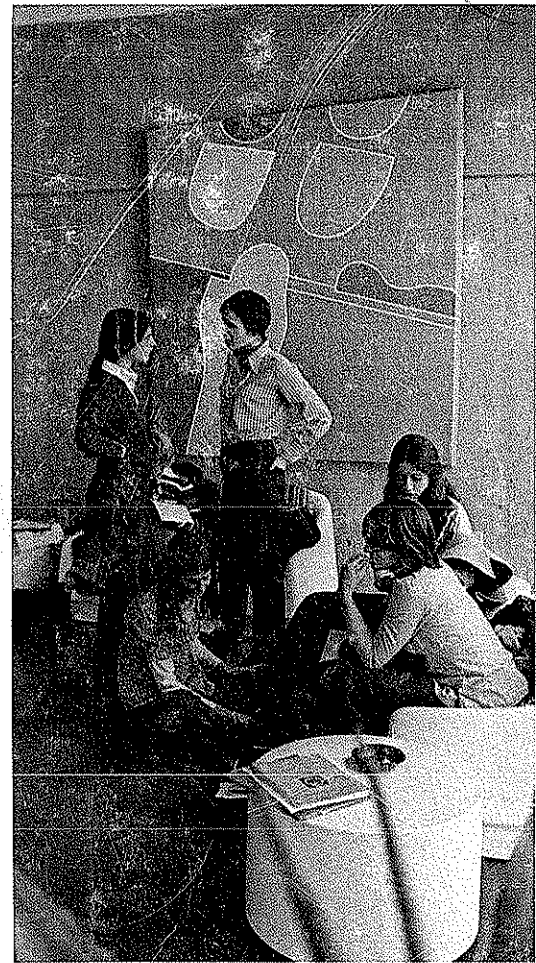
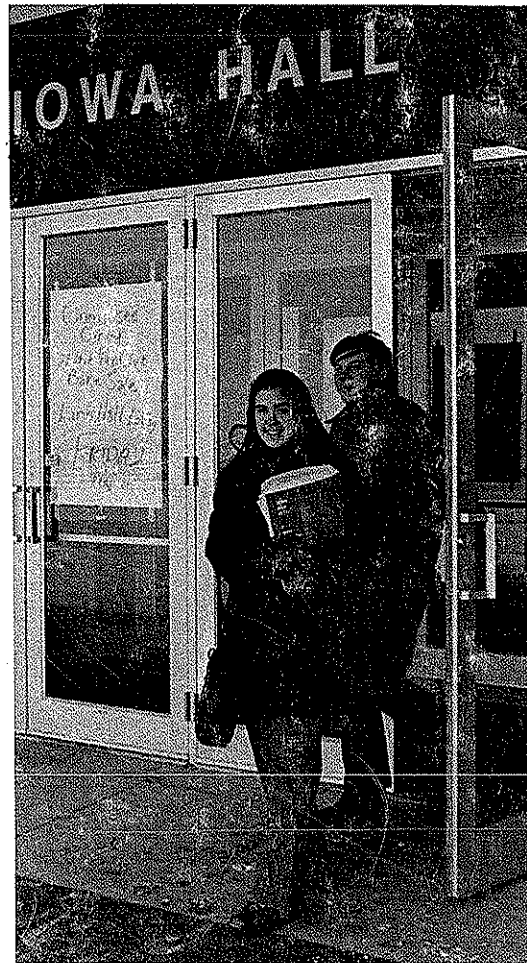
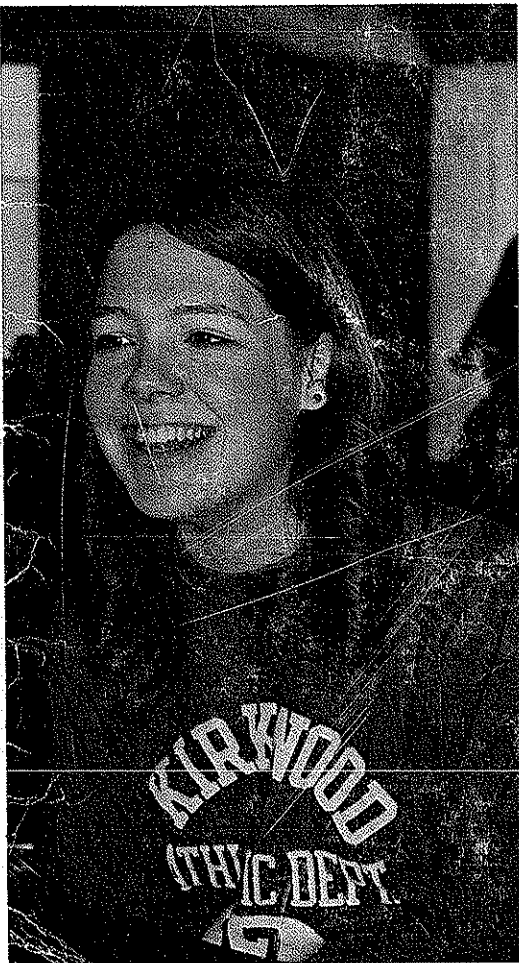


