for treatment. (1/0)		
<b>DN123V ORTHODONTICS (DA)</b>	<b>1</b>	
Deals with the construction and types of orthodontic appliances, malocclusions, types of cases and conditions, preparation of diagnostic records, facial growth and development, tooth movement, patient education and office procedure. (1/0)		

## DRAMA

### College Parallel

**DR101T INTRODUCTION TO THEATRE (0151)** 3  
Introduces the various methods of stagecraft with the 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)

**DR103T THEATRE WORKSHOP (1436)** 2  
Provides students with experience in theatrical production. Student may work in one of a number of production areas under the guidance of experienced theatre personnel. Guidance and frequent critiques provide students with the understanding of production activities. May be repeated for credit once. Production schedule determines hours per week. (0/4)

## ECONOMICS

### College Parallel

**EC001T THE AMERICAN ECONOMY (0544)** 3  
Presents an overview of the American economy, and an exposure to capitalistic institutions and to some of the elementary concepts in economics. Emphasizes a variety of economic problems presently facing contemporary society. Recommended for Associate Degree programs only. Transfer status uncertain. (3/0)

**EC002T PRINCIPLES OF BUSINESS ECONOMICS I (1277)** 3  
Acquaints the student with the business enterprise in the perspective of the modern economy, and introduces the economizing problem and a comprehensive analysis of markets and the price system. Includes demand and supply, market structures, supply and cost of production, revenue and cost relationships, price and output determination, resource pricing, and business and government. Recommended for Associate Degree programs only. Transfer status uncertain. (3/0)

**EC003T PRINCIPLES OF BUSINESS ECONOMICS II (1279)** 3  
Continues Business Economics I. Stresses the role of the business sector in examining national income and employment theory. Includes national income accounting, the business cycle, money and banking and fiscal and monetary theory and policy. Recommended for Associate Degree programs only. Transfer status uncertain. (3/0) Prereq: Business Economics I.

**EC004T ECONOMICS I (0771)** 3  
Introduces principles of economics and the economizing problem with emphasis on national income and employment analysis. Includes na-

tional 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. (3/0)

**EC005T ECONOMICS II (0862)** 3  
Continues Economics I. 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. (3/0) Prereq: Economics I.

**EC006T ECONOMICS III (0029)** 3  
Presents an advanced analysis of some of the topics discussed in Economics I and II. Additional topics include the problems of under-developed nations, international trade, and comparative economic systems. Independent study and research will be stressed. Recommended for students pursuing a Baccalaureate Degree program. (3/0) Prereq: Economics I and II.

**EC007T INDEPENDENT STUDY IN SOCIAL SCIENCE (ECONOMICS) (1501)** 0, 1, 2, 3, 4  
Provides readings, papers and/or basic research 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  
This course stresses the practical aspects of money and banking and emphasizes the basic monetary theory needed by the banking student to apply his knowledge to his particular job. Emphasis is also 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. (3/0) Prereq: Recommend Economics I.

### Vocational-Technical

**EC001U PRINTING ECONOMICS I** 1  
Covers estimating production costs, specification of equipment, materials inventory, and control, and the study of systems which expedite graphic reproductions. (1/0)

**EC002U PRINTING ECONOMICS II** 1  
Applies techniques in estimating to actual job production specifications and cost. Students will estimate live work in a laboratory environment. (1/0) Prereq: Printing Economics I or consent of instructor.

**EC003U AMERICAN INSTITUTIONS (0598)** 3  
Studies of macro economics uses simple models to develop concepts of money and banking, national income, and international trade. The voi-

ume of individual businesses and the GNP are analyzed for the practical purpose of evaluating the future potential. (3/0)

## ENGINEERING

### College Parallel

**EG001T ENGINEERING PROBLEMS (0060)** 2  
Studies use of the slide rule and computer and the utilization of problem-solving techniques in engineering. (2/0) Prereq: College Algebra.

### Vocational-Technical

**EG001U STATICS (0858)** 8  
Studies composition and resolution of forces; equilibrium of force systems; plane trusses and structures; friction. (6/4) Prereq: Technical Math II.

**EG002U KINEMATICS OF MECHANISMS (0738)** 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 (0824)** 7  
Covers particles and rigid bodies in translation, rotation and plane motion; work and energy; moments of inertia of mass. (4/6)

**EG004U MACHINE DESIGN (0018)** 7  
Is an application course where 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 (0150)** 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 (0213)** 4  
Is 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 (1335)** 5  
Studies the deflection of beams, statically indeterminate beams, combined stresses and columns. Provide complete structural analysis. (5/0)

**EG008U ENGINEERING PROBLEMS** 3  
Includes basic operations, use of the slide rule, and an introduction to Fortran IV programming. (2/3)

## ELECTRONICS

### Vocational-Technical

**EL001U INTRODUCTION TO ELECTRONICS (1393)** 3  
Presents the "Big picture" of electronics by approaching modern electronic devices as systems. The student also learns correct laboratory procedures and develops professional techniques in the use of test equipment. (1/5)

**EL002U ELECTRIC CIRCUITS I (0395)** 7  
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 is also introduced. (5/4)

**EL003U ELECTRIC CIRCUITS II (0485)** 7  
Studies the steady-state sinusoidal analysis. Includes reactance, resonance, and frequency response. (5/4) Prereq: Electric Circuits I.

**EL006U COMMUNICATION ELECTRONICS (0813)** 7  
This course covers circuit analysis of receivers, transmitters, and modulators. Systems studied include AM, FM, SSB, and pulse modulation. (4/6) Prereq: Solid State Circuit Analysis and Design.

**EL007U COMMUNICATION ELECTRONICS I (0816)** 5  
Studies amplitude and frequency modulation theory. A classroom and laboratory exploration is made of receivers and their associated circuits. Transmission of radio energy is introduced. (3/5) Prereq: Electronic Circuits II.

**EL008U COMMUNICATION ELECTRONICS II (0160)** 6  
Continues the study of communication systems including antennas, transmission lines, F.M. multiplex systems, micro-wave systems, remote control devices, and basic transmitter troubleshooting techniques. (3/6) Prereq: Communication Electronics I.

**EL009U OPERATIONAL AMPLIFIERS (1542)** 3  
Covers the fundamentals and significant applications of the operational amplifier. Includes noninverting amplifier, inverting amplifier, D.C. offset, drift, frequency response, oscillation and phase compensation.

(3/0) Prereq: Familiarity with intermediate algebra and trigonometry as well as the fundamentals of basic electronic circuit theory.

**EL010U TELEVISION CIRCUIT ANALYSIS (0231) 7**

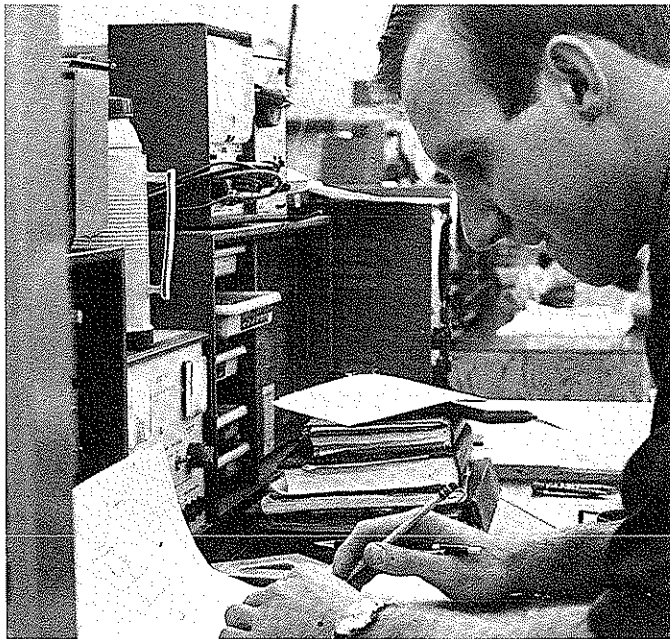
Covers a solid state approach to the television system. Includes all aspects of the television system such as generation of the television signal, video amplification and processing, principles of color television, color cameras and associated circuits, color encoders, monitors, video switching, and video tape recording. (4/6) Prereq: Communications Electronics.

**EL012U TRANSMISSION SYSTEMS (1413) 6**

Deals with methods employed to convey information by means of electro-magnetic radiation. Includes radiation, transmission lines, properties of antennas, propagation, and microwave systems and devices. (4/4) Prereq: Communication Electronics.

**EL013U INDUSTRIAL ELECTRONICS (0886) 3**

Takes a theoretical as well as a laboratory approach to the analysis of control devices and circuits. Some of the topics covered include silicon controlled rectifiers, gaseous tubes, photo-electric devices, servomechanisms, synchros, and their associated circuits. (2/3) Prereq: Electric Circuits I.



**EL014U PULSE AND SWITCHING CIRCUITS (0126) 6**

Includes analysis and design of electronic switching circuits including clipper, clampers, multivibrators, pulse shapers, blocking oscillators, logic circuits and sweep circuits. (5/2) Prereq: Solid-State Circuit analysis and design.

**EL015U SOLID-STATE CIRCUIT ANALYSIS & DESIGN (0734) 7**

Takes 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 are also covered. (4/6) Prereq: Electric Circuits II.

**EL021U ELECTRONIC COMPUTERS (0306) 4**

Deals with computer operations, programming, number systems, logic circuits, arithmetic and memory elements, input-output devices and control elements. (3/3)

**EL022U NETWORK ANALYSIS AND DESIGN (0870) 4**

Applies network analysis to such topics as filters, equalizers, and tuned amplifiers. This course includes an introduction to filter network synthesis. (3/2) Prereq: Transform Circuit Analysis.

**EL024U ADVANCED ELECTRONIC PROBLEMS (0036) 4**

Covers modern advances in electronics technology, discusses new devices with application, and studies modern techniques of circuit analysis with emphasis on utilization of the computer. (3/2) Prereq: Solid-State Circuit Analysis and Design.

**EL025U DESIGN PROJECT (0636) 3**

Allows students to research, develop, and test a project, followed by a formal written report. Students may take part in individual or group projects. (0/6) Prereq: Solid-State Circuit Analysis and Design.

**EL026U ELECTRICITY (0304) 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, D.C. generators, and motors, A.C. generators and motors, transformers, and basic electric machine control. (2/3) Prereq: Technical Math II.

- EL027U ELECTRICITY I (0541)** 3  
Studies basic farm electricity principles in resistance, magnetism, voltage, amperage, and training in the use of test equipment. (2/2)
- EL028U ELECTRICITY II (0634)** 5  
Continues Electricity I, with greater emphasis on the electrical systems of farm equipment. (2/6) Prereq: Electricity I.
- EL029U ELECTRONIC CIRCUITS I (1363)** 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 enhance the learning of the theories studied. (8/8)
- EL030U ELECTRONIC CIRCUITS II (1367)** 10  
Continues Electronic Circuits I, dealing with the theory and application of active devices, coupling methods, resonant circuits, radio-frequency amplifiers, and oscillators. (5/10) Prereq: Electronic Circuits I.
- EL031U ELECTRIC CIRCUITS III** 7  
Studies the analysis of single time-constant circuits (R-C and R-L). The S-operator is introduced in this course. (5/4) Prereq: Electric Circuits II.
- EL033U ELECTRONIC TEST METHODS** 3  
Is a course in the use of laboratory instruments. The student learns to develop logical techniques in troubleshooting and aligning electronic equipment and systems. Oscilloscopes, meters, signal generators, and special purpose test equipment are used extensively. (2/3) Prereq: Solid-State Circuit Analysis and Design.
- EL034U TRANSFORM CIRCUIT ANALYSIS** 4  
Includes analysis of multiple time-constant circuits (R-L-C) by the use of Laplace transform techniques. (3/2) Prereq: Electric Circuits III.
- EL035U ACTIVE DEVICES** 7  
Is an introductory course in transistors, vacuum tubes, and field-effect transistors. The student develops a means of handling any device whose characteristics can be presented by a graph or/and parameters regardless of what it is called. A study is made of each device and its application in a circuit, both in theory and in laboratory analysis. (4/6) Prereq: Electric Circuits I.
- EL001V ELECTRONIC SHOP METHODS (0454)** 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 (1405)** 5  
This course includes the theory, testing, and troubleshooting of audio systems, including simple audio amplifier theory, tape recorders, and public address sound reinforcement systems. (3/4) Prereq: Electronic Circuits I.
- EL003V BROADCAST SYSTEMS (1371)** 4  
Includes television sync generators, television film projectors, television lighting systems, optics for television, and basic program production techniques. FCC rules and regulations are studied during this time. (3/2) Prereq: Electronic Circuits II.
- EL004V TELEVISION I (0423)** 11  
Includes the TV broadcast system, transmitter systems, receivers, troubleshooting techniques, and alignment procedures. (5/12)
- EL005V TELEVISION II (0510)** 4  
Extends the student's experience into color television, covering such topics as transmitters, receivers, and receiver servicing. (2/5) Prereq: Television I.
- EL006V TROUBLESHOOTING (1375)** 6  
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. (2/9) Prereq: Communication Electronics I.

## ENVIRONMENTAL STUDIES

### College Parallel

- EV001T MAN AND HIS ENVIRONMENT I** 4  
Is the first of three courses in an interdisciplinary course dealing with the problem of man and his environment. All three quarters will be taught cooperatively by a social scientist, a biological scientist, and a physical scientist, with subject matter coming from a variety of disciplines. The first quarter will emphasize the underlying principles of man and his interaction with the physical and biological world. Resultant problems of man and his environment are analyzed from all disciplines. Primary examples are drawn from physical pollution, with emphasis on a problems analysis approach. (3/1)

**EV002T MAN AND HIS ENVIRONMENT II** 4  
 Is the second of three courses in an interdisciplinary course dealing with the problem of man and his environment. The second quarter will focus on problems of man's interaction with entire scientific surrounding. Social science implications and solutions are discussed. Biological and physical pollution is analyzed from a problems analysis point of view. (3/1)

**EV003T MAN AND HIS ENVIRONMENT III** 4  
 Is the third of three courses in an interdisciplinary course dealing with the problem of man and his environment. The third quarter will emphasize the underlying principles of man dealing with man in a variety of environments. Legal and legislative processes are studied as a means of implementation of change in the interaction of man and his environment. (2/2)

### Vocational-Technical

**EV001U VFC LAND USE AND CONSERVATION** 2.5  
 Is an applied home farm business course for Farm Coop program students in the area of land use and conservation (2½/0)

**EV001V COMMUNITY IMPROVEMENT (1374)** 3  
 Identifies programs for urban renewal, neighborhood conservation and rehabilitation, air pollution control, traffic patterns, and the interrelationship among governmental services. (4/0)

**EV003V HOUSING INSPECTION (0244)** 5  
 Covers the health significance of housing; the features of housing which contribute to it, including lighting, heating, ventilation, supplied facilities, safe and sanitary maintenance and minimum space use and location requirements; the application of standards (building and housing codes) to the control of these features; and the inspectional methods employed in the promotion and enforcement of the standards. (5/0)

**EV004V INTRODUCTION TO PUBLIC HEALTH (0898)** 3  
 Offers an overview of the organized community effort to overcome disease and upgrade the level of health of the public. (4/1)

**EV005V INSTITUTIONAL SANITATION (1382)** 3  
 Studies environment factors involved in the Health and Safety considerations in schools, nursing homes, hospitals and correctional institutions. (4/0)

**EV006V FOOD SANITATION (0628)** 4  
 Includes the relationship of food and the preparation and handling of food to the health of the public, and the sanitary requirements of food handling establishments. (5/1)

**EV007V MILK SANITATION (0376)** 5  
 Includes the quality milk program; the sanitation involved in the production and the processing of milk; and proper sampling technique. (5/1)

**EV008V OCCUPATIONAL HEALTH AND INDUSTRIAL SAFETY (1386)** 4  
 Studies community and occupational sanitation problems including industrial and home hygiene and safety. (3/2)

**EV009V RECREATIONAL SANITATION (1390)** 3  
 Covers the health and safety aspects of parks, trailer parks and swimming pools including regulation enforcement and testing. (2/2)

**EV010V REFUSE SANITATION (0140)** 5  
 Covers the character of solid waste produced by households and communities; their health and nuisance significance; and proper methods of disposal including use of landfills, incinerators, and grinders. The hazard of hog feeding and the air pollution and vermin problems associated with refuse burning and dumps will also be covered. (4/2)

**EV012V SEWAGE SANITATION (0791)** 5  
 Includes health significance of sewage and the importance of proper sewage disposal to public health, basic principles of sewage treatment and disposal, principles of Sewage Sanitation I as applied to specific private sewage treatment processes including privies, septic tanks, soil absorption systems, Imhoff tanks and oxidation ponds. (4/2)

**EV013V SUPERVISED FIELD STUDIES (0267)** 10  
 Offers supervised on-the-job training and inspections of dwelling, food handling procedures, water testing, observations of results of sewage treatment, inspection of piping, checking refuse disposal and nuisances. (0/30)

**EV014V SEMINAR — ENVIRONMENTAL HEALTH (0379)** 2  
 Studies problems encountered during field learning experience. (2/0)

**EV015V INSECT AND RODENT CONTROL (0138)** 3  
 Includes the study of those parasites which produce disease, with particular reference to the human host, and those animals and arthropods that are important in the transmission of disease. (3/0)

**EV016V WATER SANITATION (0386)** 5  
 Provides the student with the understanding of the public health significance of a safe and adequate water supply. It will include the study of public water supply, proper well design, pump operation, water purification processes, water bacteriology, chemical testing, individual water systems, and sampling techniques. (4/2)

## FOREIGN LANGUAGES

### College Parallel

### Individualized Study Center

Operates as a learning resources center for the individualized elementary and intermediate foreign language courses. Students will spend at least two hours per week in the ISC. Testing, listening and oral practice, tutoring, and checking of homework will be done in the ISC. Instructors or qualified para-professionals will aid the students.

**FL001T ELEMENTARY FRENCH I (0767)** 4  
 Develops fundamental skills in the French language. Emphasis on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote the understanding and knowledge of the French speaking peoples and their culture. (3/2) See Individualized Study Center above.

**FL002T ELEMENTARY FRENCH II (0859)** 4  
 Continues Elementary French I. (3/2) Prereq: Elementary French I or equivalent. See Individualized Study Center above.

**FL003T ELEMENTARY FRENCH III (0027)** 4  
 Continues Elementary French II. (3/2) Prereq: Elementary French II or equivalent. See Individualized Study Center above.