Do not take from dusk

KIRKWOOD COMMUNITY COLLEGE 1975-76

cedar rapids, iowa





**KIRKWOOD
COMMUNITY
COLLEGE
1975-76
CATALOG**



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

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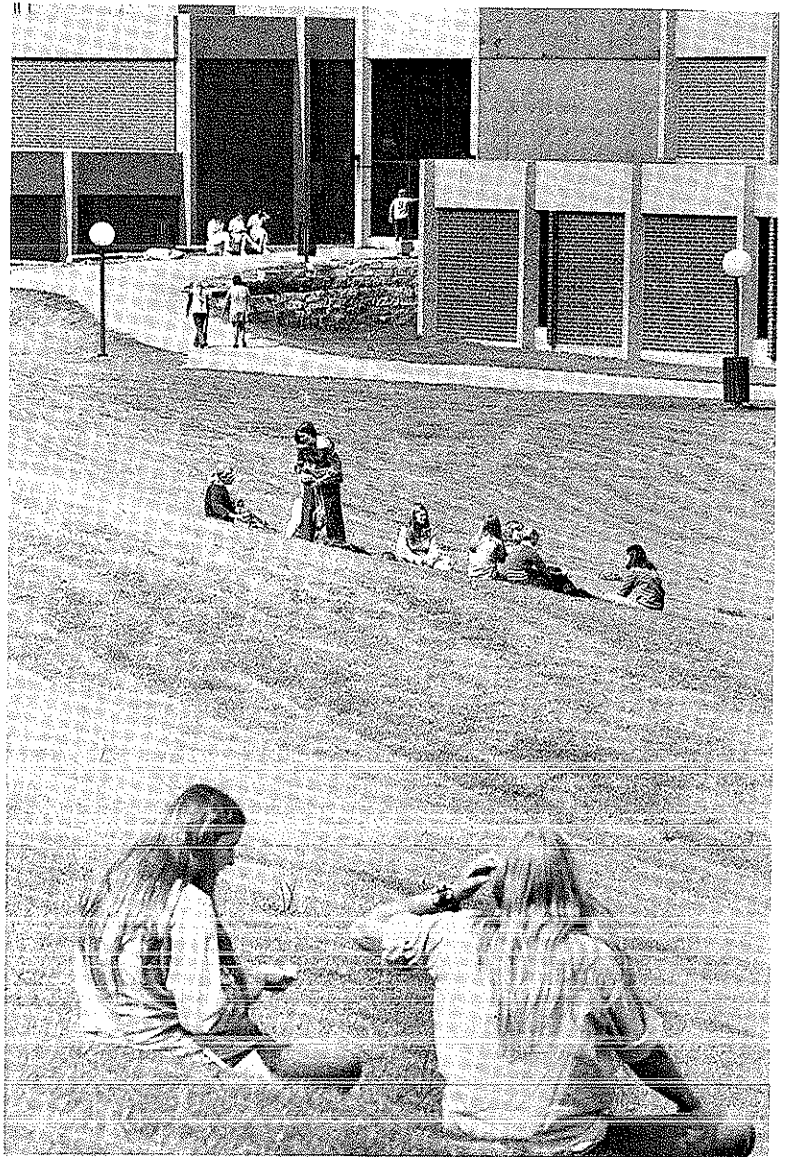
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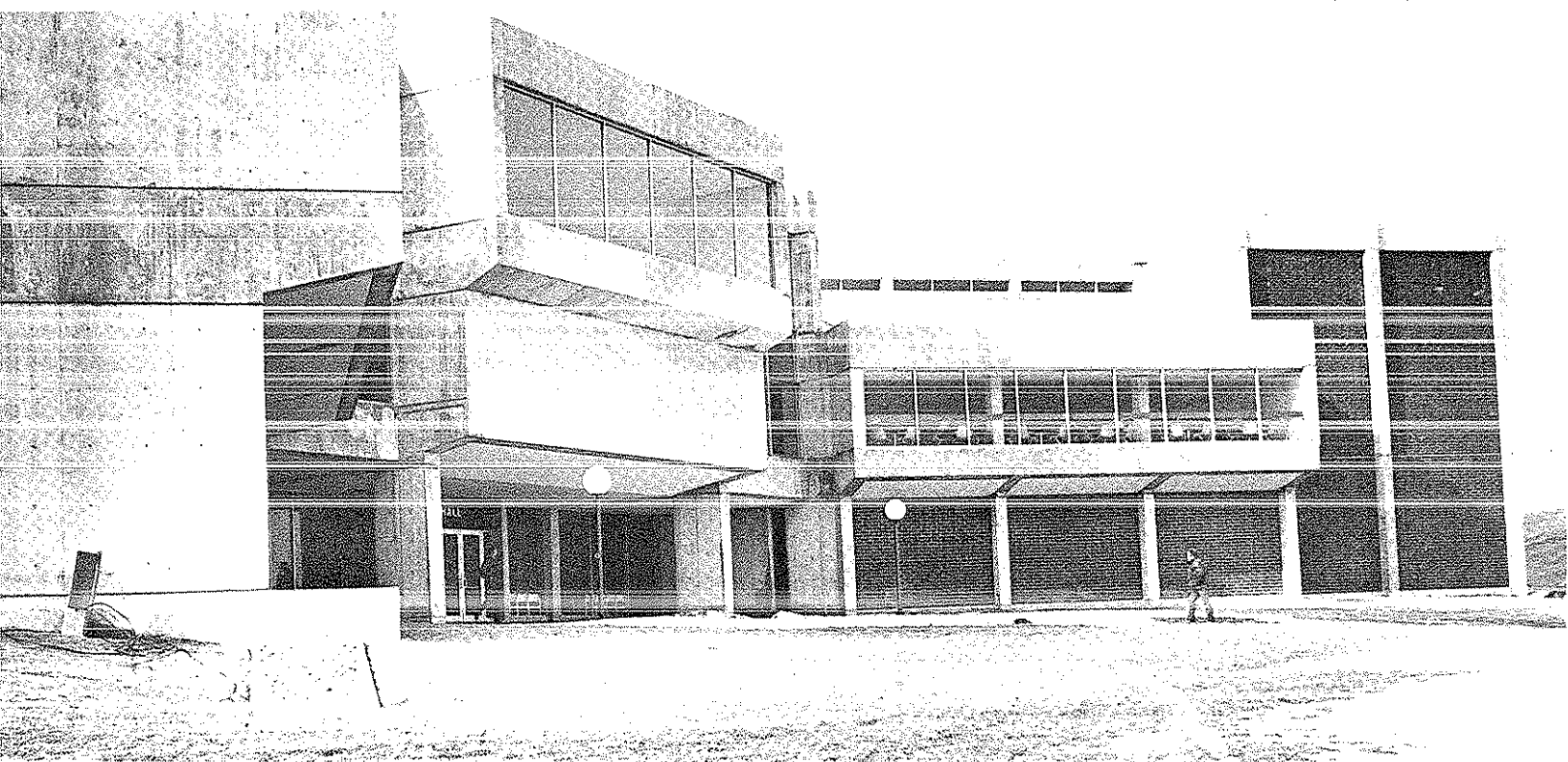
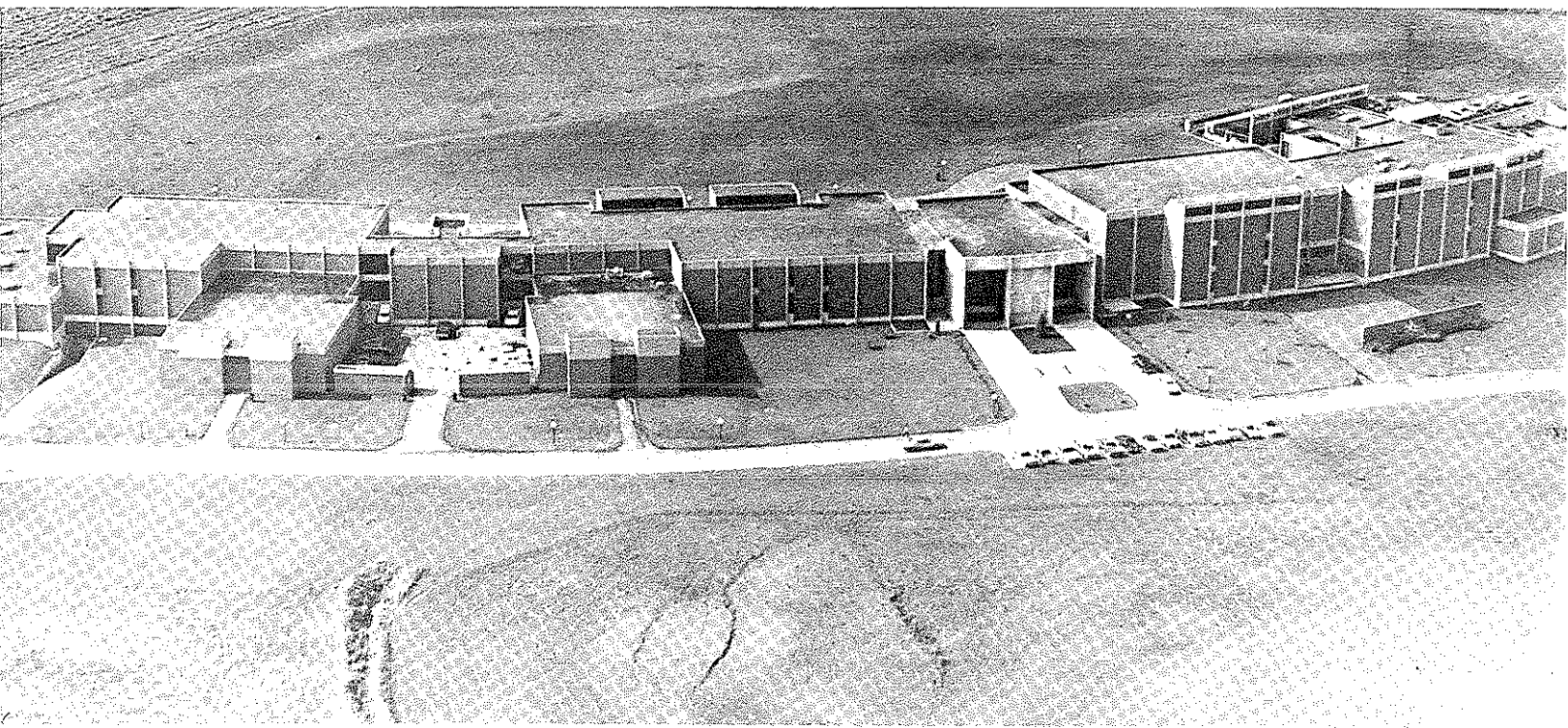
ii BOARD OF DIRECTORS



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SUPERINTENDENT'S MESSAGE

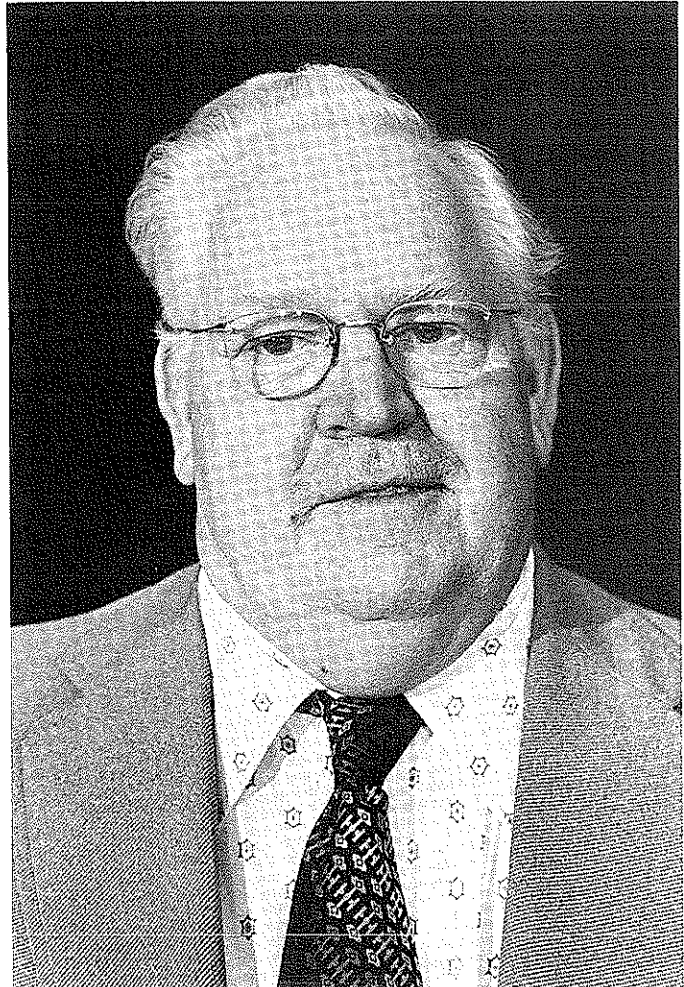
The institution described in the following pages is but one example of a rapidly developing educational movement, the two-year comprehensive community college.

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

Summer 1975

June 4	Registration
June 5	Classes Begin
June 11	Last day to register late or add classes
July 4	College Holiday, no classes, offices closed
August 20	Last day to drop classes
August 27	Quarter Ends
August 30	Commencement

Fall 1975

August 28, 29	Registration
September 2	Classes Begin
September 1	College Holiday, no classes, offices closed
September 8	Last day to register late or add classes
October 27	College Holiday, no classes, offices closed
November 17	Last day to drop classes
November 24	Quarter Ends

Winter 1975-76

November 27, 28	College Holiday, no classes, offices closed
November 25, 26	Registration
December 1	Classes Begin
December 5	Last day to register late or add classes
December 22 through January 2	Student Recess Days
December 25	College Holiday, offices closed
January 1	College Holiday, offices closed
February 16	College Holiday, no classes, offices closed
February 25	Last day to drop classes
March 3	Quarter Ends

Spring 1976

March 4, 5	Registration
March 8	Classes Begin
March 12	Last day to register late or add classes

April 12
through
April 16
April 16
May 27
May 31
June 4
June 5

Student Recess Days
College Holiday, offices closed
Last day to drop classes
College Holiday, no classes, offices closed.
Quarter Ends
Commencement

Summer 1976

June 7	Registration
June 8	Classes Begin
June 14	Last day to register late or add classes
July 5	College Holiday, no classes, offices closed
August 20	Last day to drop classes
August 27	Quarter Ends
August 28	Commencement

Fall 1976

August 30, 31	Registration
September 1	Classes Begin
September 6	College Holiday, no classes, offices closed
September 8	Last day to register late or add classes
October 25	College Holiday, no classes, offices closed
November 17	Last day to drop classes
November 24	Quarter Ends

Winter 1976-77

November 25, 26	College Holiday, no classes, offices closed
November 29, 30	Registration
December 1	Classes Begin
December 7	Last day to register late or add classes
December 23 through January 2	Student Recess Days
December 24	College Holiday, offices closed
December 31	College Holiday, offices closed
February 21	College Holiday, no classes, offices closed
February 23	Last day to drop classes
March 2	Quarter Ends

Spring 1977

March 3, 4 Registration
March 7 Classes Begin
March 11 Last day to register late or add classes
April 4
through
April 8 Student Recess Days
April 8 College Holiday, offices closed
May 5 Last day to drop classes
May 30 College Holiday, no classes, offices closed
June 2 Quarter Ends
June 4 Commencement

Summer 1977

June 3 Registration
June 6 Classes Begin
June 10 Last day to register late or add classes
July 4 College Holiday, no classes, offices closed
August 19 Last day to drop classes
August 26 Quarter Ends
August 27 Commencement

Fall 1977

August 29, 30 Registration
August 31 Classes Begin
September 5 College Holiday, no classes, offices closed
September 7 Last day to register late or add classes
October 24 College Holiday, no classes, offices closed
November 16 Last day to drop classes
November 23 Quarter Ends

Winter 1977-78

November 24, 25 College Holiday, no classes, offices closed
November 28, 29 Registration
November 30 Classes Begin
December 6 Last day to register late or add classes
December 23
through
January 2 Student Recess Days
December 26 College Holiday, offices closed
January 2 College Holiday, offices closed
February 20 College Holiday, no classes, offices closed

February 22
March 1

Last day to drop classes
Quarter Ends

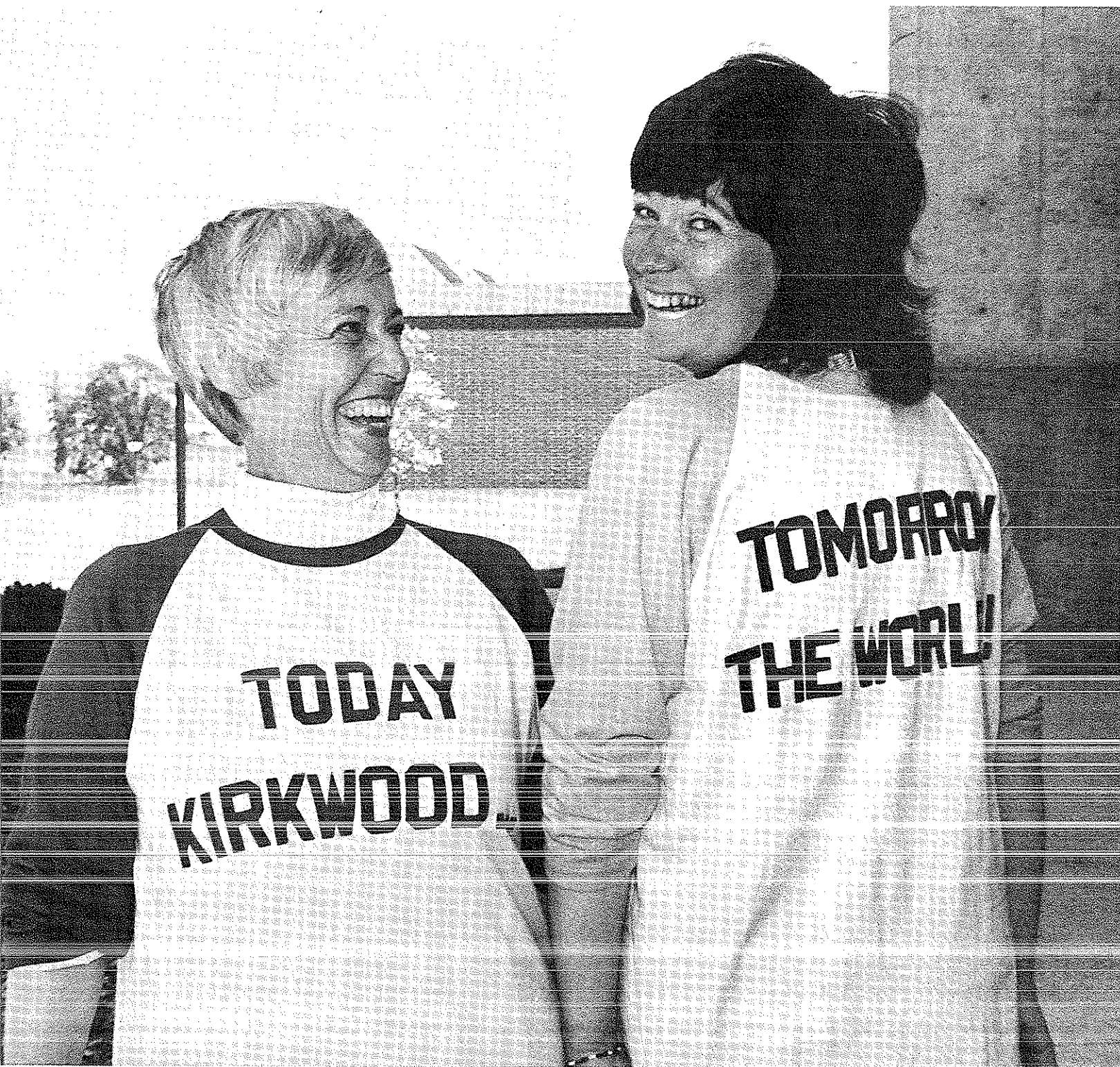
Spring 1978

March 2, 3
March 6
March 10
March 20
through
March 24
March 24
May 24
May 29
June 1
June 3

Registration
Classes Begin
Last day to register late or add classes

Student Recess Days
College Holiday, offices closed
Last day to drop classes
College Holiday, no classes, offices closed
Quarter Ends
Commencement





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.

Soon after, Wednesday College and Future College were developed through the 2-3-2 program. 2-3-2 means a student may finish two years of college in 3 years by taking 2 classes each quarter.

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.

MISSION AND PURPOSES

Merged Area Ten represents an emerging socio-political-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. Specifically, 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 the 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

tion 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. Programs are approved for veterans.

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 Kirk-

wood. It provides a voice to the board, administration and faculty for former students.

The Alumni Council and its Executive Board, consisting of representatives from the seven county area as well as representatives from Iowa and the Nation, strive not only to assist Kirkwood but to enhance the personal growth of all alumni. Chapters are based on the county level with individual program chapters in the process of forming. 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 and 2 large multi-purpose rooms.

The building houses over 40 full-time vocational-technical offerings plus science and foreign language laborato-

ries and classrooms. Some day and evening adult education classes are also offered in Linn Hall.

Iowa Hall, completed in January of 1975, is the second permanent building on the Kirkwood Campus. It contains the college bookstore, coffee house, student work areas, conference rooms, cafeteria, multi-purpose rooms, lounges, study areas, and the Student Affairs Office.

Twenty-two relocatable buildings are being used on a site east of and within walking distance of the permanent buildings. The TXC or transitional campus contains classrooms, laboratories, the learning resource center, offices and a student lounge 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, and also at the Learning Center in Iowa City and Cedar Rapids.

In addition, some 75 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.

The farm programs on campus are located on the south side of the campus. The buildings include Agri-business and Natural Resources offices, Agricultural Building Structures program, Horse Husbandry program (including

barn, stall, and arena), farrowing houses, feed lots, and feed mixing laboratory.

LEARNING RESOURCE CENTER

The Learning Resource Center (LRC) 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.

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

BOOKSTORE

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

Besides maintaining a sufficient supply of textbooks needed for all courses at Kirkwood Community College, the bookstore carries a full complement of supplies, soft goods, 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 the end of each quarter during final week for several days. He will buy back those books being dropped from course schedules, providing no new edition is pending and providing the book has a market value.