**FL004T INTERMEDIATE FRENCH I (0142)** 3  
 Develops fundamental skills in the French language. Emphasis on 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 French speaking peoples and their culture. (2/2) Prereq: Elementary French III or equivalent. See Individualized Study Center above.

**FL005T INTERMEDIATE FRENCH II (0232)** 3  
 Continues Intermediate French I. (2/2) Prereq: Intermediate French I or equivalent. See Individualized Study Center above.

**FL006T INTERMEDIATE FRENCH III (0332)** 3  
 Continues Intermediate French II. (2/2) Prereq: Intermediate French II or equivalent. See Individualized Study Center above.

**FL007T FRENCH CIVILIZATION I (1313)** 3  
 Provides readings on France and the French people: France, the provinces, the people and their way of life. Course conducted in French. May be taken as independent study. (3/0) Prereq: Intermediate French III or equivalent.

**FL008T FRENCH CIVILIZATION II (1317)** 3  
 Provides readings on French history, politics, unions, education, economy. Course conducted in French. May be taken as independent study. (3/0) Prereq: Intermediate French III or equivalent.

**FL009T FRENCH CIVILIZATION III (1321)** 3  
 Provides readings on the cultural heritage of France from the Middle Ages to the present. Units include literature, music, art, drama. Course conducted in French. May be taken as independent study. (3/0) Prereq: Intermediate French III or equivalent.

**FL010T ELEMENTARY GERMAN I (0578)** 4  
 Develops fundamental skills in the German language. Emphasis on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote the understanding and knowledge of the people of Germany and their culture. (3/2) See Individualized Study Center above.

**FL011T ELEMENTARY GERMAN II (0676)** 4  
 Continues Elementary German I. (3/2) Prereq: Elementary German I or equivalent. See Individualized Study Center above.

**FL012T ELEMENTARY GERMAN III (0769)** 4  
 Continues Elementary German II. (3/2) Prereq: Elementary German II or equivalent. See Individualized Study Center above.

**FL013T ELEMENTARY SPANISH I (0675)** 4  
 Develops fundamental skills in the Spanish language. Emphasis on acquiring the proficiency to communicate with the native speaker in everyday situations. Includes activities that promote the understanding and knowledge of the Spanish speaking peoples and their culture. (3/2) See Individualized Study Center above.

**FL014T ELEMENTARY SPANISH II (0768)** 4  
 Continues Elementary Spanish I (3/2) Prereq: Elementary Spanish I or equivalent. See Individualized Study Center above.

**FL015T ELEMENTARY SPANISH III (0860)** 4  
 Continues Elementary Spanish II. (3/2) Prereq: Elementary Spanish II or equivalent. See Individualized Study Center above.

**FL016T INTERMEDIATE SPANISH I (0053)** 3  
 Develops fundamental skills in the Spanish language. Emphasis on



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 Spanish speaking peoples and their culture. (2/2) Prereq: Elementary Spanish III or equivalent. See Individualized Study Center above.

**FL017T INTERMEDIATE SPANISH II (0143) 3**  
Continues Intermediate Spanish II. (2/2) Prereq: Intermediate Spanish I or equivalent. See Individualized Study Center above.

**FL018T INTERMEDIATE SPANISH III (0233) 3**  
Continues Intermediate Spanish II. (2/2) Prereq: Intermediate Spanish II or equivalent. See Individualized Study Center above.

**FL019T SPANISH CIVILIZATION (1511) 3**  
Provides readings on Spain, the people and the land, history and ways of life. Student may choose to emphasize a special interest area. Classes will be conducted in Spanish. May be taken as independent study. (3/0) Prereq: Intermediate Spanish II or equivalent.

**FL020T SPANISH-AMERICAN CIVILIZATION (1305) 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. Classes will be conducted in Spanish. (3/0) Prereq: Intermediate Spanish III or equivalent.

**FL022T TRAVEL FRENCH 2**  
Provides the basics needed to get along in French with the native speaker in situations encountered by the traveler. (1/2) See Individualized Study Center above.

**FL023T INTERMEDIATE GERMAN I 3**  
Develops fundamental skills in the German language. Emphasis on 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. (2/2) Prereq: Elementary German III or equivalent. See Individualized Study Center above.

**FL024T INTERMEDIATE GERMAN II 3**  
Continues Intermediate German I. (2/2) Prereq: Intermediate German I or equivalent. See Individualized Center above.

**FL025T INTERMEDIATE GERMAN III 3**  
Continues Intermediate German II. (2/2) Prereq: Intermediate German II or equivalent. See Individualized Study Center above.

## GEOGRAPHY

### College Parallel

**GE001T HUMAN GEOGRAPHY (0493) 4**  
Studies the geography of population and principle ways of life with consideration of the capacity of the earth for future population. (4/0)

**GE002T HUMAN GEOGRAPHY: INDEPENDENT STUDY 4**  
Studies the geography of population and principle ways of life with consideration of the capacity of the earth for future. Same as Human Geography.

**GE003T PHYSICAL GEOGRAPHY (0452) 4**  
Studies features of distribution patterns of climate, topography, vegetation and soils. Regional differences in problems of physical development are studied. Not to be taught before Spring 1973. (4/0)

## GRAPHICS

### College Parallel

**GR001T ENGINEERING GRAPHICS I (0805) 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.

**GR002T ENGINEERING GRAPHICS II (0896) 3**  
Continues Engineering Graphics I. Includes line of intersection between plane surfaces, angle between planes, vectors, intersections and developments, working drawings and basic dimensioning. Prereq: Engineering Graphics I.

### Vocational-Technical

**GR001U ELECTRONIC DRAWING (0892) 3**  
Studies the theory of orthographic projection, familiarization with drawing instruments, materials and drafting practices as applied to electronics. Students do both a block diagram and a schematic diagram of superheterodyne receiver. (1/5)

**GR002U ENGINEERING DRAWING I (0337) 6**  
Deals with instruments and their use, lines and lettering, geometric construction, orthographic projection, and sketching. (2/8)

**GR010U TYPOGRAPHY II 5**  
Provides advanced study of composing room operations including hand composition, linotype composition, make-up, use of composing room

saw, remelting of linotype metal and other related operations. Prereq: Typography I or consent of instructor.

**GR011U COLD TYPE PROCESSES I** 7  
Presents an introduction to cold type composition. Basic elements of hand composition and simple strike-on, paste-up, and photo-lettering devices.

**GR012U COLD TYPE PROCESSES II** 7  
Covers advanced elements of cold type composition, including photo-mechanical typesetting, preparation of mechanicals with intent for color, photo-mechanical transfer techniques, and line and halftone considerations. Prereq: Cold Type Processes I or consent of instructor.

**GR013U CAMERA & STRIPPING I** 6  
Is a study of high contrast photography as it relates specifically to the graphic reproduction processes. Emphasis is placed upon line, film negatives and positives with an introduction to contact printing. Simple stripping of negatives and positives to the layout specifications.

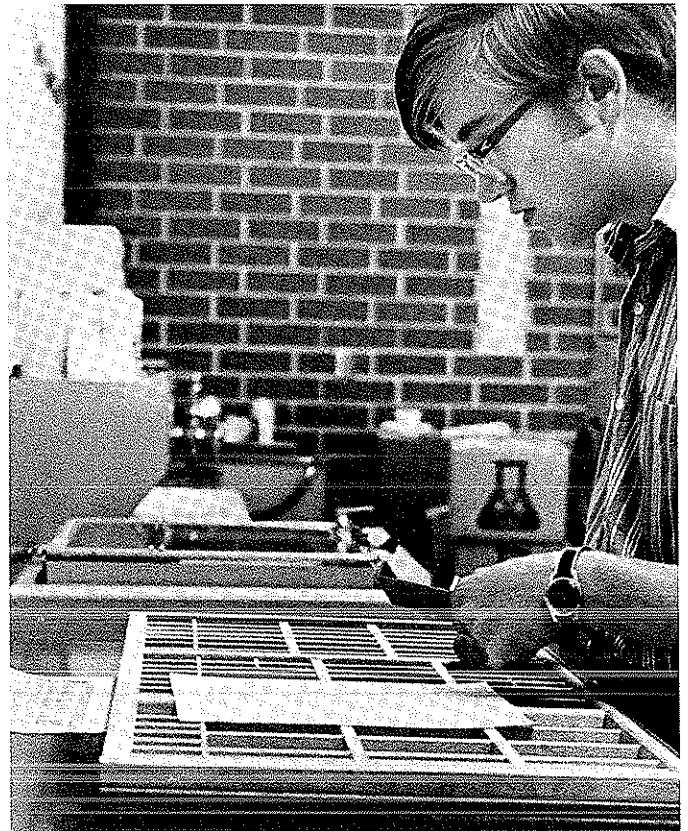
**GR014U CAMERA & STRIPPING II** 6  
Presents advanced techniques of line, halftone, duotone and special effect film negatives and positives. Related darkroom operations and nomenclature. Stripping techniques and technical details to meet the requirements of platemaking and the press room. Prereq: Camera and Stripping I or consent of instructor.

**GR015U OFFSET PRESSWORK & PLATEMAKING** 11  
Emphasizes the practical and technical aspects of offset printing including all machine parts and operations in the "make-ready" cycle. Stress is placed on tone control in the press room and dot formations fountain solutions and formulae related to inks, papers, plates, pH control and associated techniques.

**GR016U PRESSWORK AND FINISHING** 11  
Is advanced study of offset and letterpress presswork, including color reproduction and plating, an overview of binding operations including fastening and covering printed materials, folding, stitching, cutting, trimming, punching and other associated finishing operations. Prereq: Offset Presswork and Platemaking or consent of instructor.

**GR003U ENGINEERING DRAWING II (0430)** 6  
Studies pictorial drawing, auxiliaries, sectioning and developments. (2/8)

**GR004U ENGINEERING DRAWING III (0522)** 5  
Covers advanced drafting procedures with emphasis on cams, cam profiles, gears, keys, precision and limit dimensioning and welding drawings. A design of the student's choice is selected, designed, drawn up in detail, and in some cases, if time permits, the student may build what he has designed.



**GR005U DESIGN PROBLEMS I (0712)** 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 (1331)** 6  
 Includes instruction in design principles and procedures, problem observations and problem solutions. (3/9)

**GR007U GRAPHIC DESIGN I** 4  
 Studies two-dimensional design and its relationship to graphic reproduction in terms of balance, contrast, color, form and texture for specified communications.

**GR008U GRAPHIC DESIGN II** 4  
 Covers advanced techniques in applying theory of design to actual production work in a laboratory environment. Prereq: Graphic Design I or consent of instructor.

**GR009U TYPOGRAPHY I** 5  
 Studies type faces, including hand composition, printers' measurements, layout, make-up, lock-up, pulling proofs, making corrections and related composing room operations.

**GR001V GRAPHIC SKILLS (1404)** 2  
 Develops basic drafting skills, both freehand and with layout instruments. (1/2)

**GR002V MECHANICAL DRAFTING I (0333)** 8  
 Includes lettering, orthographic projection, sketching, auxiliary views, pictorial drawing, dimensioning, sectioning, working detail drawings, threads and fasteners, assembly drawings, intersections, developments and structural drawing. (1/14)

**GR003V MECHANICAL DRAFTING II (0427)** 8  
 Continues Mechanical Drafting I. (1/14)

**GR004V MECHANICAL DRAFTING III (0518)** 8  
 Continues Mechanical Drafting I and II. (1/14)

**GR005V APPLIED PROBLEMS I (0637)** 2  
 Involves the student with drafting problems in arithmetic and geometry, applications of algebra, and trigonometry, and with drafting problems using logarithms. (0/5)

**GR006V APPLIED PROBLEMS II (0726)** 2  
 Continues Applied Problems I. (0/5)

**GR007V APPLIED PROBLEMS III (0822)** 2  
 Continues Applied Problems II (0/5)

**GR008V ARCHITECTURAL DRAFTING I (0924)** 13  
 Covers sheet layout, orthographic projection, dimensioning, line quality, sketching, perspective, lettering. (2/22)

**GR009V ARCHITECTURAL DRAFTING II (0090)** 13  
 Teaches the proper procedures in developing site plans, plan views (footing plans, floor plans, and framing plans), elevations, and wall sections. (2/22)

**GR010V ARCHITECTURAL DRAFTING III (0184)** 11  
 Covers the development of a set of working drawings for a commercial or institutional type building. Students learn to use manufacturer's reference material.

**GR011V ARCHITECTURAL DRAFTING IV (0278)** 14  
 Enables student teams to develop a set of working drawings for an addition to an existing building.

**GR012V RELATED DISCIPLINES (0301)** 2  
 Is graphic application of electrical, plumbing, and mechanical work as related to architectural working drawings.

## HISTORY

### College Parallel

**HY001T U.S. HISTORY I (0211)** 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 II (0303)** 4  
 Surveys the social, political and economic history of the United States from the 1840's through the Progressive Era. Prereq: None. (4/0)

**HY003T U.S. HISTORY III (0391)** 4  
 Surveys the social, political and economic history of the United States from World War I to the present. Prereq: None. (4/0)

**HY004T WESTERN CIVILIZATION I (0918)** 4  
 Presents and explores the social, economic, political and cultural basis of the Western World and covers from the Middle Ages to the Thirty Years War. Part of a three-quarter college-parallel study. (4/0)

**HY005T WESTERN CIVILIZATION II (0081)** 4  
 Continues objective of three quarter study and covers from the Thirty Years War to the Treaty of Vienna. Prereq: None. (4/0)

**HY006T WESTERN CIVILIZATION III (0176)** 4  
 Continues objectives of three quarter study and covers from Treaty of Vienna to the present. (4/0)

**HY007T BLACK HISTORY (1515)** 4  
Introduces the historical experience of Afro-Americans from the arrival of blacks in 1619 to the present, with special emphasis on the period since Reconstruction, and Black thought as reflected in the writing of leading figures in the Black experience. (4/0)

**HY008T INDEPENDENT STUDY  
IN SOCIAL SCIENCES  
(HISTORY) (1501)** 0, 1, 2, 3, 4  
Provides readings, papers and/or basic research projects under the individual guidance of the staff member. Prereq: Consent of instructor and department chairman is required before registering.

**HY010T ASIAN CIVILIZATION I** 4  
Focuses upon social structure, cultural tradition, economic and political development of three Asian civilizations; China, India, and Japan. Covers early empires from pre-history to the thirteenth century. Prereq: Open to sophomore or by consent of instructor.

**HY011T ASIAN CIVILIZATION II** 4  
Study will focus on thirteenth to nineteenth century; Mogul era in China and India and the Japanese period of isolation. Prereq: Open to sophomores or by consent of instructor.

**HY012T ASIAN CIVILIZATION III** 4  
Study will focus on twentieth century; Asia's response to the Western World, revolution, nationalism, Asian Communism and the new Asian nations. Prereq: Open to sophomores or by consent of instructor.

## HOME ECONOMICS

### Vocational-Technical

**HE002U FASHION HISTORY (0388)** 3  
Covers the development of costume and accessories as a part of a socioeconomics and cultural force from Ancient times to the present and its relationship to fashion design and trends of today.

**HE003U TEXTILES (0507)** 3  
Studies fiber characteristics, yarn processing, fabric construction, and fabric finishing. The qualities of fabrics are analyzed in relationship to factors of design, strength, and durability. (5/0)

**HE004U TEXTILES LABORATORY (0606)** 1  
Studies properties of fabrics and fibers. Offers directed laboratory activities which provide knowledge for fabric identification and analysis of fiber characteristics. (1/3)

**HE001V FOOD SERVICE SEMINAR I** 2  
Presents a series of topics for study and application of techniques for improving personal appearance, attitudes, personality and interpersonal relations. Also includes development of individual career plans. (2/0)

**HE002V FOOD SERVICE SEMINAR II** 2  
Continues individual career planning with emphasis on job-seeking skills, employment benefits, accident prevention and reporting. Includes additional personal development skills. Prereq: Food Service Seminar I. (2/0)

**HE003V FOOD SERVICE SEMINAR III** 2  
Provides opportunities for students to discuss and apply problem solving techniques to problems identified during employment experiences. Includes planning and personal evaluation conferences. (4/0-6 weeks)

**HE004V FUNDAMENTALS OF NUTRITION** 2  
Focuses on basic principles of nutrition in relation to feeding individuals at all ages. Also identifies foods and their nutritional roles, food facts and regional food patterns. Includes proper selection and storage of foods. (2/0)

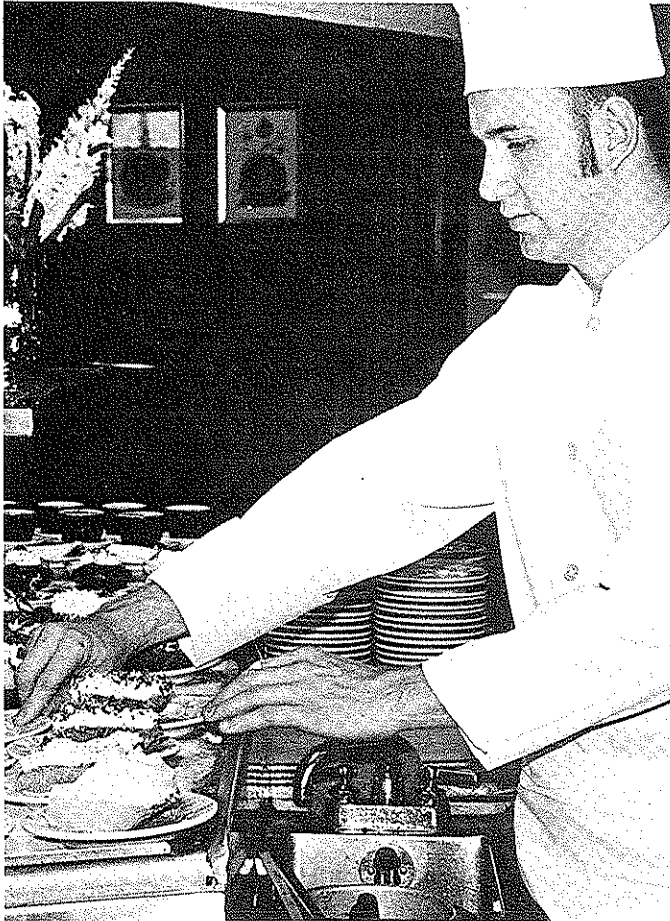
**HE005V FOOD PRODUCTION I** 7  
Provides experiences in use and care of small and large quantity cooking equipment. Emphasizes kitchen procedures, work simplification processes and kitchen safety and sanitation. Introduces food preparation skills and techniques for yeast breads, quick breads, pastry, cakes, cookies, other desserts, salads, dressings, sandwiches, eggs, beverages, fruits, vegetables, appetizers, relishes, milk and milk products, breakfast dishes, condiments and seasonings. (0/15)

**HE006V FOOD PRODUCTION II** 7  
Provides continued experience in 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: Food Production I. (0/15)

**HE007V 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: Food Production I & II. (0/20-6 weeks)

**HE008V FUNDAMENTALS OF  
PROFESSIONAL FOOD SERVICE** 2  
Introduces students to various types of commercial and institutional food service establishments with emphasis on basic internal operation of each type. Also includes related field trips. (2/0)

**HE009V FOOD SERVICE EMPLOYMENT  
EXPERIENCES** 12  
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. (0/36-6 weeks)

**HE010V MENU AND SERVICING  
FUNDAMENTALS 3**  
Continues the study of basic nutrition principles with emphasis on more nutrition, large group menu planning including cycle memos and short orders, as well as menu planning specific to the type of operation. Prereq: Fundamentals of Nutrition. (3/0)

## JOURNALISM

### College Parallel

**JO101T INTRODUCTION TO JOURNALISM (1211) 3**  
Presents a broad yet incisive picture of the most important phases of journalism: newspapers, writing, advertising and public relations. (3/0)  
Prereq: Successful completion of Composition I.