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







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.

Future College

Future College is an Arts & Science program for mature persons interested in non-traditional approaches to college education providing a type of instruction which allows for self-study, small group projects and small group discussions covering areas in social science, humanities,

and science. Three instructors lead the student groups of approximately thirty students in a series of learning experiences which allow a maximum amount of student participation and direction. Students can earn 12 credit hours per quarter for three quarters. *Students exempt from general educ requirements if took all 36 2-3-2 of future college*

2-3-2 is an Arts & Science program designed for men and women, who due to work or family commitments, cannot begin or continue college on a full-time basis. 2-3-2 enables a student to obtain the first two years in just three years by taking two classes each quarter. Classes offered in the evenings, on Wednesdays or in the regular daytime program provide students with a variety of options for their 2-3-2 program.

Wednesday College

Wednesday College makes it possible for a student to attend classes just one day a week and still achieve a 2 year degree in 3 years. Wednesday College has proven to be very popular with housewives, retired persons, and working men and women who can only attend college part-time.

Evening Programs

Evening classes begin at 5:30 p.m. on one, two, or three day formats allowing for a maximum of flexibility in planning schedules. Some classes meet on Saturday mornings and a number of college credit courses are offered off-campus.

Cooperative Education

Cooperative Education is an optional program used for career exploration, verification, and in-depth employment experience. A suggested sequence includes a Human Potential course to emphasize individual strengths, a Career Decision Making course to understand personnel and career field requirements, followed by Cooperative

Education employment periods to verify career aims and optimize the overall academic program.

Czech Heritage Grant

Kirkwood recently received a grant from the United States Office of Education to produce K-14 student materials on Czech culture and to identify a general curriculum model which may be applicable in any ethnic education programs. The materials will be introduced in public schools and college classrooms in September of 1975.

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.

United States Air Force — Aerospace Studies (AF)

The Air Force ROTC program provides education that will develop skills and attitudes vital to the professional Air Force Officer. Emphasis is given to individual development and leadership qualities, and this training supplements the student's college work.

AFROTC courses may be taken by any Kirkwood student even though not enrolled in the AFROTC program; however, permission of the instructor is required for administrative purposes. Note, also that AFROTC courses are offered only in the Fall and Winter Quarters. No freshman year classroom courses are offered during the Fall Quarter.

Any student who desires an Air Force commission upon graduation should direct their questions to the Department of Aerospace Studies, Coe College, Cedar Rapids, Iowa, phone 364-1511, ext. 311. There are special examinations, a scholarship program, allowances, and off-campus activities which are important to prospective cadets.

VOCATIONAL-TECHNICAL

The college offers programs varying in length from several weeks to two years in the vocational-technical areas. Some 55 different programs in the areas of data processing, health, agriculture, home economics, environment, 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.

Opportunities available at Kirkwood Community College include individual and group instruction in basic learning skill areas, e.g., reading, writing, speaking, studying and mathematics. 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

Servicemen's Opportunity College (SOC)

Kirkwood Community College is one of nearly 250 two and four-year institutions which are designated as Servicemen's Opportunity Colleges. These institutions have recognized the needs of servicemen and women and have responded in a like fashion. An educational network has been established to allow servicemen and women to move from random educational efforts into program-completion efforts. It allows maximum coordination of opportunities among institutions and creates an educational environment which understands and assists the mobile serviceman.

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 preparing individuals for work. Kirkwood provides academic training for participants.

Environmental Protection Agency

Through the Environmental Protection Agency, Kirkwood has conducted a number of federally funded grant programs in environmental education.

These programs included 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 grants from the Environmental Protection Agency, Kirkwood has sponsored a number of Workshops for people in environmental occupations.

Kirkwood presently has programs in environmental education for servicemen at military bases in Panama.

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.

Community Services

Kirkwood has become a center of community life by encouraging community use of its professional leadership capabilities, its facilities and services.

Examples of services newly initiated include the Area Agency on Aging and its component programs, SEATS, I&R, Congregate Meals, Legal Assistance, Employment Service, and the Office of Retirement Opportunities. Opportunities for volunteer activities have become extensive with programs including VISTA, SHARE, and the Kirkwood Community College Year for ACTION which coordinated

manpower to attack the problems of the low-income, handicapped, and elderly.

Other community services include the annual "kiddy" farm tours, the summer fair program, human potential lab counseling, environmental consulting, specialized veterans assistance and counseling and a variety of workshops.

Individually, staff members and students are anxious and willing through the Kirkwood Speakers Bureau or through membership or advisory work with community organizations to assist where service is needed.

COMMUNITY EDUCATION

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. Among the varied programs are these general areas:

1. General Interest and Recreation Classes
2. Adult Basic Education
3. High School Completion
4. Supplementary Vocational
5. Correspondence Studies
6. Institutional programs
7. Transfer credit
8. Management Development
9. Career Programs for Secondary Schools
10. Retirement Education

OREO (Office of Retirement Education Opportunities)

The role of the Office of Retirement Education Opportunities is to make educational programs more accessible for the person of retirement age. This office is a part of the Kirkwood Community Education Division and is also affiliated with the Area X Agency on Aging.

Through this program, the following special opportunities are available for retired persons who are 60 or over.

1. Enrollment in Kirkwood Arts and Sciences or Vocational-Technical classes at a reduced tuition rate.
2. Enrollment in all other courses offered through the Kirkwood Community Education Division for \$1.00 per course tuition charge.
3. Access to speakers on any topic of interest for meetings of retirement groups.
4. Short courses on topics of interest to local groups for a nominal fee.
5. Access to trips and tours sponsored by OREO.
6. Reception of a monthly newsletter relevant to the informational and educational needs of older adults.
7. Access to Health Maintenance Education classes offered throughout Area X.

General Interest Classes

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 Community Education provides.

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

Adult Basic Education

This area of learning is designed to help persons improve their basic academic skills and 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 a G.E.D. 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. Learning centers are open during the daytime hours in Cedar Rapids, Iowa City and Washington. They provide an individualized program over a broad range of high school subjects. The learning centers provide an alternate course of study for young students who have experienced difficulty with the traditional systems of education. In addition they serve the older students who find daytime classes more convenient.

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 locations 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.

KEY

Kirkwood Exploration-Experience-Exposure for Youth enrolls high school students in introductory-level vocational classes near their homes. They offer experience in auto mechanics, health occupations, data processing, welding and agribusiness.

Management Development

The Management Development Programs are designed to develop and improve management skills for those persons currently in management or those seeking advancement into supervisory positions. The programs provide an extensive selection of general and technical management courses offered on either a credit or non credit basis.

Correspondence Studies

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

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

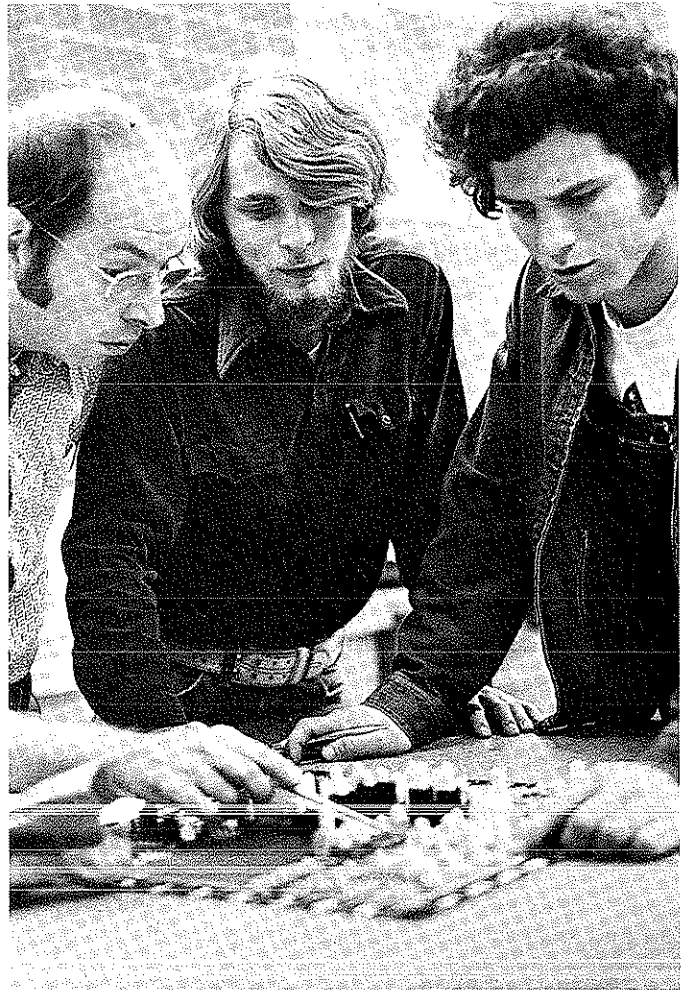
Institutional Programs

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, and Halfway Houses.

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.







STUDENT SERVICES

ADMISSIONS AND RECORDS

The Office of Admissions and Records is located in Linn Hall, 6301 Kirkwood Boulevard S.W. 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 for 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. Students will be admitted to programs without regard to race, color, creed, or national origin.

Generally 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

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

Arts & Sciences

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

- 1) Application Form
May be obtained from the Admissions Office.
- 2) Application Fee
A fee of \$15 must accompany all application forms which are completed and returned. This is a non-refundable processing fee and does not apply toward tuition.
- 3) High School Transcript
Each prospective student should request his high school counselor or principal to send his final high school transcript to the Office of Admissions.
- 4) Health Certificates
The completed health exam is not required until after a student has been notified of acceptance and should be sent to the student health center.

Vocational-Technical

Kirkwood has a "rolling" admissions policy. Soon after all admissions materials are received, an applicant will be given an admissions decision.

- 1) Application Form
May be obtained from the Admissions Office.
- 2) Application Fee
A fee of \$15 must accompany all application forms which are completed and returned. This is a non-refundable processing fee and does not apply toward tuition.
- 3) High School Transcript
Each prospective student should request his high school counselor or principal to send his final high school transcript to the Office of Admissions.
- 4) Health Certificates
The completed health exam is not required until after a student has been notified of acceptance and should be sent to the student health center.
- 5) Personal Interview
A personal interview is required before a student can be admitted to most of the vocational-technical programs. Upon the receipt of all materials, applicants will be asked to schedule a personal interview as appropriate for the program for which they are applying.

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

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 and course offerings.

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, competencies demonstrated through High School Equivalency Certificate (G.E.D.) testing; work experience, military training; and industrial training programs.

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**

\$145.00 per 12 week quarter

Part-time study**

\$13.00 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**

\$217.50 per 12-week quarter.

Part-time study**

\$14.50 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.

*Tuition & Fees are subject to change at any time.

**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 spe-

cial 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 adult 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 \$20.00 for each course. Books and other materials are provided free of charge. Expendable items must be paid for by the individual student.

Students may enroll in the class at any time during the quarter. There is no registration fee.

General Interest Classes

Tuition for general interest 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.

Full-time Kirkwood Student's Privilege

General interest classes that operate with at least eight full tuition paying students are free to full-time Kirkwood students.

Correspondence Courses (High School)

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

*Tuition and fees are subject to change at any time.

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 \$13.00 per credit hour, part-time and \$145.00 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.

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

Most financial aid programs exist to make possible a college education for qualified students. 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.

Basic Educational Opportunity Grants

The Basic Educational Opportunity Grants is a new program for full-time students enrolling in an eligible program at an eligible college, university, vocational or technical school. The student must not have had any post-high school education prior to April 1, 1973.

The amount of your Basic Grant is determined on the basis of your family's financial resources. The application for the BEOG may be obtained from your high school counselor or the Financial Aids office of the college.

Supplemental Educational Opportunity Grants

Supplemental 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. Supplemental 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 offered.

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 20 hours weekly while classes are in session, and up to 40 hours during weeks when no classes are scheduled. In general, the basic pay rate is minimum wage.

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.

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.

Link-Belt Speeder Vocational-Technical Loan Fund

The Link-Belt Speeder Vocational-Technical Student Loan Fund is a source of interest free loans for basic educational needs for Kirkwood students meeting the following qualifications: (1) Loan recipients must be enrolled in one of the following courses of study; accounting-book-keeping, clerical training, data processing, drafting and design technology, machine shop, mechanical technology, practical nursing, secretarial training, and welding; (2) they must show financial need; (3) they must make satisfactory progress while in school; and (4) they must maintain a good citizenship record while in school. Repayments follow standards established by the school, and the acceptance of the student by Link-Belt Speeder, or vice versa.

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.

Scholarships

Some selected individual scholarships are available through the college. Notification will be made to students of this type of financial aid when individual applications are processed by the Financial Aids Office. Most scholarships cover tuition costs only.

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 several locations on campus. Students in all programs have access to counseling services, including those students enrolled in evening classes. In addition to providing services to enrolled students, counseling is available to potential applicants to the college during the normal business hours, evenings and Saturday mornings.

Human Potential Laboratories are a recent innovation in the Counseling Department. The laboratories are led by a member of the professional counseling staff and carry two hours of pass-fail transfer credit. Some students may find it advantageous to enter one of the labs prior to or concurrently with enrollment in a regular academic program. The laboratories are based on the principle that everyone operates with underdeveloped strengths, and that 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 available housing from the Student Affairs Office, visiting facilities, and reaching agreement with the householder concerning rental, house policies, privileges and responsibilities. If at all possible, students should arrive 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 invited 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.

Health Service

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

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 hand-

books 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 an 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 Iowa 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 The Coffee House and in Linn Hall 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 Head 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.

Publications

— Student Newspaper

Communique, a weekly community college newspaper, is written and edited by a student staff 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*, is also published by a student staff with the consultation of a faculty advisor. Any student interested in working on the staff should contact the 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 monthly 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

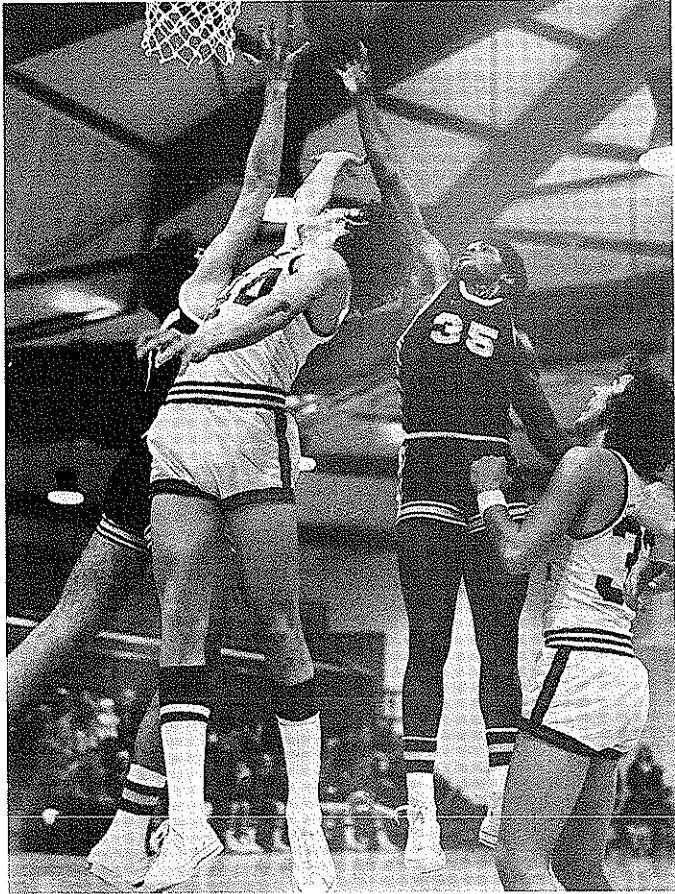
Every student is encouraged to participate in the intramural program. Intramural activities are founded upon the principle that participation in organized competitive activities contributes to the general physical development and social welfare of the students.

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

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 student groups is cleared through the Student Affairs Office.



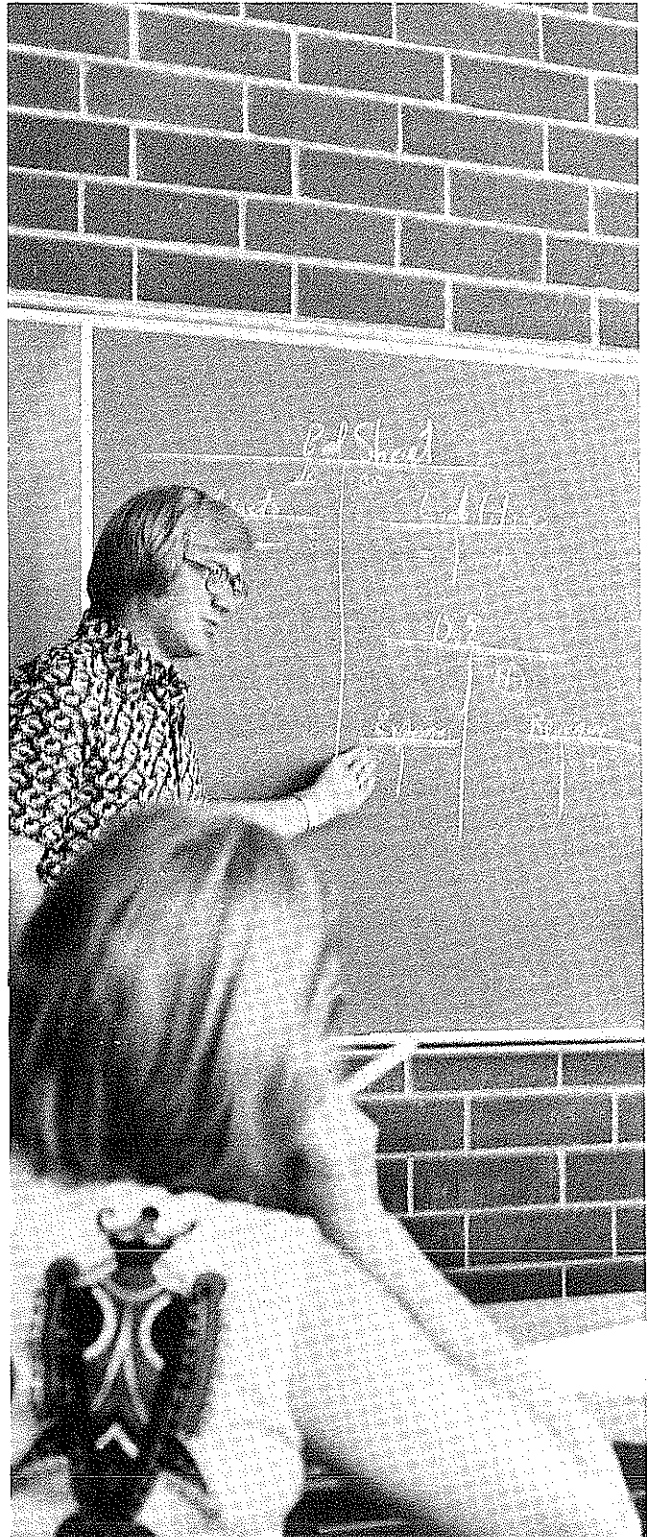
Intercollegiate

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

The College initiated an intercollegiate athletic program in the Spring of 1969, fielding teams in baseball and golf. Basketball, tennis and wrestling were 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 freshmen and junior varsity teams of 4-year institutions.