**JO102T JOURNALISM LABORATORY (1512) 2**  
Offers laboratory for basic reporting and newswriting and combines weekly meetings and student independent work in the college's publications. (2/1)

## LAW

### College Parallel

**LW001T ADMINISTRATION OF JUSTICE (0131) 4**  
Studies arrest, search and seizure; review of court systems, procedures from incident to final disposition; principles of constitutional, federal, state and civil laws as they apply to affect law enforcement. (4/0)

**LW002T CRIMINAL EVIDENCE (0082) 4**  
Studies the kinds and degrees of evidence and the rules governing the admissibility of evidence in court. (4/0)

**LW003T CRIMINAL LAW I (0830) 4**  
Explores the philosophy and basis for law; the historical development of criminal law and procedure: the structure, definitions and criminal laws of Iowa. Part of two quarter study. (4/0)

**LW004T CRIMINAL LAW II (0920) 4**  
Continues topics of Criminal Law I. Need not be preceded by Criminal Law I. Part of two quarter study. (4/0)

**LW005T BUSINESS LAW I (0597) 4**  
Surveys principles of law as applied to business relationships and transactions. (4/0)

**LW006T BUSINESS LAW II (0694)** 4  
Studies partnerships and corporations, real property, negotiable instruments, sales, insurance, trusts and estates, government and business. Prereq: Business Law I. (4/0)

### Vocational-Technical

**LW001U IOWA HUNTING AND FISHING LAWS** 2  
Offers a basic knowledge of Iowa's hunting and fishing laws as a means of qualifying a person for county and state parks work. Factors affecting the establishment of these laws are also considered.

**LW002U AGRICULTURAL LAW** 3  
Studies federal and state income tax laws pertaining to individual and agricultural business enterprises. Assessment for property tax purposes, farm liability, and methods of transferring property are also studied.

**LW003U VFC AGRICULTURAL LAW** 3  
Is an applied home farm business course for farm coop program students in the area of agricultural law.

**LW001V MEDICAL LAW (0339)** 1  
Studies medical jurisprudence in relation to medical assistants and the physicians. (1/0)

## LAW ENFORCEMENT

### College Parallel

**LE001T INTRODUCTION TO LAW ENFORCEMENT (0531)** 2  
Covers the philosophy and history of law enforcement; overview of crime and police problems, organization and jurisdiction of local, state and federal law enforcement agencies; survey of professional career opportunities and qualifications required. (2/0)

**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, dealing with persons presenting such special problems as illness, intoxication, amnesia, and mental illness.

**LE003T TRAFFIC CONTROL** 4  
Covers fundamentals of the police function in preventing accidents and expediting the movement of traffic. Topics will include the nature and extent of problems, accident investigation, enforcement methods and planning, and police responsibilities in safety education and traffic engineering.

**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 service of the crime laboratory will be included.

### Vocational-Technical

**LE003U LAW ENFORCEMENT** 3  
Examines the laws of the state of Iowa, particularly those applicable to our park systems. Psychology of law enforcement is also discussed. (1/4)

## LIBRARY SERVICES

### College Parallel

**LS001T INSTRUCTION IN EDUCATIONAL MEDIA (1067)** 3  
Covers the planning and production of different types of projected and non-projected teaching materials for use in the classroom, selection, utilization, and evaluation of audiovisual materials in educational programs. (May not apply toward library science major when credit is transferred.)

**LS002T INTRODUCTION TO THE USES OF THE LIBRARY (0618)** 3  
Introduces the duties of library personnel and comprehensive survey of books and libraries, with emphasis upon the many kinds of library materials, their organization and arrangement, and their usefulness for specific purposes. (3/0)

**LS003T LIBRARY LITERATURE (0091)** 3  
Considers specialized materials common in most library collections including reference materials, catalogs, indexes and periodicals. (May not apply toward library science major when credit is transferred.) (1/3)

**LS004T LIBRARY PROCEDURE (0925)** 2  
Provides an understanding of the function and arrangement of library catalogs, the ordering, and typing of catalog cards and the ALA filing system for the card catalog. (May not apply toward library science major when credit is transferred.) (1/3)

**LS005T LIBRARY ROUTINES (0741)** 2  
Gives theory and practice in the basic routines of library procedure. This will include an understanding of the history of libraries, the Dewey Decimal System, and the circulation, location, and shelving of books.

(May not apply toward library science major when credit is transferred.) (1/3)

**LS006T TECHNICAL PROCESSES (0801) 2**  
Covers principles and practice of workroom procedures involving the preparation of new materials and the repair and maintenance of the current collection. (May not apply toward library science major when credit is transferred.) (1/3)

## LITERATURE

### College Parallel

**LT001T CHILDREN'S LITERATURE (0075) 4**  
Analyzes children's reading interests by examining the three levels of ability and the ten types of literature available. It is primarily a historical survey of the literature covering periods that date from (roughly) 700 AD in England through modern times in the Western countries of the world.

**LT101T INTRODUCTION TO LITERATURE I (0432) 4**  
Introduces the techniques and purposes of the novel and the short story. Both forms based on students' interests, broadening and refining those interests. Intensive analytical and interpretative reading and extensive comparative reading will help to enrich and improve students' literary tastes. In addition to basic texts, supplemental reading lists will refer students to a variety of literary reading in the novel and short story. Prereq: Composition I. (4/0)

**LT102T INTRODUCTION TO LITERATURE II (0524) 4**  
The particular 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 lists will refer students to a variety of dramatic works. Prereq: Composition I. (4/0)

**LT103T INTRODUCTION TO LITERATURE III (0619) 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: Composition I. (4/0)

**LT201T MASTERPIECES OF WORLD LITERATURE I (0663) 4**  
Analyzes selected writings from the Bible, Greek drama, and Greek and Roman narrative poetry. Primarily these works will be approached on their contextual basis with some attention to style, meaning, and form. Prereq: Composition II or equivalent. (4/0)

**LT202T MASTERPIECES OF WORLD LITERATURE II (0757) 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 generic, social-cultural, mythical and comparative approaches in combination. Prereq: Composition II or equivalent. (4/0)

**LT203T MASTERPIECES OF WORLD LITERATURE III (0845) 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: Composition II or equivalent. (4/0)

**LT204T BLACK LITERATURE 4**  
Presents an overview of the black writer as representative of a literary art form as well as a major historical and sociological impact. Includes works from the 1920's-1960's.

**LT205T INDEPENDENT STUDY IN LITERATURE 1**  
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.

**LT206T INDEPENDENT STUDY IN LITERATURE 2**  
(Same as LT205T)

**LT207T INDEPENDENT STUDY IN LITERATURE 3**  
(Same as LT205T)

**LT208T INDEPENDENT STUDY IN LITERATURE 4**  
(Same as LT205T)

## MARKETING

### College Parallel

**MK001T PRINCIPLES OF MARKETING (0087) 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 (0926) 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 (0923) 4**  
Provides basic skill in the selling of goods and services in the entire field of business. Emphasis is on the practical, usable skills and not theory. The course is divided into lectures and required seminars.

**MK004T MARKETING CHANNELS AND INSTITUTIONS** 4

Studies the structure of marketing with emphasis being placed on management's responsibilities in the selection of channels of distribution. The case problem will be used extensively.

**MK005T CONSUMER BEHAVIOR** 3

Is designed to enhance the students knowledge of the consumer in the market place. Special emphasis will be placed on analyzing the customer decision making process as it pertains to his social class. Class lectures and case studies will be used throughout the course with emphasis on student participation. (3/0)

**MK006T PRINCIPLES OF INSURANCE** 4

Exposes student to different types of insurance, contracts, concept of risk, and government's relationship with the industry.

**MK007T PRINCIPLES OF BANK OPERATIONS** 3

Presents the fundamentals of bank functions in a descriptive fashion so that the beginning banker may view his 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)

**MK009T PRINCIPLES OF INSURANCE UNDERWRITING** 4

Is a study of the activities necessary to select risks offered to the insurer in such a manner that objectives of the firm are fulfilled. Emphasizes recognition of his role and duties in the various fields of insurance. (4/0)

**MK010T PROPERTY AND CASUALTY INSURANCE** 4

Studies important property and casualty coverages, insurance company organizations, basic legal concepts, rating procedures, and prevention and loss adjustment practices. Major contracts studied include the standard form fire insurance contract, endorsements and allied lines, transportation coverages, the automobile contract, workmen's compensation insurance, disability policies, and general liability lines. (4/0)

**MK011T LIFE AND DISABILITY INSURANCE** 4

Covers principles of and practices in life and disability insurance. Study of life, accident and health, and annuity contracts and important policy provisions. (4/0)

**MK012T PRINCIPLES OF INVESTMENT** 4

Studies the principles of and the practices in the investment field; the basic factors underlying the development of successful investment policies. Analyzes the New York securities markets and the problems of the

individual investor. Studies stock and bond quotations and current financial information in the daily newspapers and other available sources. (4/0)

**Vocational-Technical**

**MK001U CONSUMER CONSULTANT** 2

Explores proper selling techniques utilized with merchandise available in the home furnishings category. The students explore their ability in sales presentations, customer service, consumer behavior, and personal contact between the consultant and the consumer. (0/2)

**MK002U SALESMANSHIP** 2-3

Is designed to provide the student with a maximum of opportunity to apply the principles of salesmanship. Role playing will be a major method of providing the practice. (1-2/3-4)

**MK003U AGRICULTURAL PRODUCT MARKETING I (0449)** 3

Helps students understand the role and functions of producers and wholesalers. The marketing systems, marketing levels, product transportation, collective bargaining, price determinants, seasonal and supply cycles, and an analysis of cost factors affecting production and distribution are included in this course. (1/4)

**MK004U AGRICULTURAL PRODUCT MARKETING II (1281)** 3

Has special emphasis applied to marketing principles, policies and problems. The futures marketing system is studied. Individual marketing problems and reports are assigned to help the student see the day-to-day application of marketing principles. (1/4)

**MK006U FASHION MERCHANDISING LABORATORY (0112)** 1-3

Provides individual projects relating to the retailing of fashion products. Offers the student the opportunity to discuss and analyze on-the-job problems in a group situation. (1-3/0)

**MK007U PRINCIPLES OF FASHION MERCHANDISING (0369)** 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 (0572)** 3

Includes the principles of fashion show production: planning, coordinating and directing the fashion show. (3/0)

**MK009U PROBLEMS IN FASHION MERCHANDISING (0829)** 2

Helps the student integrate and apply his knowledge of fashion mer-



chandising through case study analysis. Includes consumer motivation, product knowledge, fashion coordination, and executive leadership. (2/0)

**MK010U RETAIL MARKETING SEMINAR** 1  
Is designed to help prepare students for careers in retailing. The majority of seminar time is set aside for individual student help. Students are also given time to investigate retailing opportunities, prepare reports, and complete projects related to their individual retailing interests. (0/2)

**MK011U FOOD STORE MARKETING LABORATORY (0249)** 2-3  
Provides various instructional procedures to practical problems in food marketing, with special emphasis given to the technical study of the food merchandising field and the development of projects through the use of food store marketing facilities. (0/5)

**MK012U INTRODUCTION TO FOOD STORE MARKETING (0436)** 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 (0159)** 3  
Includes the study and actual development of the organization and planning necessary to properly merchandise and lay out a retail or wholesale food operation. (5/0-6 weeks)

**MK014U MERCHANDISING (1399)** 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)

**MK016U PRODUCT MERCHANDISING (1403)** 3  
Provides specific instruction and activity in handling products of the food industry, with special emphasis on produce and meat operations. (5/0-6)

**MK017U PRINCIPLES OF ADVERTISING (0504)** 4  
Acquaints the student with the philosophy of advertising, historical concepts of 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)

**MK018U PRINCIPLES OF DISPLAY (1411)** 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)

**MK021U SALES PRESENTATION** 3  
Is designed to make use of numerous courses, such as Principles of Selling, Consumer Behavior, Sales Promotion, Communication Skills, Speech and Principles of Marketing. The student will be responsible for developing a complete sales presentation of a product or product line. (2/1)

**MK023U INDUSTRIAL MARKETING I** 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)

**MK025U INDUSTRIAL MARKETING II** 3  
Presents operative principles and methods of industrial marketing institutions are presented. Decision making skills are developed through problem solving of case studies.

**MK026U PURCHASING** 4  
Presents the purchasing function and its relationship in the manufacturing and distributor type industrial businesses. Purchasing systems are studied, developed and applied in a simulated laboratory. (4/0)

**MK027U PHYSICAL DISTRIBUTION** 4  
Examines transportation and warehousing as a function of the marketing process. The principles and methods of physical distribution will be studied in depth. (4/0)

**MK028U SALES PROMOTION** 3  
Studies the coordination of personal selling, advertising, product design, marketing research, customer services, and other activities involved in the promotion of profitable sales. (3/0)

**MK029U PRODUCT ANALYSIS** 3  
Studies the industrial commodity approach to industrial marketing. An examination of products typically handled by the industrial distributor is made in the industrial product analysis lab. (3/0)

**MK030U INDIVIDUAL INSTRUCTION LABORATORY (MARKETING)** 2  
Provides supervised practice in designing individualized learning experiences for students with varied occupational objectives in the industrial and wholesale field.

**MK031U MARKETING PROBLEMS** 3  
Is designed to give the student the opportunity to work on problems in the marketing area according to his own particular interest. The course will consist of a series of assignments which will not only allow the student to explore new areas but will emphasize contact with on-the-job situations. (3/0)

**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 aspect of home furnishings including measurements and estimates. (3/0)

**MK033U HOME FURNISHINGS II** 4  
Continues the study of furnishings including styling elements, historical and contemporary furniture construction and arrangement, accessories and furnishings coordination. Includes techniques of customer presentation. (4/0)

**MK034U HOME FURNISHINGS SEMINAR** 1  
Explores current issues and problems confronting the home furnishings categories. The class will also bring the students on-the-job training and relate that training to classroom activities. (0/2)

**MK001V RETAIL ADVERTISING AND DISPLAY** 3  
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. (2/1)

**MK002V FLORICULTURE SEMINAR** 1  
Provides various instructional procedures for practical problems in the retail florist business. Emphasis on development of projects to bring problems that the students encounter while on business internship and in all other curriculum study. (0/2)

## MATHEMATICS

### College Parallel

**MA004T COLLEGE ALGEBRA (0532)** 5  
Includes the real number system, theory of equations, complex numbers, systems of equations, mathematical induction, functions and their graphs, including logarithms, enumeration, the binomial theorem, probability, and sequences. Prereq: Intermediate Algebra or 1½ years of high school algebra and one year of high school geometry.

**MA005T ANALYTIC GEOMETRY (0706)** 5  
Includes point and plane vectors, direction cosines, the straight line, the circle, the conics, transformations of the axis, polar coordinates, the point and space vectors, surfaces and curves. (5/0) Prereq: College Algebra and Trigonometry.

**MA006T CALCULUS I (0758)** 5  
Includes limits, derivative, differentiation, the differential, elementary applications of calculus and introduction to integration. (5/0) Prereq: Analytic Geometry.

**MA007T CALCULUS II (0846)** 4  
Continues Calculus I and includes the study of the integral, integration, methods of integration, parametric equations, and improper integrals. (4/0) Prereq: Calculus I.

**MA008T CALCULUS III (0012)** 4  
Includes study of indeterminate forms, infinite series, series expansion of functions, partial differentiation, and multiple integration. (4/0) Prereq: Calculus II.

**MA009T DIFFERENTIAL EQUATIONS I (0182)** 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 applications, Prereq: Calculus III.

**MA010T TRIGONOMETRY (0649)** 5  
Studies real numbers, completeness property, functions, inverse functions, periodic functions, arc length, trigonometric functions, identities, inverse trigonometric functions, graphs, exponential and logarithm functions, and applications of elementary functions. (5/0) Prereq: Intermediate Algebra or one and one-half years of high school algebra and one year of high school geometry.

**MA011T FUNDAMENTALS OF STATISTICS (0674)** 5  
Includes descriptive statistics (mean, median, mode, standard deviation and variance). Probability and inferential statistics will also be covered. Prereq: College Algebra (can be taken concurrently) or 2 years of high school algebra.

**MA013T APPRECIATION OF MATH** 3  
Introduces what mathematics is like, revealing some of its extent and power and giving some insight into its historical development. We hope to develop an interest in mathematics in students who previously have had little or none. The topics are chosen in a manner that requires a minimal mathematical background and maturity.

**MA014T INTERMEDIATE ALGEBRA** 5  
Includes the properties of the real numbers, polynomials, fractions, exponents, roots, radicals, first-degree equations and inequalities in one variable, functions and their graphs, systems of equations, sequences, and series. Prereq: Beginning Algebra or one year of high school algebra and one year of high school geometry.

**MA015T DIFFERENTIAL EQUATIONS II** 4  
Is 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: Differential Equations I.

**MA016T LINEAR ALGEBRA** 5  
Is a post-calculus course which includes a study of vector spaces, deter-

minants, linear transformations and matrices, bilinear and multilinear forms, and polynomial rings. Prereq: Calculus II.