FOR information

WALK IN



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 Credit Programs.

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:

Definition

A	Excellent
B	Above Average
C	Average
D	Below Average
P	Passing-Credit
T	Credit by examination
E	Excused without credit
N	Audit
Q	No credit
W	Withdrew from course
I	Incomplete
X	Course repeated
L	Credit for prior education or experience
—	**Failing (8/26/72)
—	**Failure to withdraw (3/1/71)
—	**Irresponsible Audit (3/1/71)

discontinued grades — discontinuation date shown

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, L marks carry credit toward graduation only by authorization of the division director and/or department head.

Grade Reports

Grade reports are issued to students by their advisors approximately three weeks after the close of a quarter. Students who leave a stamped self-addressed envelope in the office of their advisor may have the grade report mailed to them. The college will not mail grade reports to students without a stamped, self-addressed envelope. Grade reports will not be given to friends without a written and signed request from the student. Grades will not be given out over the phone.

REPEATING COURSES

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

Students wishing to take advantage of this policy must file a notification with the 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.

Adds and Drops

Students may add a course, subject to the course load and tuition schedule elsewhere presented, at any time up to 4:00 p.m. of the fifth class day of a quarter or session.

Students may drop individual courses from their schedule any time up to 8:00 p.m. of the last drop day of the quarter or session as indicated in the official college calendar. After these times, students must remain in courses. Students who quit attending a class without officially dropping it will receive at the discretion of the instructor, an "I" or a "Q" grade.

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

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

A charge of \$2.00 for each "drop" and each "add" is assessed and must be paid at the time of making the change in registration.

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

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, circum-

stances 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 "Q" for all courses for the quarter.

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:

Time of Withdrawal	Percentage of Refund
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 of tuition. The time of withdrawal has no bearing on this refund provision.

Refunds due are computed based on the date completed withdrawal forms are received in the Office of the Registrar.

Student fees, course and program fees are non-refundable in the event of a student's withdrawal.

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 a "Q" 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.

CHANGE OF MAJORS

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



Filing a Graduation Application

Each student who plans to earn an associate degree, diploma, or certificate of program completion, must file a "graduation application" with the 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 in the quarter that 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 in ~~May~~ ^{MAY} and August. Students completing requirements in November or March are encouraged to participate in the ~~May~~ ^{JUNE} commencement exercises.

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 for transfer from other institutions are also included in the computation of grade-point-average for these honors.

Transcripts

Official transcripts are available through the Office of the Registrar. Students may pick them up there or request that they be mailed to another institution. Each transcript costs \$2.00 and must be paid for at the time it is requested.

Waiver of Regulations

Rules and regulations in this handbook have been adopted by the faculty, administration, and Board of Directors of the college. When a student finds that extenuating circumstances might justify the waiver of a particular college regulation, however, he may file a petition with the Director of Student Services, according to established procedures.

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 degree 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 Associ-

ate 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 accepted for transfer if from a properly accredited institution.
3. Decisions about the applicability of transfer courses toward Kirkwood requirements will be made by the 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.

*Policy on Acceptance of Vocational-Technical Credit
Toward Associate of Arts and Associate of Science Degrees*

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

1. All technical credits earned in resident coursework will be accepted and toward Associate of Arts or Associate of Science degrees. They

may not be used to satisfy core or general education requirements.

2. Any variation of these provisions in relation to the transfer (from another accredited Iowa Area School) or vocational-technical credits acceptable toward Kirkwood Associate of Arts or Associate of Science degrees will be decided in favor of the sending Area School's internal articulation policy provided that:
 - A. A statement of that Area School's policy on internal articulation of vocational-technical credits toward their own Associate of Arts and Associate of Science degrees is on file with the Registrar's Office at Kirkwood.
 - B. The sending Area School's transcript clearly indicates which vocational-technical courses are acceptable toward their Associate of Arts or Associate of Science degrees.

After application of technical credits, a student must complete the following requirements to receive an Associate of Arts or Associate of Science degree:

1. Satisfactorily complete all general education requirements established for the degree being sought: 8 credit hours in English Composition, 3 credit hours in Speech, and 8 credit hours in Humanities, Social Sciences, and Math-Sciences (30 credit hours in Math-Science for the Associate of Science degree).
2. Earn a minimum of the last 24 quarter credit hours of degree applicable coursework in residence in transfer-credit courses in the Arts & Sciences Division at Kirkwood and achieve a minimum grade-point-average of 1.80 on all such coursework.
3. Earn a minimum of 90 quarter hours of credit acceptable toward the Associate of Arts or Asso-

ciate of Science degrees (as defined under this and any other applicable policies of Kirkwood).

4. Earn a minimum cumulative grade-point-average of 1.80 on all coursework applied toward the degree sought. This cumulative grade-point-average will be computed using as many of the last earned technical credits as required to bring the degree applicable credit total to 90 quarter hours.

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:¹

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:¹

I Humanities	8 credit hours
II Social Sciences	8 credit hours
III Math-Science	30 credit hours

¹For 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 Kirkwood 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 dis-

tricts 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.

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 noncompliance.

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)

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

Pre-Art Education

	<i>Cr.</i>
I. Requirements of A.A. Degree ²	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

¹Any course coded "T" may be taken to complete the electives needed.

²A.S. and A.A. degrees require a minimum of 90 quarter hours each.

Pre-Commercial Art

	<i>Cr.</i>
I. Requirements of A.A. Degree ³	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

	<i>Cr.</i>
I. Requirements of A.A. Degree ²	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 Printmaking 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 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 members of the banking community and the East Central Iowa Chapter of the American Institute of Banking.

³Courses 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.

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

	<i>Cr.</i>
I. Requirements for A.A. Degree ²	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

	<i>Cr.</i>
I. Required Courses for A.A. Degree	35
II. Career Core	
Introduction to Broadcasting	4
Radio Reporting and Announcing	3
Radio and TV Production	4
Media Lab	2
Newswriting and Reporting	3
III. Recommended Related Courses ²	
Man and His Environment I, II, III	12
U.S. History I, II, III	12
American Federal Government	4
State and Local Government	4
World Politics	4
Economics I, II, III	9
Typing	3
Introduction to Business	4
Introduction to Literature I, II, III	12
Creative Writing	3
Journalism Courses	2-8

Pre-Business Administration

	<i>Cr.</i>
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 ²	
Principles of Insurance	3
Sociology	4
General Psychology	4
Principles of Selling	4
Quantitative Methods I, II, III	13

Pre-Dentistry

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
Invertebrate Zoology I, II	8
Vertebrate Zoology I, II	8
College Physics I, II, III	12
General Chemistry I, II	10
Organic Chemistry I, II	8
Math-Statistics	15
III. Recommended Related Courses ³	
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>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Precalculus I, II	10
Calculus I, II, III	14
Differential Equation I, II	9
Statistics	5
General Physics I, II, III	12
General Chemistry I, II	10
III. Recommended Related Courses ³	
Organic Chemistry I, II, III	12

Pre-English Education

	<i>Cr.</i>
I. Required Courses for A.A. Degree	35
II. Career Core ³	
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 ³	
French I, II, III	12
Spanish I, II, III	12
History	12
Introduction to Theatre	3
American Public Education	4
General Psychology	4
Psychology of Growth & Development	4
Educational Psychology & Measurement	4

Pre-Fisheries and Wildlife Biology

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
Invertebrate Zoology I, II	8
Vertebrate Zoology I, II	8
General Chemistry I, II	10
Math-Statistics	13
III. Recommended Related Courses ³	
Man and His Environment	12
College Physics I, II, III	12
Independent Study in Biology	1

Pre-Forestry

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
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	4
III. Recommended Related Courses ³	
Invertebrate Zoology I, II	8
Vertebrate Zoology	8
Economics and/or Government	4



*Pre-Government Service**

	Cr.
I. Required for A.A. Degree	35
II. Career Core ³	
American Federal Government	4
State and Local Government	4
World Politics	4
Human Geography	4
Principles of Economics (Micro and Macro)	8
III. Recommended Related Courses ³	
Select as many as possible from these courses.	
U.S. History	12
European History	12
Man and His Environment	12
Statistics	5
Introduction to Sociology	4
Social Problems	4
General Psychology	4
Personality and Social Psychology	4
Contemporary Economic Problems	4

Pre-Historical Science

	Cr.
I. Requirements for A.A. Degree*	35
II. Career Core ^{3**}	
European History	12
Principles of Economics (Micro) (Macro)	8
American Government	4
World Politics	4
III. Recommended Related Courses ³	
Select as many as possible from these courses:	
U. S. History	12
American Indian Civilization	4
Introduction to Anthropology	4

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

**Students interested in pursuing a career in historical studies should consider taking a two-year sequence in a foreign language.