**MA017T MATH FOR ELEMENTARY SCHOOL TEACHERS** 5

Includes systems of numeration, abstract mathematical systems, sets and geometry, elementary probability theory, sets of numbers, and elementary logic. Prereq: Beginning Algebra or one year of high school algebra and one year of high school geometry.

**MA018D BEGINNING ALGEBRA** 4

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.

**Vocational-Technical**

**MA001U AGRICULTURAL COMPUTATIONS** 1-2-3

Emphasizes the relationship of elementary mathematical processes and its relationship to applied various agribusiness procedures, such as volumes, areas, torques, ratios and formulations, capacities, etc. This course is cooperatively taught by technical instructors within the various programs in agriculture. (1-2-3/0)

**MA002U BASIC MATHEMATICS (0023)** 0

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.

**MA003U MATHEMATICS II (0115)** 1-5

Continues Basic Mathematics I. Extensive practice in applying math skills to problems related to program in which the student is enrolled. Students in Architectural Draftsman program also learn to operate a ten-key calculator. (2-5/0)

**MA004U MATHEMATICS III (0208)** 5

Is offered for students in the Mechanical Draftsman program. A continuation of Mathematics II.

**MA005U APPLIED CALCULUS FOR ELECTRONICS I (1262)** 2

Includes a study of limits, derivatives, differentials, maxima and minima, and simple integrals. This course plus Applied Calculus for Electronics II may be substituted for Technical Mathematics III-E. (2/0)

**MA006U APPLIED CALCULUS FOR ELECTRONICS II (1264)** 2

Continues Applied Calculus for Electronics I, and includes a study of partial derivatives, integration techniques, differential equations and



infinite series. This course plus Applied Calculus for Electronics I may be substituted for Technical Mathematics III. (2/0)

**MA007U ENGINEERING COMPUTATIONS I (0224)** 2

Covers performance with the slide rule including use of the C.D.CI, folded, root, cube, log and trig scales, scientific notation, dimensional analysis and special short-cut slide rule solutions.

**MA008U ENGINEERING COMPUTATIONS II (0321)** 2

Presents problems in applied geometry with particular emphasis on the analytic approach using slide rule, logarithms and calculator computers to obtain solutions.

**MA009U MATHEMATICS II C (0853)** 4

Studies symbolic logic, set theory, Boolean Algebra, and probability theory. (3/0) (Mathematics for business data processors.)

**MA011U MATHEMATICS I (0023)** 1-5

Covers basic math skills such as addition, subtraction, multiplication and division and the use of fractions, decimals and percentages. May include algebra, geometry functions, and elementary trigonometry. Students work on problems related to their individual needs and to the program in which they are enrolled. (2-5/0)

**MA012U TECHNICAL MATHEMATICS I (0519)** 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. (4/1)

**MA013U TECHNICAL MATHEMATICS II (0613) 4**

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 (0613) 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 an introduction to differential calculus. Emphasis is placed on application to technology. (4/1)

**MA015U TECHNICAL MATHEMATICS III (0057) 4**

Introduces Applied Calculus. Emphasis is placed on application of the 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. (4/1)

**MA016U TECHNICAL MATHEMATICS II C (0710) 4**

Stresses application of mathematics to circuit analysis. Some of the topics covered include solution to wheatstone bridge circuits, transistor biasing, logarithms as used in power level measurements, and number systems. (4/2)

**MA018U VFC AG. COMPUTATIONS 2.25**

Is an applied home farm business course for farm coop program students in the area of agriculture computations. (2¼/0)

**MA001V RELATED FOOD SERVICE MATHEMATICS I 3**

Includes a study of those basic math skills required to work in the food service business. Students work on problems dealing with recipe conversions, weights and measures, standardized recipes, and food inventories. Introduces recipe costing principles. (3/0)

**MA002V RELATED FOOD SERVICE MATHEMATICS II 5**

Concentrates on purchasing foodstuffs, receiving, record keeping, storage of supplies, portioning, large quantity recipe costing, requisitioning, labeling, stamping and coding. Prereq: Related Food Service Mathematics I. (5/0)

**MECHANICS****Vocational-Technical****MH001U BASIC HYDRAULICS (0574) 3**

Covers fundamental principles of hydraulics, including properties of fluid, flow, resistance and controls of fluid pressure. (3/2)

**MH002U HYDRAULICS (0455) 4**

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 also placed on distinguishing the difference between types of valves, pumps, hose, and connection arrangement and flow patterns. (4/4)

**MH003U APPLIED HYDRAULICS (0627) 3**

Studies use of pumps, motors, servos, and other hydraulic equipment. (1/4)

**MH005U AGRICULTURAL EQUIPMENT PRINCIPLES I (0540) 4-6**

Covers assembly, adjustment and maintenance of agricultural and light industrial equipment. Occupational orientation, safety, use of hand and power tools, and use of reference and service manuals are emphasized. (0/12)

**MH006U AGRICULTURAL EQUIPMENT PRINCIPLES II (0633) 6**

Studies major reconditioning and servicing of agricultural and light industrial equipment. (0/12)

**MH007U AGRICULTURAL EQUIPMENT PRINCIPLES III (0725) 6**

Continues Agricultural Equipment Principles I and II. (0/10)

**MH008U DIESEL DIAGNOSIS AND OVERHAUL (1090) 8**

Offers instruction in the diagnosis and overhaul of diesel power units with emphasis on speed and accuracy of work. (2/12)

**MH012U SMALL ENGINES AND EQUIPMENT (0981) 2**

Includes specification and data for the 2- and 4-cycle engine. Knowledge of the function and operation of small engines used in Horticulture. (1/2)

**MH013U GAS ENGINES I (1084) 4**

Covers small gasoline engines and their application to the agricultural equipment industry. (2/3)

**MH014U GAS ENGINES AND SYSTEMS (1085 & 0342) 12**

Offers instruction in the complete diagnosis and overhaul of gasoline power units. Emphasis is placed on speed and accuracy of work. Includes construction, operating principles, and components of gasoline and diesel engine systems. (4/10)

**MH015U ADVANCED HYDRAULICS (0778) 3**

Involves the complete overhaul, adjustment, and general maintenance of hydraulic systems as related to farm equipment. (1/4)

**MH016U POWER TRANSFER SYSTEMS I (0904) 3**  
 Studies construction and operating principles of gears, clutches, transmissions, and other power transfer systems.

**MH017U POWER TRANSFER SYSTEMS II (0065) 3**  
 Includes functions of automatic transmissions as utilized in farm equipment. (1/4)

**MH018U POWER TRANSFER SYSTEMS III (0163) 3**  
 Continues Power Transfer Systems I and II, coordinated with Agricultural Equipment Principles III. (1/4)

**MH019U RECONDITIONING AND REPAIR (0480) 5**  
 Covers and develops the skills needed in oxyacetylene welding, brazing, and arc welding; drill press, grinding equipment, and engine lathe, as well as painting and reconditioning processes. (1/8)

**MH020U GAS ENGINES II 4**  
 Assumes a continuation of Gas Engines I, concentrating on advanced systems, diagnosis, and repair. (1/6)

**MH021U UNIT DIAGNOSIS AND OVERHAUL 8**  
 Covers diagnosis and overhaul of gasoline and diesel engines, combines, and other powered farm machinery, with special emphasis on student work with little or no direction from the instructor. (0/16)

**MH001V AUTO MECHANICS LAB I (0498) 10**  
 Offers formal classroom as well as on-the-job instruction in shop practices, in complete auto service procedures, automotive electrical systems, fuel systems, brakes, drive train, etc. (0/20)

**MH002V Auto Mechanics Lab II (0939) 10**  
 Continues Auto Mechanics Laboratory I. (0/20)

**MH003V AUTO MECHANICS LAB III (0941) 10**  
 Continues Auto Mechanics Laboratory II. (0/20)

**MH004V AUTO MECHANICS LAB IV (1343) 10**  
 Continues Auto Mechanics Laboratory III. (0/20)

**MH005V AUTO MECHANICS RELATED I (0938) 10**  
 Covers practices, safety, mathematics, customer relations, and employer-employee relations. (10/0)

**MH006V AUTO MECHANICS RELATED II (0940) 8-10**  
 Continues Auto Mechanics Related I. (8-10/0)

**MH007V AUTO MECHANICS RELATED III (0942) 10**  
 Continues Auto Mechanics Related II. (10/0)

**MH008V AUTO MECHANICS RELATED IV (1339) 10**  
 Continues Auto Mechanics Related III. (10/0)

**MH009V COLLISION LAB I (0626) 12**  
 Instructs through lectures, discussions, visual aids in work on "live" vehicles in accordance with instruction sheets and shop manuals and under the supervision of the instructor. Practice with metal bumping and dinging, oxyacetylene and arc welding, metal shrinking, leadings, grinding and sanding, and preparation for painting. Proper use of power grinders, power drills, and hydraulic body and frame jacks. (0/25)

**MH010V COLLISION LAB II (0934) 12**  
 Continues Collision Laboratory I. (0/25)

**MH011V COLLISION LAB III (0936) 12**  
 Continues Collision Laboratory II. (0/25)

**MH012V COLLISION RELATED I (0933) 5**  
 Provides instruction in shop processes and responsibilities, shop management, shop responsibility, estimating. (5/0)

**MH013V COLLISION RELATED II (0935) 5**  
 Continues Collision Related I. (5/0)

**MH014V COLLISION RELATED III (0937) 3-5**  
 Continues Collision Related II. (3-5/0)



## MEDICAL SURGICAL

### College Parallel

#### **MS001T EMERGENCY AND FIRST AID PROCEDURES (0552) 2**

Emphasizes respiratory interference, heart attacks, head and back injuries, fractures, hemorrhage, shock, emergency childbirth and emotionally disturbed patients. (Part of the Law Enforcement Corrections Program) (Open to anyone, but particularly designed for policemen, firemen, ambulance drivers, supervisors, and others.) (2/0)

#### **MS002U EMERGENCY CARE (OPA) (0085) 4**

Helps the student develop skills in resuscitatory methods, handling and transporting patients with acute injuries, assisting with minor aseptic procedures and bandaging. Emphasis is placed on understanding the body's response to injury and disease and the various treatments. Fundamentals of first aid are incorporated throughout the course. Methods of treatment of specific traumatic, surgical and medical emergencies are included. (3/2)

#### **MS003U INTRODUCTION TO HEALTH CARE AND PERSONNEL RELATIONS (OPA) (1366) 3**

Introduces the student to fundamentals of patient care, safety, and comfort. The student is given instruction in basic nursing procedures such as bathing a patient, bedmaking, taking vital signs and admission of patients. Methods of charting, use and interpretation of medical terms and understanding of standard medical abbreviations are stressed. The relationship of the Orthopaedic Physician's Assistant with other members of the health care team is discussed. Emphasis is placed on the legal and ethical responsibilities of the assistant. Tours of various patient service areas of the hospitals and community will be arranged. (2/2)

#### **MS004U ORTHOPAEDIC CONDITIONS I (OPA) (0464) 4**

Is taught over two quarters and is designed to present specific orthopaedic conditions, including etiology of the disorder, physical findings associated with the disorder, accepted courses of treatment, and prognosis. Surgical anatomy of the involved area will be reviewed before beginning study of the condition. Proper medical terminology and spelling are stressed throughout the course. (4/0)

#### **MS005U ORTHOPAEDIC CONDITIONS II (0464) 4** Continues Orthopaedic Conditions I. (4/0)

#### **MS006U OPERATING ROOM TECHNIQUES (OPA) (0273) 3**

Includes surgical aseptic techniques, names handling, and maintenance of orthopaedic surgical instruments, and sterilization methods. Specific orthopaedic operative procedures and the related anatomy will be incorporated into this course. (2/2)

#### **MS007U PRINCIPLES OF IMMOBILIZATION I (OPA) 3**

Focuses on the basic principles and application of immobilization techniques, i.e., traction, casting, and splinting, utilized in the treatment of fractures and other musculoskeletal defects and diseases. (2/3)

#### **MS008U SUPERVISED LABORATORY EXPERIENCE I (OPA) (0594) 4**

Emphasis is placed on safe methods of transferring and transporting patients, obtaining initial histories and assisting with the treatment of musculoskeletal injuries. The student interacts with patients in the hospital emergency room setting, assisting with high priority care. Patient instruction for home care is also stressed; X-ray interpretation is practiced. (0/12)

#### **MS009U SUPERVISED LABORATORY EXPERIENCE II (OPA) (0692) 5**

Provides opportunity for the student to interact with orthopaedic patient who is being seen on an outpatient basis. The patient usually has a musculoskeletal condition requiring follow-up or long term care. Emphasis is placed on the skill of removal and application of plaster, assisting with procurement of histories and doing physicals, and assisting with general orthopaedic procedures. The student is made aware of the psychological aspect of the patient with a chronic orthopaedic condition. X-ray interpretation is practiced. (0/15)

#### **MS010U SUPERVISED LABORATORY EXPERIENCE III (OPA) (0783) 6**

Provides in this experience for the student to assist the orthopaedic surgeon in all types of operative procedures. His understanding of asepsis is broadened and deepened. His knowledge of anatomy of the human body is reinforced. Emphasis is placed on anticipation of the needs of the orthopaedic surgeon. Knowledge of methods of sterilization and name, handling, and maintenance of orthopaedic instruments is necessary. (0/18)

**MS011U SUPERVISED LABORATORY  
EXPERIENCE IV (OPA) (1544) 5**

Provides the student to see the patient as an in-patient. He is given the opportunity to apply and maintain all types of traction. He is exposed to the physical therapy department so that he might teach simple exercises and crutch-walking and reinforce the instructions given the patient by the physical therapist. Patients are selected on a case study basis so the student may work with the nursing personnel to gain insight into and fully appreciate the problems encountered in nursing care of the patient. Emphasis is placed on rehabilitation of the patient from the day of admission until discharge. (0/15)

**MS012U SUPERVISED CLINICAL  
EXPERIENCE V —  
AND SEMINAR (OPA) 12**

Assigns the student to an orthopaedic surgeon who is in private practice. He (she) with the orthopedist, guided by pre-planned learning experiences i.e., assisting with office procedures, accompanying the physician on hospital rounds, assisting in surgery and with emergencies. (0/30)

**MS013U PRINCIPLES OF IMMOBILIZATION II 3**  
Continues Principles of Immobilization I. (2/3)

**MS014U FUNDAMENTALS OF  
INHALATION THERAPY I. (I.T.) 4**

Provides basic background and understanding of the rationale of inhalation therapy. Covers cardio-pulmonary dysfunction and the therapeutic administration of oxygen and other gases. Oxygen preparation and the safe handling of pressurized oxygen are studied. (3/2)

**MS015U INTRODUCTION TO PHYSICAL  
THERAPY, ORTHETICS, AND PROSTHETICS 3**

Reinforces the importance of good body mechanics and alignment. Emphasis is placed on the administration of active and passive exercises and its importance in rehabilitation of the patient. The student is also given instruction in types and choice of crutch gaits as well as teaching crutch walking. Indication for and maintenance of braces and prosthetics are included. (2/2)

**MS016U SEMINAR (OPA) 3**

Provides for student-faculty participation in problem solving. Offered in conjunction with Supervised Laboratory Experience IV, to assist the student with the integration of acquired knowledge and practical experience.

**MS017U FUNDAMENTALS OF  
INHALATION THERAPY II (I.T.) 4**

Studies the etiology of lung disease and various diagnostic methods as pulmonary function testing, blood-gas analysis and x-rays. Cardiac diagnostic procedures as well as pharmacology is offered. (3/2)

**MS018U FUNDAMENTALS OF  
INHALATION THERAPY III (I.T.) 7**

Studies assisted and controlled ventilation with various types of respirators, problems of long term mechanical support of ventilation and respiratory care for surgical, obstetric, pediatric and trauma cases. (2/10)

**MS019U SUPERVISED LABORATORY  
EXPERIENCE I. (I.T.) 16**

Offers learning experience by observation of techniques and performing simple procedures under the direction of a trained inhalation therapist. (2/28)

**MS020U SUPERVISED LABORATORY  
EXPERIENCE II (I.T.) 6**

Assigns student to acute patient care areas — intensive care, respiratory care and coronary care units in hospitals learning acute respiratory care techniques in inhalation therapy. (1/11)

**MS021U SUPERVISED LABORATORY  
EXPERIENCE III. (I.T.) 9**

Offers maximum interaction between student, patient and medical team providing student opportunities to exercise some initiatives and judgements. (1/16)

**MS022U SUPERVISED LABORATORY  
EXPERIENCE IV. (I.T.) 12**

Offers intensive learning experiences in comprehensive patient care areas. (1/22)

**MS023U INHALATION THERAPY  
TECHNIQUES I. (I.T.) 4**

Studies the application of oxygen therapy modalities and apparatus; maintenance and sterilization of specific devices; techniques in airway management and resuscitation. (2/4)

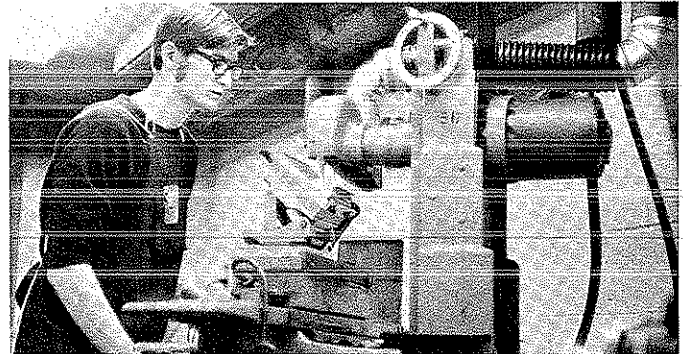
<b>MS024U INHALATION THERAPY TECHNIQUES II. (I.T.)</b>	<b>2</b>
Offers skills in chest physio-therapy, postural drainage and pulmonary rehabilitation. Introduction to diagnostic techniques in inhalation therapy. (1/2)	
<b>MS026U INDEPENDENT STUDY</b>	<b>3</b>
Provides independent study in select area of medical specialty.	
<b>MS001V DISEASES OF MAN (0088)</b>	<b>4</b>
Covers the infections, intoxications, and traumatic injuries suffered by man; their severity and frequency of occurrence; their agents and reservoirs; and the conditions and circumstances which result in their transmission or occurrence and how they are controlled. (3/2)	
<b>MS002V MEDICAL LABORATORY PROCEDURES I (0343)</b>	<b>1-2</b>
Acquaints the student with simple laboratory techniques that may be performed by a medical assistant in a doctor's office. Through demonstration and practice the student learns to perform common tests used in the medical office. (5/5)	
<b>MS003V MEDICAL LABORATORY PROCEDURES II (0434)</b>	<b>2</b>
Builds upon concepts and skills introduced in Medical Laboratory Procedures I. Includes a study of hematology, electrocardiography, urinalysis, collection of specimens, smears. (2/1)	
<b>MS004V MEDICAL TERMINOLOGY I (0526)</b>	<b>1-2</b>
Is orientation course in the language of medicine. Efforts are directed toward promoting a knowledge of the elements of medical terms and abbreviations. Emphasis is placed on correct pronunciation and correct spelling of medical terms. (3/2)	
<b>MS005V MEDICAL TERMINOLOGY II (0622)</b>	<b>2</b>
Continues Medical Terminology I. Further develops the ability to spell, define and apply terminology common in the medical field. (2/4)	
<b>MS006V BODY STRUCTURE AND FUNCTION III (0715)</b>	<b>2</b>
Continues Medical Terminology II. (1/2)	
<b>MS007V PHARMACOLOGY (1370)</b>	<b>.5</b>
Studies drugs and their medical usage. (1/1)	
<b>MS008V SUPERVISED CLINICAL EXPERIENCE M.A. I (0681)</b>	<b>6</b>
Offers experience in private doctors' offices, clinics, industry or wherever medical treatment is given under supervision of doctors and registered nurses and school instructors. (0/18)	

<b>MS009V SUPERVISED CLINICAL EXPERIENCE M.A. II (0772)</b>	<b>12</b>
Continues Supervised Clinical Experience M.A. I (0/32)	
<b>MS010V SEMINAR I (MA) (0525)</b>	<b>.5</b>
Studies and discusses problems arising during clinical experience. (2/0)	
<b>MS011V SEMINAR II (MA) (0620)</b>	<b>.5</b>
Continues Seminar I. (2/0)	
<b>MS013V PHARMACOLOGY II</b>	<b>1</b>
Continues study of drugs and their medical usage. (.05/.05)	
<b>MS014V FIRST AID (0957)</b>	<b>0-5-1</b>
Includes basic principles of first aid and emergency care. (1/0)	
<b>MS012V MEDICAL LABORATORY PROCEDURES III</b>	<b>1.5</b>
Continues Medical Lab. Procedures II. (.05/1.05)	

## METALS AND MANUFACTURING

### Vocational-Technical

<b>MM001U MANUFACTURING PROCESSES I (0013)</b>	<b>3</b>
Covers ferrous metals and materials, machining and cutting tools, layout tools, gaging and inspection, measuring, hand tools, sawing and turning lathes. (1/5)	
<b>MM002U MANUFACTURING PROCESSES II (0108)</b>	<b>3</b>
Develops skills in turret and automatic lathes, screw threads, drilling, milling, grinding and finishes, shaper and planer, and numerical control machines. (1/5)	





<b>MM001V MACHINIST LABORATORY I (0763)</b>	<b>8-10</b>	Studies heat treatment of various metals and other basic metallurgical procedures; instruction in the proper care and use of measuring and layout tools and hand tools; development of skills in the 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)
<b>MM002V MACHINIST LABORATORY II (0944)</b>	<b>8-12</b>	Continues Machinist Laboratory I. (0/16-24)
<b>MM003V MACHINIST LABORATORY III (0946)</b>	<b>8-13</b>	Continues Machinist Laboratory II. (0/16-26)
<b>MM004V MACHINIST LABORATORY IV (0948)</b>	<b>8</b>	Continues Machinist Laboratory III (in the evening program only). (0/16)
<b>MM005V MACHINIST RELATED I (0943)</b>	<b>4-10</b>	Offers instruction in applied mathematics for machinist, blue print reading, machine technology, metallurgy, heat treating, and safety. (4-10/0)
<b>MM006V MACHINIST RELATED II (0945)</b>	<b>4-6</b>	Continues Machinist Related I. (4-6/0)
<b>MM007V MACHINIST RELATED III (0947)</b>	<b>4</b>	Continues Machinist Related II. (4/0)
<b>MM008V MACHINIST RELATED IV (0949)</b>	<b>4</b>	Continues Machinist Related III (in the evening program only.) (4/0)
<b>MM009V PRODUCTION MACHINERY (1388)</b>	<b>2</b>	Covers classroom study and shop practice on the use of metal forming machinery, and maintenance of welding equipment. (0/56-4 weeks)
<b>MM011V INTRODUCTION TO ARC WELDING</b>	<b>1</b>	Includes operation of A.C. and D.C. welding equipment. Striking an arc, beads of weld in all directions in the flat position, and building pads of weld. Arc welding safety is stressed. (2/24)
<b>MM017V SEMI-AUTOMATIC WELDING (1372)</b>	<b>3</b>	Studies the set up and operation of the semi-automatic welding process, using both hard wire and flux core wire. (2 weeks) (6/54)
<b>MM019V HELIARC WELDING (1368)</b>	<b>5</b>	Covers all position welding techniques on ferrous and non-ferrous materials, using the heliarc welding process. (4 weeks) (6/108)
<b>MM020V SPECIAL ARC WELDING TECHNIQUES (1380)</b>	<b>3</b>	Studies arc welding methods used on cast iron, stainless, hard surfacing and all position weld techniques used on light gauge metal. (6/54)
<b>MM022V WELDING INSPECTION (1392)</b>	<b>2</b>	Studies shop and lab welding inspection techniques giving practice in the selection, preparation and interpretation of both destructive and non-destructive welding tests. (4 weeks) (0/56)
<b>MM023V STUDENT PROJECT (1396)</b>	<b>2</b>	Provides for preparation of an original project by the student in the areas of fabrication, inspection or welding processes. (4 weeks) (0/56)
<b>MM024V WELDING TECHNOLOGY (1400)</b>	<b>4</b>	Studies welding processes and power sources including welding metallurgy, strength of materials, design of weldments, cost of welding and production methods. (60/0)
<b>MM025V WEAVING THE ELECTRODE</b>	<b>.5</b>	Covers the welding techniques used to make beads of weld any width. Three basic weave patterns are taught. (0/12) Prereq: Introduction to Arc Welding.
<b>MM026V INTRODUCTION TO JOINT WELDING</b>	<b>1</b>	Studies in detail fillet welds in the flat position using single and multiple pass techniques. Includes an introduction to welding metallurgy. (4/24)
<b>MM027V POWDERED IRON WELD METHODS</b>	<b>1</b>	Covers the methods used to make fillet welds using large diameter powdered iron "Drag Rods" and make the selection, and the A.W.S. numbering system of covered electrodes. (4/24)
<b>MM028V FLAME CUTTING</b>	<b>1</b>	Develops the skills needed in oxy-acetylene flame cutting, including set-up, operation, and maintenance of equipment. Oxy-acetylene safety is stressed. (6/12)
<b>MM029V BUTT JOINTS — FLAT</b>	<b>1</b>	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)
<b>MM030V HORIZONTAL WELD TECHNIQUES</b>	<b>1</b>	Introduces horizontal welding techniques and methods used to make various types of joints in the horizontal position. (0/24)
<b>MM031V VERTICAL WELDING TECHNIQUES</b>	<b>1</b>	Introduces vertical welding techniques and methods 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, 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)

**MM040V MANUFACTURING MATERIALS AND METHODS (0297) 3**

Follows manufacturing processes, and deals in greater depth with the properties and capabilities of various materials such as steel, aluminum and brass. (1/5)

**MUSIC****College Parallel****MU001T APPLIED MUSIC: INSTRUMENTAL (0912) 1**

Offers instruction for beginning, intermediate and advanced students. May be repeated for a total of six credits. Periods to be arranged. Prereq: Permission of instructor.

**MU003T APPLIED MUSIC: (INSTRUMENTAL) KEYBOARD I (1329) 1**

Is designed for students majoring in elementary education or in music, and for any adult beginner on piano. Contents include playing by note, music reading, functional theory, and piano technique. Student must be prepared to practice on a regular basis. Prereq: Consent of instructor. (1/1)

**MS004T APPLIED MUSIC: (INSTRUMENTAL) KEYBOARD II (1333) 1**

Continues Keyboard I in the study of piano technique. Includes functional theory, analysis of musical structure as an aid to playing, transposition, and creative activities. Prereq: Keyboard I or consent of the instructor. (1/1)

**MU005T APPLIED MUSIC: (INSTRUMENTAL) KEYBOARD III (1325) 1**

Continues Keyboard II in the study of piano technique. Prereq: Keyboard II and Fundamentals and Harmony II or consent of instructor. (1/1)

**MU006T APPLIED MUSIC (INSTRUMENTAL) KEYBOARD IV (1332) 1**

Studies figured bass, improvisation, and accompaniment figures. (May not be repeated for credit.) Prereq: Keyboard II and Fundamentals and Harmony II or consent of instructor. (1/1)

**MU007T APPLIED MUSIC: VOCAL I (1727) 1**

Includes stage presence, breath control, freedom from tension, vowels, tone quality. (2/0)

**MU008T APPLIED MUSIC: VOCAL II (0823) 1**

Includes resonance, consonants, phonetic spelling, even scale, voice placing, head voice, male voice. (2/0)

**MU009T APPLIED MUSIC: VOCAL III (0384) 1**  
Includes legato and sostenato, staccato, embellishments, flexibility, interpretations, proportion and unity. (2/0)

**MU010T APPLIED MUSIC: VOCAL IV (1077) 1**  
Offers private instruction for advanced students in voice. May be repeated for six credits. Periods to be arranged. Prereq: Vocal II or permission of instructor. (3/0)

**MU011T MUSIC APPRECIATION (0696) 4**  
Includes elements and types of music with some attention to major periods and composers. (4/0)

**MU012T ADVANCED HARMONY,  
EAR TRAINING, AND  
SIGHT SINGING I (0405) 1-3**  
Continues the first year music theory. This course is divided into three one hour segments so students may register for 1, 2, or 3 hours credit. Prereq: Music Theory III. (0/8)

**MU013T ADVANCED HARMONY,  
EAR TRAINING AND  
SIGHT SINGING II (0492) 1-3**  
Continues Advanced Music Theory I. This course is divided into three one hour segments so students may register for 1, 2, or 3 hours credit. Prereq: Advanced Music Theory I. (0/8)

**MU014T ADVANCED HARMONY,  
EAR TRAINING, AND  
SIGHT SINGING III (0586) 1-3**  
Continues Advanced Music Theory II. This course is divided into three

one hour segments so students may register for 1, 2, or 3 hours credit. Prereq: Advanced Music Theory II. (0/8)

**MU015T BAND (0109) 1**  
Is designed for students with ability and desire to play in a band. May be repeated for a total of six credits. (0/3)

**MU016T CHORUS (0076) 1**  
Meets three hours weekly. May be repeated for a total of six credits. Period to be arranged. Prereq: Permission of instructor. (0/3)

**MU017T CHORAL TECHNIQUES (1068) 3**  
Includes ingredients and techniques necessary to develop large vocal groups. Recommended if transferring to UNI. Prereq: Conducting (3/0)

**MU018T CONDUCTING (1076) 3**  
Develops techniques necessary for conducting. Recommended if transferring to UNI. Prereq: Music Theory III. (3/0)

**MU023T MUSIC THEORY I 1-4**  
Includes fundamentals, harmony, ear-training, and sight-singing. This course is divided into four one hour segments so students may register for 1, 2, 3, or 4 hours credit. (0/8)

**MU022T ENSEMBLE (0235) 1**  
Offers instruction and performance in small vocal groups. May be repeated for a total of six credits. (0/3)

**MU024T MUSIC THEORY II 1-4**  
Continues Music Theory I. This course is divided into four one hour segments so students may register for 1, 2, 3, or 4 hours credit. Prereq: Music Theory I. (0/8)

**MU025T MUSIC THEORY III 1-4**  
Continues Music Theory II. This course is divided into four one hour segments so students may register for 1, 2, 3, or 4 hours credit. Prereq: Music Theory II. (0/8)

## NURSING

### Vocational-Technical

**NS001U CHANGING PATTERNS OF  
HEALTH CARE & NURSING  
(ADN) (1306) 2**  
Focuses on changing patterns of the health care delivery system and the complex team relationships that affect the quality of health service. (2/0)

- NS002U METROLOGY (ADN) (1346) 1**  
 Uses a programmed instruction text to assist learning of conversion and application of apothecary, metric, and household systems of measurement, course is self-paced. (Pass, no credit evaluation) (1/0)
- NS003U NURSING I (ADN) (1322) 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 are also studied. (5/8)
- NS004U NURSING II (ADN) (1326) 11**  
 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 the learning foci. Concepts of stress in self and others, death as a progressive, individual process, health care and health promotion are included. (5/12) Prereq: Nursing I (ADN)
- NS005U NURSING III (ADN) (1330) 11**  
 Focuses on the systematic application and analysis of care given to, for and with the hospitalized person, resident or outpatient with common recurring health problems, urological, reproductive and gastrointestinal. Defenses against and response of the body to injury (homeostatic mechanism and pathophysiologic processes) the cause and prevention of disease are seen as an integral focus. Emphasis is on utilizing the problem-solving process together available data, plan, and implement patient care and rehabilitation plans. (5/12) Prereq: Nursing I & 2.
- NS006U NURSING IV (ADN) (1334) 11**  
 Focuses on the care of persons with emotional problems. Principles relating to communication, the nurse-patient relationship and psychosocial 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. (5/12)
- NS007U NURSING V (ADN) (1338) 13**  
 Focuses on the systematic application and analysis of care given to, for and with the hospitalized person with common recurring health problems: respiratory, cardiovascular and hematologic. Emphasis is on caring for older people. Supportive and therapeutic modalities are continued throughout the nursing core; i.e., fluid and electrolytes, pharmacotherapeutics, surgical and diet. Prereq: Nursing I, II and III. (5/16)
- NS008U NURSING VI (ADN) (1342) 13**  
 Focuses on the systematic analysis and application of care given to, for and with the hospitalized persons with the common recurring health problems: metabolic, allergic, musculoskeletal, neurologic and eye. Focus on the problem-solving method is continued as a tool to assess, implement and evaluate patient care. Prereq: Nursing I, II, III, IV, V. (5/16)
- NS009U NURSING VII (ADN) (1310) 14**  
 Focuses on women during various phases of childbearing, new born infants, children and family relationships. The study of the needs of ill children in relation to the well child is emphasized. Prereq: Nursing I, II, III, IV, V, VI. (5/18)
- NS010U NURSING VIII (ADN) (1318) 17**  
 Focuses on the role of the nurse in planning for priority of patient needs in group practice; including utilization of nursing and community resources. The student is assisted with the transition to nurse practitioner role. Prereq: Nursing I, II, III, IV, V, VI, VII. (5/24)
- NS011U NURSING IX (SEMINAR) (ADN) (1314) 2**  
 Focuses on the legalities and guidelines within which the nurse's patient care responsibilities are laid out by the law and by nursing. (2/0)
- NS010V FUNDAMENTALS OF PRACTICAL NURSING II (1402) 3**  
 Studies more in-depth nursing skills including sterile techniques and supportive care. (3/2)
- NS011V NORMAL NUTRITION AND DIET THERAPY (PN) (0535) 4**  
 Covers normal nutrition and its relation to optimum body function throughout the entire life cycle. Included is food fads and fallacies, regional and cultural food patterns and food and public health. The modification of normal nutrition in diet therapy is a major portion of this study. (4/0)
- NS012V NURSING CARE OF CHILDREN I (PN) (0667) 3**  
 Develops an understanding of normal child growth and development as well as the child's relation to his family, social institutions and the community. The individuality of the child, including those with mental retardation or a physical handicap, in relation to the time when he may be ill or require specific nursing measures is studied. (3/1)
- NS013V NURSING CARE OF CHILDREN II (PN) (0761) 1**  
 Focuses on more in-depth nursing skills required in the best possible care of children. (1/0)
- NS014V NURSING CARE OF MOTHERS AND INFANTS I (PN) (0016) 3**  
 Focuses on the physical and mental changes occurring during pregnancy and birth process are studied. Essential nursing care for both mother and infant and respect for aseptic technique is taught. Respect for

confidence or confidential information and how to attain it and maintain it is stressed. (3/0.5)

**NS015V NURSING CARE OF MOTHERS AND INFANTS II (PN) (0110) 1**

Continues NS014V correlated with the student's specific clinical experience while in this clinical area. (1/0)

**NS018V FIRST AID, DISASTER AND COMMUNITY HEALTH NURSING (PN) (1539) 3**

Studies the standard Red Cross first aid course and emergency treatment appropriate to the situation. The identification of community disasters and specific care needed is also studied. Identification of the health agencies and services available, as well as referral procedures is made. (2.5/1.5)

**NS019V MEDICAL-SURGICAL NURSING REVIEW (PN) 0**

Presents first, second and third quarter subject matter as an over-all review. Also reviews specialized subject matter.