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

Contemporary Economic Problems	4
Introduction to Sociology	4
Social Problems	4
Marriage and the Family	4
General Psychology	4
Psychology of Growth & Development	4
Educational Psychology	4
Personality & Social Psychology	4
Masterpieces of/or Introduction to Literature	12
State and Local Government	4
Art Appreciation	4
Art History	9
Man and His Environment	12
Biological & Cultural Man	4
Utopia (Limited) (Unlimited)	8

Pre-Journalism

	Cr.
I. Required Courses for A.A. Degree ²	35
II. Career Core	
Introduction to Journalism	3
Journalism Lab I	4
Newswriting & Reporting	3
Advertising I	3
III. Recommended Related Courses ²	
U.S. History I, II, III	12
Principles of Economics	8
Typing I	3
Man and His Environment I, II, III	12
Government Courses	12
Photo Journalism	6

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.

	<i>Cr.</i>
I. Required for A.A. Degree	35
II. Career Core ³	
American Federal Government	4
State and Local Government	4
World Politics	4
Criminal Procedures	4
Criminal Evidence	4
Criminal Law I, II	8
III. Recommended Related Courses ³	
Select as many as possible from these courses:	
U.S. History	12
European History	12
Economics	12
Introduction to Sociology	4
Social Problems	4
Introduction to Psychology	4
Personality & Social Psychology	4
Criminology	4
Parole, Pardons, Probation	4
Business Law I, II	8

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 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. (See also Teacher Associate)

Medical Technology

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core*	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
Invertebrate Zoology I, II	8
Vertebrate Zoology I, II	8
General Chemistry I, II	10
Quantitative Analysis	6
Organic Chemistry I, II, III	12
Precalculus I	5
III. Recommended Related Courses*	
Microbiology I, II	7
College Physics I, II, III	12
Human Anatomy and Physiology I, II, III	12

Pre-Medicine

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Principles of Biology	4
Biology of Organisms	4
Invertebrate Zoology I, II	8
Vertebrate I, II	8
General Chemistry I, II	10
Organic Chemistry I, II, III	12
College Physics I, II, III	12
Precalculus I	5
III. Recommended Related Courses ³	
Environmental Biology	4
Quantitative Analysis	6
Statistics	5
General Psychology	4

*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-Music Education

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

Pre-Music Business

	<i>Cr.</i>
I. Requirements of A.A. Degree	35
II. Career Core ³	
Music Theory	12
Advanced Harmony, Eartraining	9
Major Instrument	6
Minor Instrument	3
Keyboard	3
III. Recommended Related Courses ³	
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	57
II. Career Core	
Principles of Chemistry	4
Fundamentals of Organic Chemistry	4
Fundamentals of Biochemistry	4
Principles of Biology	4
Biology of Organisms	4
Human Anatomy and Physiology I, II, III	12
Speech	3
Introduction to Literature	4
Introduction to Sociology	4

General Psychology	4
Human Growth and Development	4
Microbiology I	4
Microbiology II	3
Nutrition	4
III. Recommended Related Courses	
Environmental Biology	4
Social Problems	4
Europe in the Age of: Monarchy, Liberalism, or Totalitarianism	4

Pre-Pharmacy

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Principles of Biology	4
Biology of Organisms	4
Invertebrate Zoology I, II	8
Vertebrate Zoology I, II	8
General Chemistry I	5
General Chemistry II	5
Organic Chemistry I, II, III	12
College Physics I, II, III	12
Precalculus I	5
III. Recommended Related Courses ³	
Environmental Biology	4
Quantitative Analysis	6

Pre-Physical Therapy

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Principles of Biology	4
Biology of Organisms	4
Human Anatomy and Physiology I, II, III	12
Invertebrate Zoology I, II	8
Vertebrate Zoology I, II	8
College Physics I, II, III	12
General Chemistry I, II	10
Quantitative Analysis	6
Math and/or Statistics	15

PROGRAMS OF STUDY 45

III. Recommended Related Courses ³	
Foreign Language	12
General Psychology	4

Pre-Social Service

	<i>Cr.</i>
I. Required for A.A. Degree	35
II. Career Core	
Introduction to Sociology	4
Social Problems	4
General Psychology	4
Psychology of Growth & Development	4
Introduction to Social Welfare	3
Community Agencies	3
Sociology of Poverty	4
III. Recommended Related Courses ⁴	
Select as many as possible from the following:	
Minority & Ethnic Relations	4
Introduction to Anthropology	4
American Government	4
State and Local Government	4
Principles of Economics (Micro) (Macro)	8
Marriage & the Family	4
Juvenile Delinquency & Deviancy	4
U.S. History II, III	8
Statistics	4
Introduction to Personality & Social Psych.	4

Pre-Veterinary Medicine

	<i>Cr.</i>
I. Requirements for A.S. Degree	57
II. Career Core ³	
Principles of Biology	4
Biology of Organisms	4
Environmental Biology	4
General Chemistry I, II	10

³Students considering employment in areas where there exists a large concentration of Spanish-Americans would do well to complete a two-year study of Spanish on the A.A. level and to continue to develop proficiency in the Spanish language in the third and fourth years of college work.

Organic Chemistry I, II, III	12
College Physics I, II, III	12
Mathematics	10
Invertebrate Zoology I, II	8
Vertebrate Zoology I, II	8

III. Recommended Related Courses ³	
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.

Criminal Justice

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

The emphasis is on individual interests and to this end the program offers internships, experience credit examinations and certification procedures. All are designed to assist the student to prepare for a career in the Criminal Justice System, either at the completion of the Associate of Arts degree or after transfer to a four year college or university.

* *Career Program in Law Enforcement*
(Leads to an Associate of Arts degree)

	<i>Cr.</i>
I. Requirements for AA degree:	
Composition I, II	8
Speech	3
Humanities	8
Mathematics and/or Science	8
Social Science	8

II. Requirements for Career Core in Law Enforcement

- * Introduction to Criminal Justice (required of all majors)
 Plus 7 courses from the following list:
 History of the Police in America
 Traffic Safety and Accident Investigation
 Criminal Procedural Law (*Administration of Justice*)
 Traffic Regulations Procedures
 Criminal Evidence
 Criminal Law I, II
 Patrol Procedures
 Criminal Investigation I, II

III. Recommended Electives:

(The student may select any transfer courses from the Arts and Sciences Division list in order to fulfill the requirement of 90 credit hours for graduation)
 General Psychology
 Juvenile Delinquency and Deviance
 Introduction to Social Welfare
 American Government
 Criminology
 State and Local Government
 Introduction to Sociology
 Social Problems

* *Career Program in Corrections*
(Leads to Associate of Arts degree)

	<i>Cr.</i>
I. Requirements for AA degree:	
Composition I, II	8
Speech	3
Humanities	8
Mathematics and/or Science	8
Social Science	8

II. Requirements for Career Core in Corrections

- * Introduction to Criminal Justice (required of all majors)
 Plus 7 courses from the following list.
 Penology
 Probation, Parole and Pardons
 Man. in Correctional Inst.
 Psychology of Growth and Development
 Sociology of Poverty
 Criminal Law I, II
 Juvenile Delinquency and Deviance
 Personality and Social Psychology
 Community Agencies

III. Recommended Electives:

(The student may select any transfer courses from the Arts and Sciences Division list in order to fulfill the requirements of 90 credit hours for graduation.)
 General Psychology
 Intro. to Sociology
 Social Problems
 Intro. to Social Welfare
 Criminology
 State and Local Government
 Criminal Evidence
 Criminal Procedures

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
Technical Processes	2
III. Related Courses	
Children's Literature	4
School Library Operations	3
A wide range of academic courses including courses which build office skills, including typeing	40

Library Services students must take: *35 quarter hour credits* from Group I, and *13 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 techni-

cian 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 1974)

Leads to Associate Arts Degree in Teacher Associate

	Cr.
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

has been revised

International Trade

The International Trade Program, six quarters in length, is designed to prepare people and businesses to meet the challenge of increasing world trade in the years ahead. Students who complete the program will find employment managing export and import functions in American industry. Positions are open equally to men and women.

The program is structured to prepare people for employment upon award of Associate of arts degree. Students who desire increased opportunities for advancement may transfer to baccalaureate degree granting institutions.

Enrollment may be on a part time or full time basis.