**NS021V SEMINAR (PN) 0**

Does more in-depth study of courses presented during the quarter in small groups. (0/3)

**NS001V ADMINISTRATION OF MEDICATIONS I (PN) (0695) 4**

Studies drugs in relation to composition, purpose, side effects, dosage and route of administration. (4/0)

**NS002V ADMINISTRATION OF MEDICATIONS II (PN) (0787) 3**

Reviews arithmetic and its relation to correct dosage. The actual administration of drugs is practiced. (2.5/1.5)

**NS003V CARE OF ADULT PATIENT I (PN) (0478) 6**

Studies the more common medical and surgical health problems. The nurse intervention in pain or the highest possible degree of rehabilitation must be based on understanding the cause of pain as well as general nursing measures. Specific care in areas of orthopaedics, urology and geriatrics is included this quarter. Emphasis is placed on developing sensitivity to patients' physical needs. (6/0)

**NS004V CARE OF THE ADULT PATIENT II (PN) (0587) 6**

Continues NS003V. More complex disease entities and skills are studied including isolation technique and care of those with mental illness. More emphasis is placed on sensitivity to the patient's psychological needs. (6/0)

**NS005V SUPERVISED LABORATORY EXPERIENCE I (PN) (0118) 1**

Provides for the studying and learning of nursing skills with medical-surgical patients. (0/3)

**NS006V SUPERVISED LABORATORY EXPERIENCE II (PN) (1406) 8**

Continues learning experiences with medical-surgical patients. (0/18)

**NS007V SUPERVISED LABORATORY EXPERIENCE III (PN) (1410) 10**

Studies patient care in the following specialty areas: geriatrics, urology, and orthopaedics. (0/22)

**NS008V SUPERVISED LABORATORY EXPERIENCE IV (PN) (1414) 10**

Studies patient care in the following specialty areas: pediatrics and obstetrics. (0/22)

**NS009V FUNDAMENTALS OF PRACTICAL NURSING I (0872) 4**

Covers basic nursing skills essential to good patient care. The physical, spiritual and emotional needs necessary to good care are also studied. (3/3)

## OFFICE EDUCATION

### College Parallel

**OE001T COLLEGE SHORTHAND I (0171) 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. (2/3)

**OE002T COLLEGE SHORTHAND II (0362) 4**

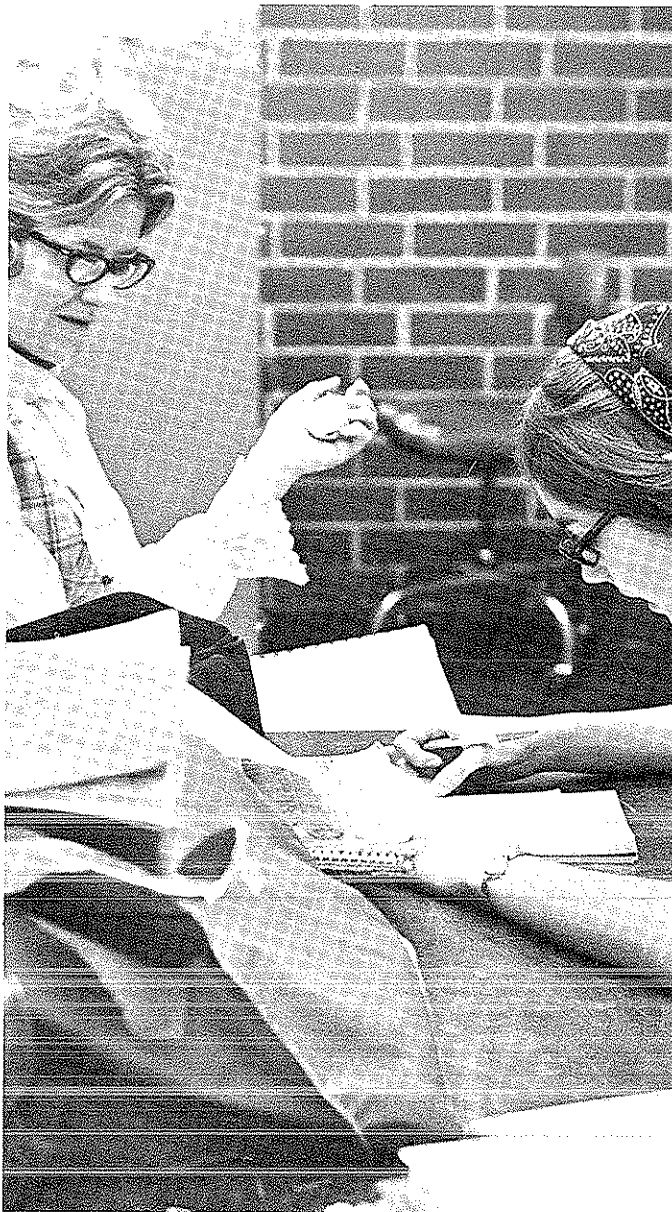
Offers a review of shorthand theory and continues to develop shorthand dictation ability on gradually increasing vocabulary levels. Introduces typewriter transcription. Prereq: Shorthand I or instructor's approval. (2/3)

**OE003T COLLEGE SHORTHAND III (0546) 4**

Emphasizes increased rates of dictation and development of introductory transcription skills. Prereq: Shorthand II or instructor's approval. (2/3)

**OE004T COLLEGE SHORTHAND TRANSCRIPTION (0914) 4**

Continues shorthand sequence with emphasis on increasing student's ability to transcribe difficult material from shorthand notes and to polish related transcription skills. Prereq: College Shorthand III or instructor's approval. (4/0)



**OE006T COLLEGE TYPING I (0077) 3**

Is designed for beginners or for those who wish to review the keyboard. Covers touch method of keyboard and basic correspondence, tabulations, and manuscript styles. (1/4)

**OE007T COLLEGE TYPING II (0173) 3**

Develops further typing skills and knowledge. Prereq: College Typing I or instructor's approval. (5/0)

**OE008T COLLEGE TYPING III (0262) 3**

Develops advanced typing skills and knowledge, especially designed for secretarial or business education majors. Prereq: College Typing II or instructor's approval. (5/0)

**OE009T OFFICE MACHINES (0724) 3**

Includes operation and application of adding and calculating machines. (1/3)

**OE010T FILING SYSTEMS AND RECORDS CONTROL 3**

A course 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 (0435) 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: Typing II, Shorthand II or instructor's approval. (3/1)

**OE012T COLLEGE TYPING IV (0364) 3**

Emphasizes simulated office production typing. Prereq: College Typing III or instructor's approval. (1/3)

**Vocational-Technical**

**OE001U OFFICE PROCEDURES I (1083) 4**

Refines knowledges 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 (1383) 3**

Provides simulated office activities and problem-solving situations which will develop and apply a wide range of office skills. Students are rotated through different office positions and undergo realistic pat-

terms 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 that are necessary for success in office occupations. Prereq: College Typing II. (0/5)

**OE004U OFFICE CALCULATING PROCEDURES (1395) 4**

Provides for integration and relevance between basic mathematics and office machines. Concepts are developed; and these mathematical understandings are applied to the operation of adding and calculating machines. (2/3)

**OE005U OFFICE EDUCATION LABORATORY (0216) 1-4**

Offers individual help in any office education subject. Including both remedial and enrichment instruction. Time arranged. (0/1-4)

**OE006U AGRIBUSINESS OFFICE MACHINES 2**

Is specifically designed as a short-term offering for specialized agribusiness students. Emphasis is on the 10-key adding machine and the cash register. Applied problems are worked as students learn the operation of these machines. (2/3)

**OE007U OFFICE PROCEDURES (OPA) 2**

Includes fundamentals of patient contact; preparing a patient for a physical, obtaining a history from a patient, scheduling appointments. Also includes inventory procedures, ordering, storing and maintenance of equipment and supplies, and other office procedures. (1/2)

**OE002V LAW OFFICE PROCEDURES (0503) 3**

Is 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)

**OE003V LEGAL DICTATION (0790) 3**

Develops student's ability to take dictation of difficult materials and to transcribe it in legal document form. Prereq: College Shorthand III, Transcription and Legal Terminology. (2/1)

**OE004V LEGAL MACHINE TRANSCRIPTION (1431) 3**

Develops Student's ability to transcribe legal material in document form from machine dictation. Prereq: Legal Terminology and proficiency in transcribing machines. (3/0)

**OE005V LEGAL TYPING (0879) 3**

Concentrates on the typing of forms, letters, and other business papers which are common to the law office. Prereq: College Typing III. (1/3)

**OE006V LEGAL TERMINOLOGY (0322) 3**

Provides training in spelling, defining, and application of terms common in the legal field. (3/0)

**OE007V MEDICAL SECRETARIAL DICTATION (0713) 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 and Body Structure I. (1/3)

**OE008V MEDICAL OFFICE PRACTICE I (0810) 3**

Develops a basic understanding of what a physician's office is like and how it functions. Housekeeping in the medical office, fundamentals of contracts with patients, medical histories, telephone procedures, appointment scheduling, supply purchase, storage and inventory of supplies are presented. (3/0)

**OE009V MEDICAL OFFICE PRACTICE II (0876) 3**

Continues Medical Office Practice. Provides a consideration of case histories, health and accident insurance programs, government medical care programs, the physician's public duties and liabilities, professional liability, Medical Practices Acts, and the legal relationship of physician and patients. (3/0)

**OE010V MEDICAL SECRETARIAL MACHINE TRANSCRIPTION (1415) 2**

Develops further transcription skills with emphasis on medical terminology. Gives practice of transcribing medical letters and forms, case histories, consultation reports, operative records, discharge summaries, X-rays and EKG reports. Prereq: Medical Secretarial Terminology and Body Structure II and proficiency in transcribing machines. (2/0)

**OE011V MEDICAL SECRETARIAL OFFICE PROCEDURES (0093) 4**

Is 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, radiology department laboratory, hospital ward, and admissions office. Prereq: College Typing II or approval of instructor. (1/3)

**OE012V MEDICAL SECRETARIAL TYPING (0956) 4**

Gives the student practice in 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: College Typing III. (1/3)

**OE013V MEDICAL TYPING (0621) 2**

Concentrates on the typing of forms, letters, and other business papers which are common to the medical office. Introduces the use of transcribing machines. (1/2)

**OE015V 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. Business terminology used in various kinds of business communication is also introduced. Prereq: College Typing II. (0/3)

**OE016V OFFICE CAREERS** 2  
Provides an atmosphere to analyze the career opportunities available to clerical and secretarial workers. There is special emphasis placed on tours, personal development, and projects related to individual interest areas. (0/4)

## PERSONAL DEVELOPMENT

### College Parallel

**PD005T HUMAN POTENTIAL LAB** 2  
Is designed to allow students to become involved in group interaction in an atmosphere that is conducive to assisting the student in his formation of a realistic, positive self-concept. Emphasis is on the personal growth of the individuals involved and development of the attributes which are important in establishing harmonious inter-personal relationships. (2/1)

### Vocational-Technical

**PD001U PERSONAL DEVELOPMENT I (0602)** 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)

**PD002U PERSONAL DEVELOPMENT II (0702)** 2  
Studies the development of personality, poise, and personal self. Concentrates upon basic modeling techniques and an intensive study of clothing selection geared to the needs of the individual student. Prereq: Personal Development I. (2/0)

**PD001V STUDY SKILLS** 0  
Aids the student in developing and/or improving study habits. Effort will also be made to identify and eradicate learning difficulties. (0/1)

## PHILOSOPHY/RELIGION

### College Parallel

**PR001T INTRODUCTION TO PHILOSOPHY (1526)** 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 (1511)** 4  
Includes a consideration of each of the great religions in the context of contemporary society. Variations in the structure, organization, and functions of religion are systematically examined. (4/0)

## PHYSICS/ASTRONOMY

### College Parallel

**PH001T COLLEGE PHYSICS (0169)** 4  
Is open to all students who require a general course in physics for their professional programs. This is a non-calculus course designed primarily for the pre-dental, pre-medical, pharmacy, science, and teaching students and all who seek to meet the science requirements in their programs. First quarter of a three quarter sequence in physics is without calculus. The course emphasizes the introduction of physical concepts without the rigor of advanced mathematical techniques. The quarter begins with an introduction of the mathematics required — trigonometry and algebra. Vectors and their applications in the classical laws of physics provide the basis for development of mechanics. Harmonic motion leads to the development of longitudinal and transverse waves. Prereq: A basic understanding of the language and ideas of mathematics. (3/2)

**PH002T COLLEGE PHYSICS II (0260)** 4  
Is the second quarter of a three quarter sequence in physics without calculus. This quarter includes the subjects of liquids, gases, the gas laws, heat and the three laws of thermodynamics. Electricity and magnetism are developed in a unified framework and are combined to give the implied existence of light. Properties of light are discussed. Prereq: College Physics I. (3/2)

**PH003T COLLEGE PHYSICS III (0360)** 4  
Is the third quarter of a three quarter sequence in physics without calculus. This quarter includes physical and geometric optics, electronic, atomic and nuclear physics from an experimental and phenomenological point of view, the wave-particle duality of nature and selected topics in modern physics. Relativity and cosmology conclude the course. Prereq: College Physics II. (3/2)

**PH004T GENERAL PHYSICS I (0425)** 4  
Is open to engineering, science, and mathematics majors; those requir-



ing a rigorous physics sequence employing mathematical techniques simultaneously developed in the concurrent calculus course. First quarter of a three quarter sequence in physics with calculus. This quarter covers the subjects of vectors, classical mechanics, Newtons Laws, conservation laws, waves, and oscillations. Prereq: Calculus I concurrently. (3/2)

**PH005T GENERAL PHYSICS II (0514) 4**

Is the second quarter of a three quarter sequence in physics with calculus. This quarter includes the subjects of temperature, heat, thermodynamics, and kinetic theory of matter. Electrostatics and magnetostatics are introduced in the framework of the Maxwells Equations; electricity, electrodynamics and magnetodynamics complete the Maxwells Equations and result in the derivation of electromagnetic radiation. Prereq: General Physics I and Calculus II concurrently. (3/2)

**PH006T GENERAL PHYSICS III (0610) 4**

Is the third quarter of a three quarter sequence in physics with calculus. This quarter includes the subjects of light and optics. Relativity and Lorent Transformations are presented in contrast with Galilean physics. Development of quantum mechanics is accomplished by quantum theory; wave-particle duality of nature completes the development of modern physics. Additional topics covered: atomic and nuclear physics, elementary particles, cosmic rays, and general relativity. Prereq: General Physics II. (3/2)

**PH007T PHYSICAL SCIENCE — ASTRONOMY (1324) 4**

Is open to all students requiring a quarter of physical science. No mathematics or science background is assumed. Course will transfer as a lab science for all but those who are science majors; for these people it will transfer as an elective. Proves an overview of modern astronomy for non-science majors. Topics include the historical development of astronomy, the mechanics of celestial bodies, (Kepler's and Newton's Laws), the earth-moon system, the seasons and calendar, planetary motion and analysis of members of the solar system. The sun is studied as a typical star; energy production in stars, the evolution of stars and analysis of variety of stars is covered. A description of the Milky Way, other galaxies, and finally the Universe are incorporated in varying cosmologies. The weekly three-hour lab meets 6 evenings and employs a variety of telescopes and cameras. (3/2)

**PH008T PHYSICAL SCIENCE — PHYSICS (0073) 4**

Is open to all students requiring a quarter of physical science. No mathematics or science background is assumed. Course will transfer as a lab science for all, but those requiring a one-year physics sequence will not fulfill these requirements with this course. The course is designed for students interested in a non-rigorous introduction to physics. Provides an overview of the field of physics for non-science majors. Mathematics and problem solving are not emphasized. Topics include the establishment of foundations of 20th Century physics: Newton and Kepler, the laws of thermodynamics, and the picture of the atom.

Atomic and nuclear physics are combined with a presentation of the duality of nature to give a model of the nature of matter. Einstein's theories complete the view of modern physics. The laboratory supplements the formal course-work employing the discovery method through experimentation (students design their own individual experiments with the help of instructional aids). (3/2)

**PH009T INDEPENDENT STUDY — PHYSICS 4**

Studies heat and thermodynamics. Topics include the laws of thermodynamic systems, kinetic theory, entropy, statistical mechanics and phase transitions. Course transfers as an advanced level physics offering. Prereq: General Physics III and consent of instructor. (4/0)

**Vocational-Technical**

**PH001U APPLIED PHYSICS I (0930) 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. (3/2)

**PH002U APPLIED PHYSICS II (0931) 4**

Studies properties of gasses and motion, including the following topics: temperature and thermal properties, vibratory motion, wave motion, sound, light, interference, diffraction, and polarization. Selected topics in modern physics will also be studied. (3/2) Prereq: Applied Physics I.

**PH003U HEAT, LIGHT, AND SOUND (0885) 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. (4/2) Prereq: Technical Math II.

**PH004U TECHNICAL CHEMISTRY AND PHYSICS I (0614) 3**

Studies the chemical structure and the reactions that take place in mixing, gelatation and silification of dental materials. Includes the laws of physics related to the dental laboratory fabrications. (3/0)

**PH005U TECHNICAL CHEMISTRY AND PHYSICS II (0711) 3**

Continues Technical Chemistry and Physics I. (3/0)

**PH006U TECHNICAL PHYSICS III (0803) 2**

Studies the principles of physics with relation to crown and bridge construction. (3/0)

## POLITICAL SCIENCE

### College Parallel

**PS001T AMERICAN SOCIETY:  
COMMUNITY POLITICS (0063) 4**

Introduces the organization, structure and function of community politics and decision-making, and assesses voting, interest groups and political party roles in the political process. (4/0)

**PS002T AMERICAN GOVERNMENT (0353) 4**

Studies the 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)

**PS003T STATE AND LOCAL  
GOVERNMENT (0445) 4**

Introduces the study of state and local government. A close examination is made of processes and institutions with specific emphasis on decision making. All students involved in actual or simulated field work based on empirical research. (4/0)

**PS004T WORLD POLITICS (0539) 4**

Is oriented to the theoretical implications of major political ideologies. A study of the theory of each major ideology is followed by a computer-based examination of citizen attitudes toward governmental activities. Extensive use of simulation games and computer-based empirical data is made. (4/0)

**PS005T INDEPENDENT STUDY IN  
POLITICAL SCIENCE (1501) 0, 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 department chairman is required before registering.

## PSYCHOLOGY/EDUCATION

### College Parallel

**PY001T PSYCHOLOGY OF ADJUSTMENT (1345) 4**

Studies basic principles of psychology in relation to the development, assessment, and modification of personality adjustment. Recommended for students wishing one course only in psychology. Should have instructor's consent. (4/0)

**PY002T GENERAL PSYCHOLOGY (0889) 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)

**PY003T PSYCHOLOGY OF CHILD  
DEVELOPMENT (0024) 4**

Examines the development of children from conception to adolescence. Topics ranging from toilet training to abnormal behavior are discussed in an attempt to provide the student with an understanding of the manner in which children develop. (4/0)

**PY004T EDUCATIONAL PSYCHOLOGY  
AND MEASUREMENT (1341) 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: General Psychology I and sophomore standing or consent of instructor. (4/0)

**PY005T AMERICAN PUBLIC EDUCATION (0698) 4**

Provides an overview of the field of education with special emphasis on sociological, political and economic factors. (4/0)

**PY006T INDEPENDENT STUDY IN  
PSYCHOLOGY (1501) 0, 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 department chairman is required before registering. (Hours arranged)

**PY007T PRACTICUM FOR TEACHER  
ASSOCIATES (1337) 4**

Offers observation of elementary or secondary classrooms, plus supervised classroom experience in which students serve as teacher aides. Weekly discussions of topic interest as related to classroom and experience are held. Students spend three hours each week in a local school classroom and one hour in class discussion. Discussions will center on analyzing student's experiences and defining principles of supervision and instruction appropriate for the teacher associate. Prereq: Completion of sixty quarter hours, including American Public Education and consent of instructor. (2/0)

**PY008T PSYCHOLOGY OF GROWTH  
AND DEVELOPMENT: ADOLESCENCE TO  
SENESCENCE 4**

Studies the process of development in humans from puberty through death. Deals with the following topics: socialization, delinquency, vocational and marital adjustment, and the psychology of death. Emphasis is also placed on development trends as they occur over the life-span.

**PY009T INTRODUCTION TO TEACHING 4**

Surveys current issues in secondary and elementary school teaching

with emphasis on recent critical approaches to these issues as exemplified in Hoit, Kozol, Leonard, Kohl, Glasser and Silverman. Students will have an opportunity to stress the level (elementary or secondary) in which they are likely to major. (4/0)

## Vocational-Technical

### **PY004U PSYCHOLOGY OF HUMAN RELATIONS I (0302) 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 or technical programs only. (3-5/0)

### **PY005U PSYCHOLOGY OF HUMAN RELATIONS II (0390) 2-4**

Continues Psychology of Human Relations I. Open to students in vocational-technical programs. Includes a study of self-concepts and individual and group relationships and adjustment factors. Considers the special needs of persons at various ages from early childhood through adulthood. (3/0)

### **PY007U SALES PSYCHOLOGY & HUMAN RELATIONS 3**

Explores 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 & SHOP SUPERVISION (1412) 1**

Covers organizational principles and patterns of shop leadership. (2/2)

### **PY002V INTERPERSONAL RELATIONSHIPS (0145) 2**

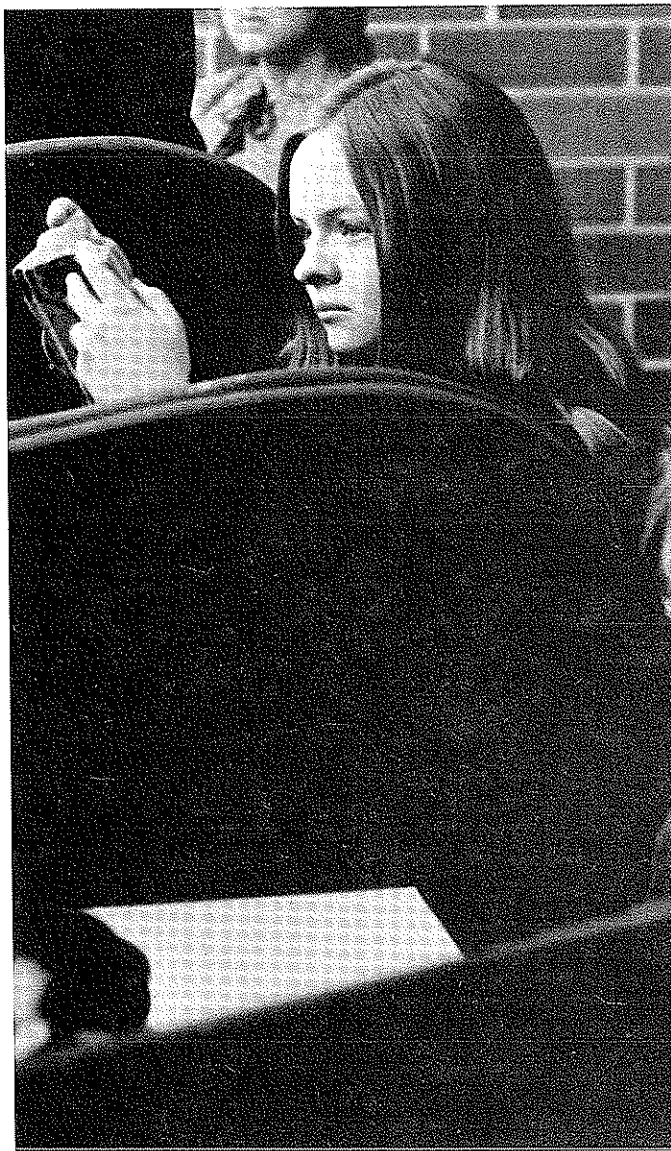
Studies people-to-people responses, emphasizing the less obvious, such as what people tell about themselves by interaction with their environment. (3/0)

### **PY003V THE PROFESSION (0259) 1**

Familiarizes students in Architectural Drafting with ethics and procedures. Personal appearance and human relations are also stressed. (1/0)

### **PY004V NORMAL GROWTH AND DEVELOPMENT (0007) 3**

Studies the growth and development from conception through old age. (4/1)



## SOCIOLOGY

### College Parallel

- SO001T AMERICAN SOCIETY:  
COMMUNITY ORGANIZATION (0815) 4**  
Introduces the study of American society, its social and group organization, as well as case studies in the nature and structure of the contemporary community. (4/0)
- SO002T AMERICAN SOCIETY:  
COMMUNITY PROBLEMS (0903) 4**  
Introduces the problems of communities in transition and crisis. Covers the definition, nature and range of social problems and their challenge to the contemporary community. (4/0)
- SO003T AMERICAN SOCIETY:  
MINORITY GROUP RELATIONS (0183) 4**  
Focuses on race and ethnic relations in the U.S. and approaches race and ethnic relations as another form of diversity in American society. Developmental perspective is undertaken to ascertain the significance of contemporary race and ethnic relations. (4/0)
- SO004T INTRODUCTION TO SOCIOLOGY (0165) 4**  
Examines the range of human behavior. Drawing from the fields of anthropology, social psychology, a survey of contemporary behavior is made. An examination of the major findings of sociology will be presented and its impact on contemporary thought. (4/0)
- SO005T MARRIAGE AND THE FAMILY (0355) 4**  
Studies the process of the marital life cycle; courtship, dating, engagement, marriage, the child bearing years, the child rearing years, and marriage during the middle years are examined in the light of current and past research, with stress on the consequences of premarital, marital and child-bearing decision making. The implication of marital dissolution is also explored. (4/0)
- SO006T SOCIAL PROBLEMS (0254) 4**  
Examines various objective social conditions which have come to be defined as social problems, using the structure-function approach to examine the consequences of social structure in relation to the production of social problems. Facts, interpreted theoretically, form the nucleus of the examination of social problems. (4/0)
- SO007T CRIMINOLOGY (1528) 4**  
Surveys the nature, causes, and extent of crime and delinquency; major consideration is given to apprehension, control, and treatment. Prereq: Principles of Sociology. (4/0)
- SO008T INTRODUCTION TO CULTURAL  
ANTHROPOLOGY (1101) 4**  
Considers group life in various cultures. Involves anthropological in-

sights 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) (1501)  
0, 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 department chairman is required before registering. (Hours arranged)
- SO010T INDEPENDENT STUDY IN  
THE SOCIAL SCIENCES  
(SOCIOLOGY) (1501) 0, 1, 2, 3, 4**  
(See course description above).
- SO011T JUVENILE DELINQUENCY AND  
DEVIANCY 4**  
Analyzes the various components of delinquency, home, school, peer group, community structure; explores the role of therapeutic and detention centers, and the juvenile court as well as approaches to prevention and treatment. (4/0)
- SO001U INDUSTRIAL ORGANIZATION (0508) 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)
- SO001V FAMILY AND LIFE SPAN (PN) (0575) 2**  
Physical, social and psychological development of each age group, infancy through the senior citizen, is pursued. Discipline, superstitions, fears, financial needs and community resources available to assist each age group are also studied. (1/0)
- SO002V PERSONAL, VOCATIONAL AND  
COMMUNITY RELATIONS I (PN) (0323) 2**  
Studies influence of history and tradition on progress in nursing. Covers the development and understanding of communication skills both verbal and non-verbal. Focus is placed on the effect of prejudice, religion and social and economic factors in their relationship to good interpersonal relations and patient care. (2/0)
- SO003V PERSONAL, VOCATIONAL  
COMMUNITY RELATIONS II (PN) (0418) 2**  
Includes a study of job applications and resignations. Legalities in nursing is also studied. Emphasis is placed on professional ethics. (2/0)

## THERAPY

### Vocational-Technical

**TH001V CLINICAL EXPERIENCE OTA I (0400) 5**  
Offers learning activities in an Occupational Therapy clinic emphasizing the psychosocial aspects of therapy. (0/40)

**TH002V CLINICAL EXPERIENCE OTA II (0487) 5**  
Offers learning activities in an Occupational Therapy clinic emphasizing the physical disability aspects of therapy. (0/40)

**TH003V CLINICAL EXPERIENCE OTA III (1221) 5**  
Offers learning activities in an Occupational Therapy clinic emphasizing aspects of therapy in specialty areas (i.e. pediatrics, mentally retarded, nursing home, etc.) (0/40)

**TH004V FUNCTION AND DYSFUNCTION (OCCUPATIONAL THERAPY THEORY) (0589) 5**  
Provides basic understanding of processes by which function becomes dysfunction. Emphasis placed on conditions relevant to the occupational therapist. (5/1)

**TH005V MANAGEMENT OF PHYSICAL DISABILITY CLINICAL CONDITIONS (0910) 4**  
Management of the physical disability clinical conditions as seen in the occupational therapy clinic. (4/1)

**TH006V MANAGEMENT OF PSYCHO-SOCIAL CLINICAL CONDITIONS (0821) 4**  
Studies management of psychosocial clinical conditions relative to the occupational therapy clinic. (4/1)

**TH007V MEDIA AND SKILLS I (0344) 3-4**  
Introduces basic skills in Arts and Crafts emphasizing the interaction between a person and an activity such as ceramics, sewing, and wood working. (2/6-8)

**TH008V MEDIA AND SKILLS II (0437) 3-4**  
Introduces minor crafts, and emphasizes skills in the major crafts of weaving and leather, relating activity to treatment. (2/6-8)

**TH010V ORIENTATION TO OCCUPATIONAL THERAPY (0181) 2**  
Presents basic orientation to and understanding of occupational therapy and the orientation of the assistant to his role. (3/0)

**TH011V PRINCIPLES AND PRACTICES OF REHABILITATION (0274) 5**  
Presents basic principles of rehabilitation as a process in the treatment of physical and psychosocial disabilities. (5/1)

**TH013V PROJECT LAB — OTA (1047) 1-3**  
Covers special projects chosen by the student related to the major area as approved by his department advisor. (0/1-2)

**TH014V SEMINAR OTA (0382) 2**  
Helps the student form an interpretation of his practical experiences and their meaning. Provides feedback from the students on the effectiveness of his clinical experience. (0/6)

**TH015V MEDIA AND SKILLS III (1546) 3-4**  
Continues Media Skills I & II.

**TH016V INTRODUCTION TO MEDICAL SCIENCE (1080) 4**  
Designed to introduce the student to general medical conditions of the body. Efforts are directed toward promoting a knowledge of medical terms and an understanding of standard medical abbreviations. (4/1)



# ADULT AND CONTINUING EDUCATION

## ADULT BASIC EDUCATION

Specialized instruction for persons whose basic academic skills are less than eighth grade level. This includes the Each-One Teach-One literacy program as well as group learning situations. These programs are held in conjunction with General Studies classes throughout the seven county area or at the Career Centers in Cedar Rapids and Iowa City. No charge is made for this program.

## GENERAL STUDIES

Course work designed to aid persons who want to pass the General Educational Development Test (G.E.D.). Classes are scheduled at a variety of times throughout the seven county area. Each twelve week session carries a maximum of 1½ quarter credits up to a 6 credit limit. Most work is individualized to suit the needs and skills of each student. No charge is made for these classes and information may be obtained through the local school office as well as Kirkwood Community College.

## CORRESPONDENCE COURSES

### (High School Completion)

Correspondence courses have been developed to provide educational opportunities for those unable to participate in a regularly prescribed program or who need additional work.

Algebra I	Modern Earth Science I
Algebra II	Modern Earth Science II
American Government I	U.S. History I
American Government II	U.S. History II
Basic Math I	World History I
Basic Math II	World History II
English Grammar I	Modern Life Science I
English Grammar II	Modern Life Science II

## CONTINUING EDUCATION COURSES

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

Instructors for these programs are sought out from among civic, business, industrial and cultural leaders throughout the seven county area to make available their expertise to the total community. All classes are conducted with the philosophy of Adult Education — 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 process.

Most of the following classes may be taken for high school credit. Others are valuable as proof of vocational upgrading. All of the classes listed are usually offered at least once during the year and more frequently when the demand occurs. Where there is sufficient demand, additional courses can be arranged to meet the needs and interests of individual areas and groups.

#### ACCOUNTING

Bookkeeping I  
Bookkeeping II  
Bookkeeping III  
Business Machines

#### ADMINISTRATION AND MANAGEMENT

Iowa Local Government Training Program  
Investments  
Stock Investments  
Standards for Stock Selection  
Traffic Management and Transportation

#### AGRICULTURE

Lawn and Turf  
Farm Tractor Maintenance  
Basic Hydraulics  
Farm Enterprise Analysis

#### ART

Basic Art  
Photography  
Creative Jewelry  
Tole Painting  
Life Drawing  
Flower Arranging  
Oil Painting  
Ceramics

#### COMMUNICATION

Adult Basic Education  
Communication  
English Refresher  
Creative Writing  
Speed Reading  
Speed Reading for Business  
Speed Reading for Industry

#### CONSTRUCTION

Woodworking

#### DATA PROCESSING

Introduction to Computers and Assembler Language  
Introduction to Computers and Cobol  
Introductory Key punch

#### DENTAL

Dental Assistant Continuation Program

#### DRIVER EDUCATION

Driver Education  
Defensive Driving

#### ELECTRICITY/ELECTRONICS

Electronics I  
Electronics II  
Switching Circuits  
Basic Electronics  
Computer Logic  
Transistor I  
Transistor II  
Transistor III

#### FABRICATION

General Metal Shop



## FOREIGN LANGUAGES

French I  
French II  
Spanish I  
Spanish II  
Spanish III  
Beginning German I  
Beginning German II  
Beginning German III  
English for the Foreign Born

## GRAPHICS

Advanced Blueprint Reading for Building Trades  
Beginning Blueprint Reading for Machine Trades  
Mechanical Drafting  
Production Pattern Drafting

## HISTORY

Adult Basic Education: History  
The Life and History of the American Negro

## HOME ECONOMICS

Homemaking  
Cake Decorating  
Party Foods  
International Cookery  
The Art of Homemade Beers and Wines  
Knitting  
Advanced Knitting  
Wood Refinishing  
Furniture Antiquing and Re-Upholstering  
Furniture Restoration  
Management in Homemaking  
Practical Consumer Finance  
Basic Consumer Finance  
Baking  
Creative Cooking

Beginning Sewing  
Sewing and Knitting  
Intermediate Sewing  
Alterations  
Tailoring  
Slipcover and Drapery Making  
Interior Decorating  
Advanced Interior Design  
Lingerie and Knitwear  
Upholstery  
Basic Industrial Housekeeping Techniques

## LAW/LAW ENFORCEMENT/CORRECTIONS

Law for the Layman

## LITERATURE

American Authors Series  
English Literature



## MARKETING

Techniques of Retail Supervising  
Principles of Salesmanship  
Salesmanship  
Advertising Display for Small Retailers  
An Introduction to Advertising and its Place in  
Commerce and Communication  
Retail Display

## MATHEMATICS

Adult Basic Education: Mathematics  
Modern Math for Parents  
Basic Mathematics  
Refresher Mathematics-Algebra  
Contemporary Algebra  
Plane Geometry  
Slide Rule  
Trigonometry  
Introductory Calculus  
Mathematics for Building Trades  
Programmed Math  
Calculus I for Technicians  
Industrial Mathematics

## MECHANICS

General Shop  
Auto Mechanics for Women  
Auto Mechanics for Men  
Internal Combustion Engines  
Automotive Mechanics  
Volkswagen Maintenance/Repair  
Beginning Refrigeration  
Trouble Shooting/Refrigeration and  
Air Conditioning  
Commercial Refrigeration

## MUSIC

Chorus  
Folk Guitar  
Intermediate Piano  
Intermediate Electric Organ

## OFFICE EDUCATION

Machine Shorthand  
Improving Your Business Communication  
Creative Selling  
Techniques of Office Supervision I  
Techniques of Office Supervision II  
Shorthand I  
Shorthand II  
Shorthand III  
Bookkeeping I  
Business Machines

## PERSONAL DEVELOPMENT

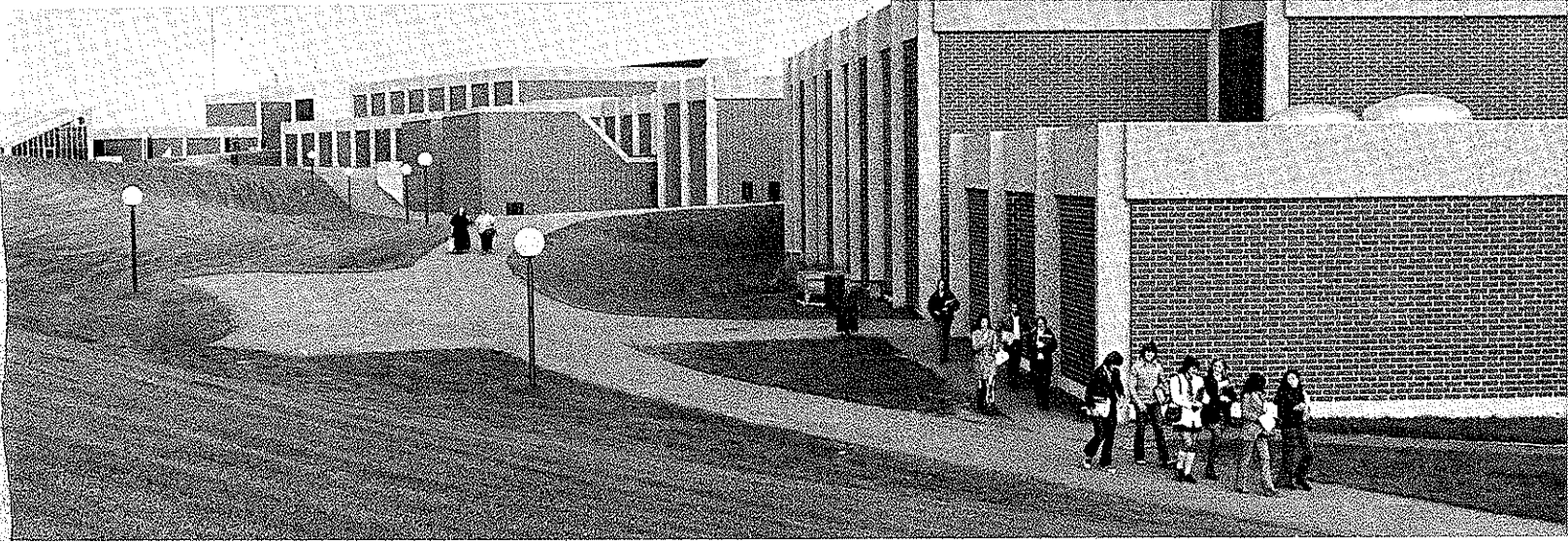
Charm  
The New Womanhood

## PHILOSOPHY AND RELIGION

Philosophy and Philosophers  
Religions of the World

## PHYSICAL EDUCATION

Horsemanship  
Men's Recreation  
Indoor Sports for Men  
Slimnastics for Women  
Physical Fitness for Men  
Swimming for Women  
Beginning Swimming  
Intermediate Swimming  
Recreational Family Swimming  
Basic Scuba Diving



Golf Instruction  
 Judo  
 Square Dancing  
 Ballroom Dancing

**POLITICAL SCIENCE**  
 Current Events  
 Iowa Local Government  
 American Government  
 State and Local Government

**PSYCHOLOGY**  
 Psychology  
 Adolescent Psychology  
 Sales Psychology  
 Effective Supervisory Practices

**RECREATION**  
 Beginning Bridge  
 Intermediate Bridge  
 Tournament Bridge  
 Tropical Fish and Aquariums  
 Rockhounds

Aviation Ground School  
 Travelogues and Book Reviews  
 Genealogy  
 Basic Handwriting Analysis

**SAFETY**  
 Standard First Aid

**SOCIOLOGY**  
 Adult Basic Education: Sociology  
 Patterns for Living  
 Family Life  
 Retirement: Problems and Enjoyment  
 Sociology

**SPEECH/DRAMA**  
 Creative Thinking  
 Speechcraft  
 Public Speaking

**WELDING**  
 Arc Welding  
 Oxy-Acetylene  
 Advanced Welding

# DELETIONS

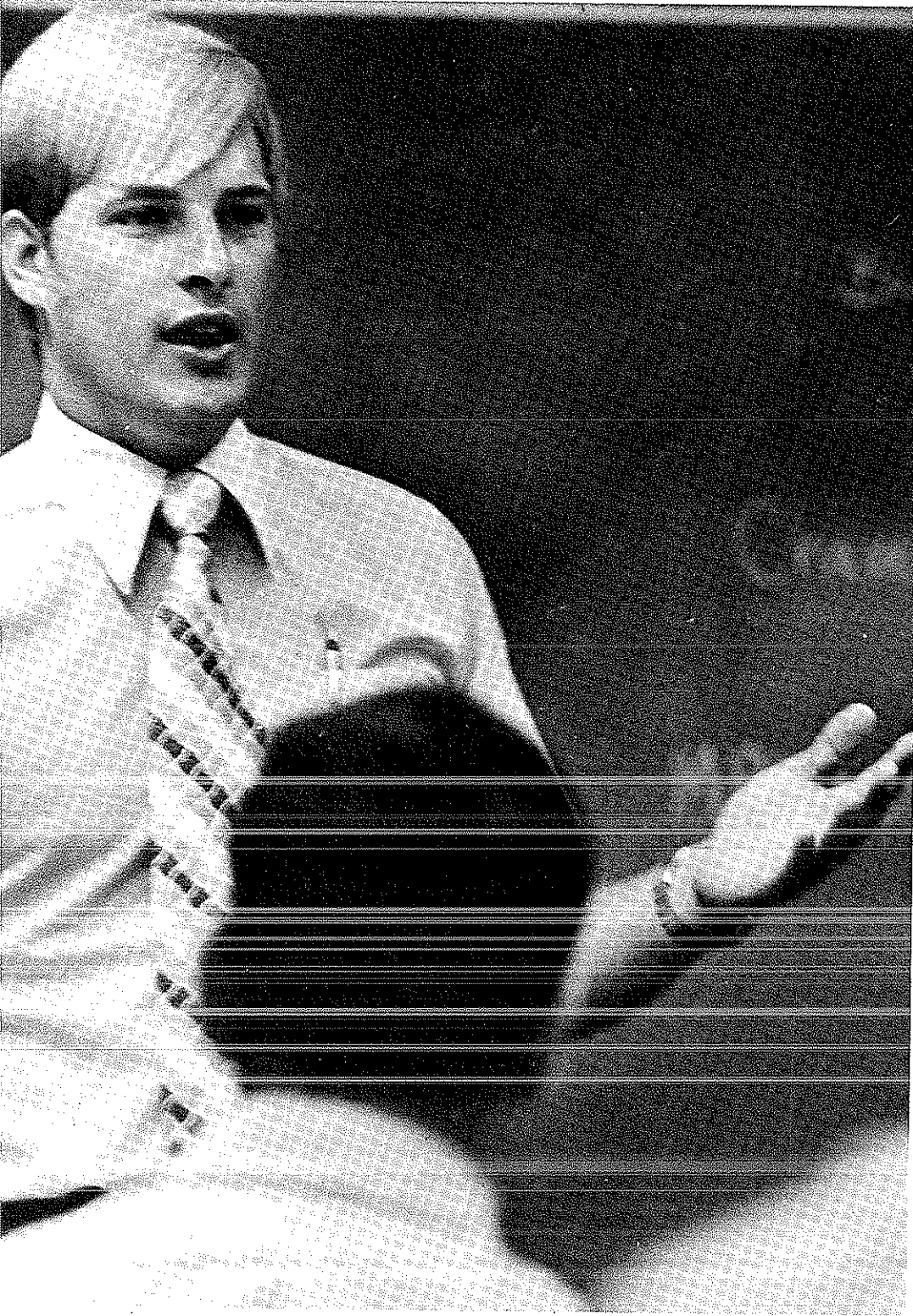
## *COURSES NO LONGER TAUGHT*

AG118U	Ag. Equipment Operation
MM041V	Heavy Industrial Arc Welding
MM042V	Basic Arc Welding
CS005U	Park Design and Construction
AG119U	Park Landscape
AG120U	Landscape Drawing
AG121U	Field Production of Nursery Stock
AG122U	Turfgrass Varieties
AG123U	Park Building and Facilities
AG124U	Elem. Forest Surveying
AG125U	Horticulture Science III
AG126U	Applied Natural Resources
AG127U	Container Growing of Nursery Stock
CH008U	Plant and Insect Chemicals
AG129U	Plant Propagation Practices III
AG130U	Soil Properties
AM011U	Parks and Recreational Management
AM010U	Supervisory Development
AG132U	Horticulture Science
AG133U	Special Projects I
AG134U	Special Projects II
AG135U	Animal Health Production
AG136U	Feed and Fertilizer Service
AG137U	Grain Grading and Handling
CH004U	Herbicides
AG128U	Weed Science
AG138U	Soils and Fertility
AG139U	Soil Conservation Techniques
AG140U	Grounds Maintenance
AG141U	Horticulture Science I
AG142U	Horticulture Equipment II
AG143U	Parks and Recreation Development
AG144U	Ag. Analysis

AG145U	Advanced Farm Lab.	AG007V	Plant Structure and Growth
AG146U	Applied Crop Production	AG008V	Plant Pathology
AG147U	Crop Production Analysis	AT005V	Basic Floral Designing I
AG148U	Livestock Husbandry	AT006V	Basic Floral Designing II
AG149U	Applied Livestock Husbandry	AT007V	Basic Floral Designing III
AM014U	Advanced Enterprise Analysis	MM043V	Sheet Metal Arc Welding
AG150U	Livestock Nutrition	AT005U	Fashion Design
AG151U	Ag. Survey	MV026T	Fundamentals and Harmony I
AM016U	Adv. Farm Mgt.	MU028T	Ear Training and Sight Singing II
AM017U	Ag. Business Mgt.	MU027T	Fundamentals and Harmony II
MK035U	Agribusiness Sales	MU029T	Ear Training and Sight Singing II
AG154U	Crops Enterprise	MU030T	Ear Training and Sight Singing III
AG155U	Beef Enterprise	MU031T	Fundamentals of Music
AG156U	Dairy Enterprise	MU032T	Applied Music:
AG157U	Farm Supply Enterprise		Instrumental Techniques
AG158U	Sheep Enterprise	GR013V	Graphic Arts Laboratory I, II, III, IV
AG159U	Swine Enterprise	GR014V	Graphic Arts Related I, II, III, IV
AG160U	Adv. Swine Enterprise	AM032T	Introduction to Business
AG152U	Land Use & Conservation	AM033T	Trends in Retailing
AG161U	Adv. Farm Supply Enterprise	MK003V	Fundamentals of Salesmanship
AG162U	Adv. Sheep Enterprise	LW002V	Applied Business Law
AG163U	Adv. Dairy Enterprise	MA018T	Intermediate Algebra 3A
AG164U	Adv. Crop Enterprise	MA019T	Intermediate Algebra 3B
AG165U	Adv. Beef Enterprise	MA020T	Modern College Mathematics
AG153U	Nursery Stock Production	OE017V	Machine Shorthand IV
MA019U	Slide Rule	OE018V	Machine Shorthand III
EL004U	Special Projects	OE019V	Machine Shorthand II
EL007V	F.C.C. Rules and Regulations	OE020V	Machine Shorthand I
EL005U	Industrial Television Systems	OE021V	Office Procedures III
EL011U	Transient Circuit Analysis	OE022V	Clerical Procedures
EL023U	Electronics II	DP063U	360 Model 20 —
EL032U	Electronics I	DP064U	Card-Tape-Disk Projects I
EL036U	Modulation and Detection Systems	DP065U	Card-Tape-Disk Projects II
EL037U	Instrumentation	DP004V	Automated Testing
EL038U	Microwave Systems Analysis	EV017V	Projects Lab & Field
AG005V	Plant Entomology	AC009V	Bookkeeping I
AG006V	Reproduction of Plants	PD002V	Personal Development

DN124V	Dental Assisting Seminar	DP069U	Tape-Disk Report Program Generator
AC010V	Dental Bookkeeping I	MK036U	Retail Marketing Laboratory
PY005V	Psyc. of Human Relations	MK037U	Fashion Buying
OE013T	Records Management	DP070U	Unit Record Data Processing III, IV, V
OE008U	College Shorthand V	DP071U	Numerical Control of Production I, II
OE023V	Typing Skill Development	DP072U	Symbolic Programming
AC010U	Accounting Procedures	DP073U	Card System Programming
AC011U	Retail Accounting	DP074U	Unit Record Projects
AC011T	Elementary Cost Accounting II	DP075U	Unit Record Operating Technique
AC012T	Elementary Cost Accounting I	DP076U	Tape Disk Concepts
OE024V	Dental Typing	DP077U	Tape Disk Applied Programming
AC012U	Accounting Laboratory	PP078U	On-the-job Experience
MS027U	Introduction to Medical Science OPA	CM001D	Discussion and Communication
DP066U	Related Equipment II	LT001D	American Arts I
DP067U	Office Automation	CM113T	Rhetoric I, II, III
DP068U	Documentative Graphics	CM209T	Oral Interpretation
EL039U	Transistor Circuit Analysis & Design — Second Half	MK038U	Agricultural Product Sales
EL040U	Transistor Circuit Analysis & Design — First Half	TH017V	Remotivation Technique
PL026T	Hispanic Civilization III	TH018V	Evaluation and Development in the Clinical Affiliation
MA020U	Merchandise Mathematics	AG169U	Technical Agriculture II
AC013U	Ag. Tax Accounting	AG170U	Introductory Animal Science
AG166U	Employment Experience	AG171U	Agricultural Sciences Applied I
AG167U	Employment Experience II	AG172U	Agricultural Sciences Applied II
EC004U	Ag. Economics I	AG173U	Agricultural Sciences Applied III
EC005U	Ag. Economics II	AG174U	Principles of Agronomy
PS001U	State and Local Government	AG175U	Horticulture Science I
SO002U	Rural Sociology	AG176U	Horticulture Science II
MA021U	Ag. Math	AG177U	Horticulture Science III
AG168U	Ag. Equipment Management	AG178U	Animal Science Specialty Option Advanced Livestock Sciences I
AC014U	Principles of Accounting	AG179U	Animal Science Specialty Option Advanced Livestock Sciences II
AG009V	Commercial Flower Forcing I	AG180U	Animal Science Specialty Option Advanced Livestock Sciences III
AG010V	Commercial Flower Forcing II	AG181U	Animal Science Specialty Option Advanced Livestock Sciences IV
AG011V	Commercial Flower Forcing III		
DN125V	Dental Assisting II (DA)		
DN126V	Dental Science (DA)		

AG182U	Farm Crop Production Specialty Option Advanced Soil Management I	AG196U	Business Management II Farm Management and Operation Specialty Option/Advanced Farm Business Management III
AG183U	Farm Crop Production Specialty Option Advanced Soil Management II	AG197U	Farm Management and Operation Specialty Option/Advanced Farm Business Management IV
AG184U	Farm Crop Production Specialty Option Advanced Soil Management III	BY019T	General Botany I
AG185U	Farm Crop Production Specialty Option Advanced Soil Management IV	BY020T	General Botany II
AG186U	Agricultural Products Specialty Option Advanced Business Management I	BY021T	General Zoology I
AG187U	Agricultural Products Specialty Option Advanced Business Management II	BY022T	General Zoology II
AG188U	Agricultural Products Specialty Option Advanced Business Management III	BY023T	General Zoology III
AG189U	Agricultural Products Specialty Option Advanced Business Management IV	AL041U	Transistor Circuit Analysis
AG190U	Agricultural Facility Mechanization Specialty Option/Advanced Farmstead Arrangement and Equipment I	EL042U	Communications Electronics III
AG191U	Agricultural Facility Mechanization Specialty Option/Advanced Farmstead Arrangement and Equipment II	EL043U	Advanced Electronic Problems II
AG192U	Agricultural Facility Mechanization Specialty Option/Advanced Farmstead Arrangement and Equipment III	EL044U	Advanced Electronic Problems III
AG193U	Agricultural Facility Mechanization Specialty Option/Advanced Farmstead Arrangement and Equipment IV	EL045U	Electrical Machines
AG194U	Farm Management and Operation Specialty Option/Advanced Farm Business Management I	MM003U	Machine Shop and Welding Processes
AG195U	Farm Management and Operation Specialty Option/Advanced Farm	MM044V	Metallic Arc Welding Laboratory I
		MM045V	Metallic Arc Welding Laboratory II
		MM046V	Combination Welding Laboratory I
		MM047V	Combination Welding Laboratory II
		MM048V	Combination Welding Related I
		MM049V	Combination Welding Related II
		GR015V	Delineation and Model Making
		GR016V	Technical Drawing
		GR017U	Engineering Drawing IV
		MA022U	Mathematics IIC
		MM050V	Metallic Arc Welding Related I
		MM051V	Metallic Arc Welding Related II



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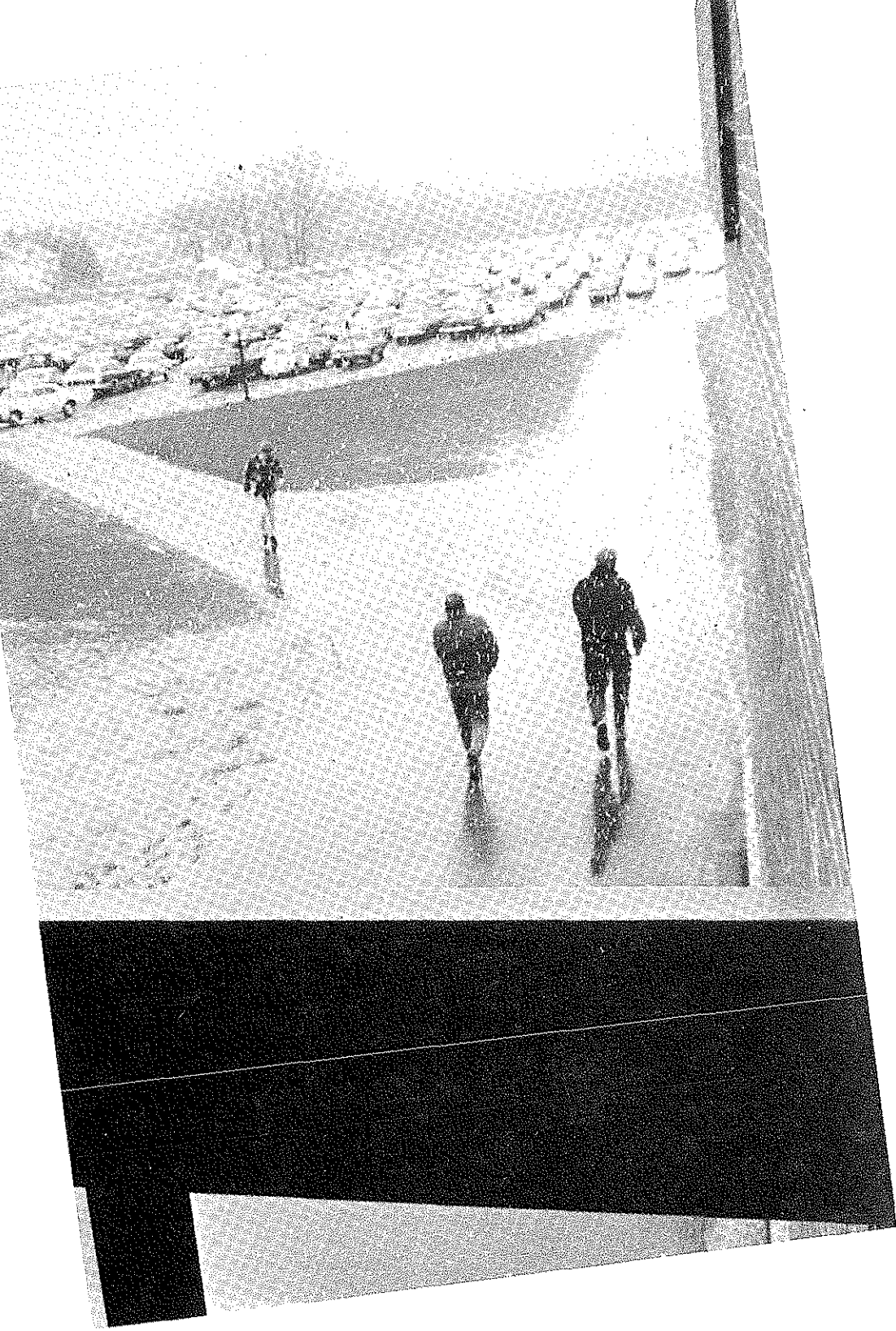
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