Introduction to Teaching	4
General Psychology	4
Psychology of Growth & Development	4
Practicum for Teacher Associates	4
Introduction to Uses of the Library I, II	2
Instruction in Educational Media	3
Typing*	2
III. <i>Recommended for Teacher Associates in Elementary Grades</i>	
Effective Reading & Study	2
Office Machines	2
Children's Literature	4
Art Appreciation	4
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	
Music Theory	23
<i>Teacher Associate — Art (all levels)</i>	
Drawing	
Design	
Prints	
Ceramics or Sculpture	23

<i>First Quarter</i>		<i>Credits</i>
Composition I		4
Exploring World Trade		3
Economics I		3
Math/Science Elective		<u>4</u>
		14
<i>Second Quarter</i>		<i>Credits</i>
Composition II		4
Techniques of Exporting		3
Principles of Marketing		4
Typing (8 modules)		<u>4</u>
		15
<i>Third Quarter</i>		<i>Credits</i>
Speech I		3
Foreign Trade Documentation		3
Foreign Language (French, German, Spanish)		4
Principles of Accounting I		3
Foreign Cultures (to be developed)		<u>3</u>
		16
<i>Fourth Quarter</i>		<i>Credits</i>
World Market Information		3
Business Law I		4
Foreign Language (French, German, Spanish)		4
Internship		<u>6</u>
		17
<i>Fifth Quarter</i>		<i>Credits</i>
Traffic and Transportation I		3

*May be waived if proficiency can be demonstrated.

Introduction to Data Processing	3
Physical or Human Geography	4
Internship	<u>6</u>
	16
<i>Sixth Quarter</i>	<i>Credits</i>
International Trade Transportation	3
Introduction to Mangement	2
Principles of Selling	4
Mathematics (elective)	<u>3</u>
	12
TOTALS	90

Aerospace Studies

The department offers two programs which lead to a commission: the four-year program and the two-year program. The four-year program consists of four years of Air Force ROTC instruction; however, during the first two years the student only has classes part-time. Each four-year program student enrolls in the General Military course during his/her freshman and sophomore years (AF001T, 2T, 3T, and 4T), plus a four-week summer field training session after the sophomore year. Leadership Laboratory will be graded as Passing/Not Passing. After receiving an Associate of Arts Degree, a Kirkwood student can then enroll in the Professional Officer course for his/her junior and senior year either at Coe, Mt. Mercy College, or any other school that hosts AFROTC. In the two-year program, the student completes just the Professional Officer courses. (A six-week field training session must be taken before the junior year). Entry into the last two years, whether under the two or four-year program, is highly competitive. Upon successful completion of either program and the awarding of a bachelor's degree, each student receives a Reserve Commission as a Second Lieutenant in the United States Air Force.

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 suc-

ceed 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
 AM045T Motivating People at Work
 AM052T Introduction to Management

AM077T Organizational Behavior
 AM079T Techniques of Supervision
 AM081T Personal Finance
 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

Aerospace Studies

AF001T AFROTC Corps Training
 AF002T U.S. Defense Forces
 AF003T The Developmental Growth of Air Power I
 AF004T The Developmental Growth of Air Power II

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
 AT027T Fine Arts Workshop
 AT028T Art Techniques and Materials

must have all to equal 1 yr. when transf.

Biological Sciences

BY001T	Environmental Biology — MS (Gen Bio I) <i>equiva</i>
BY002T	Principles of Biology — MS (Gen Bio II)
BY003T	Biology of Organisms — MS (Gen Bio III)
BY008T	Human Anatomy and Physiology I — MS
BY009T	Human Anatomy and Physiology II — MS
BY010T	Human Anatomy and Physiology III — MS
BY011T	Invertebrate Zoology I — MS
BY013T	Independent Study in Biology
BY004T	Biology of the Plant Kingdom
BY006T	Invertebrate Zoology II — MS
BY015T	Microbiology II — MS
BY014T	Microbiology I — MS
BY024T	Vertebrate Zoology I — MS
BY025T	Vertebrate Zoology II — MS

Chemistry

CH001T	Principles of Chemistry — M.S.
CH002T	Fundamentals of Organic Chemistry — M.S.
CH003T	Fundamentals of Biochemistry — MS
CH004T	Quantitative Analysis — MS
CH005T	General Chemistry I — MS
CH006T	General Chemistry II — MS
CH008T	Organic Chemistry I — MS
CH009T	Organic Chemistry II — MS
CH010T	Organic Chemistry III — MS
CH007T	Nutrition — MS
CH013T	Independent Study in Chemistry
CH014T	Independent Study in Chemistry

Communications

CM101T	Composition I — R
CM103D	Composition Techniques I — 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

52 PROGRAMS OF STUDY

CM001D	Review English for College
CM002D	Writing Laboratory
CM004D	Composition Tech. I
CM109T	Humanities I — Future College — H
CM110T	Humanities II Future College — H
CM116T	Composition II Mass Media — R
CM117T	Composition II Technical Writing — R
CM118T	Composition II Contemporary Non-Fiction — R
CM119T	Composition II Humanities — R
CM120T	Humanities III Future College — H
CM203T	Speech I Persuasion — R
CM212T	Bank Letters and Reports
CM303T	Radio Reporting and Announcing
CM304T	Radio and TV Production
CM305T	Media Lab

Cooperative Education

CE001T	Cooperative Education Experience
CE002T	Cooperative Education Special Topics
CE003T	Cooperative Education Preparation
CE004T	Career Decision Making

Corrections

CO002T	Probation, Parole, Pardons
CO003T	Principles of Corrections Management & Supervision
CO004T	Penology

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

EC007T	Independent Study in Economics — SS
EC008T	Money and Banking
EC009T	Economics of Collective Bargaining
EC010T	Public Policy and Collective Bargaining
EC011T	Dispute Settlement and Labor Relations
EC013T	Principles of Economics (Macro) — SS
EC014T	Principles of Economics (Micro) — SS
EC015T	Principles of Business Economics
EC016T	Contemporary Economic Problems — SS

Environmental Studies and Pollution Control

EV001T	Man and His Environment: Atmosphere — MS/SS
EV002T	Man and His Environment: Hydrosphere — MS/SS
EV003T	Man and His Environment: Lithosphere — MS/SS
EV004T	Science I - Future College — MS
EV005T	Science II - Future College — MS
EV006T	Science III - Future College — MS

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
FL031T	Advanced German I — H
FL032T	Advanced German II — H
FL033T	Advanced German III — H
FL017T	Intermediate Spanish II — H
FL018T	Intermediate Spanish III — H
FL019T	Spanish Civilization — H
FL020T	Spanish-American Civilization — H
FL023T	Intermediate German I — H
FL024T	Intermediate German II — H
FL025T	Intermediate German III — H

Fire Science

FS001T	History and Philosophy of Fire Science
FS002T	Fire Protection Systems and Equipment
FS003T	Industrial Fire Protection and Security
FS004T	Fluid Flows
FS005T	Strategic Planning for Fire Protection
FS006T	Fire Investigation
FS007T	Hazardous Materials
FS008T	Tactics for Fire Protection
FS009T	Fire Protection Administration and Management
FS010T	Building Design for Fire Protection
FS011T	Fire Behavior II
FS012T	Fire Behavior I

Geography

GE001T	Human Geography — S.S.
GE002T	Human Geograph: Independent Study — S.S.

Humanities

HU001T	Humanities: Utopia Limited — H
HU002T	Humanities: Utopia Unlimited — H

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
HY007T	Black History — S.S. — H
HY008T	Independent Study in Social Sciences (History)
HY010T	Asian Civilization - China
HY011T	Asian Civilization - Japan
HY012T	Asian Civilization - India
HY014T	American Indian Civilization — SS/H
HY016T	Europe in the Age of Monarchy — SS/H
HY017T	Europe in the Age of Liberalism — SS/H
HY018T	Europe in the Age of Totalitarianism — SS/H

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Interdisciplinary Studies

IS001T	Biological and Cultural Man — MS/SS
IS002T	Biosocial Issues — Today and Tomorrow — MS/SS

Journalism

JO101T	Introduction to Journalism
JO102T	Journalism Laboratory
JO103T	Photo Journalism I
JO104T	Photo Journalism II
JO105T	Newswriting and Reporting
JO106T	Promotion and Public Relations

Law Enforcement

LE002T	Patrol Procedures I
LE004T	Criminal Investigation I
LE005T	Criminal Investigation II
LE008T	Individual Directed Study in Criminal Justice
LE009T	Introduction to Criminal Justice — SS
LE010T	Traffic Safety and Accident Invest.
LE011T	Traffic Regulation Procedures
LE012T	History of Police in America

Library Services

LS001T Instruction in Educational Media
LS003T Library Literature
LS004T Library Procedures
LS006T Technical Processes
LS007T School Library Operations
LS008T Introduction to Uses of the Library I
LS009T Introduction to Uses of the Library II
LS010T Introduction to Uses of the Library III

Literature

LT001T Children's Literature — H
LT101T Introduction to Literature Fiction — H
LT102T Introduction to Literature Drama — H
LT103T Introduction to Literature Poetry — 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
LT002T Science Fiction — H
LT104T American Literature — H
LT209T Literature of Terror — H
LT210T Popular Literature — H

Intro to film H
Law

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

Mathematics

MA006T Calculus I — M.S.
MA007T Calculus II — M.S.
MA008T Calculus III — M.S.
MA009T Differential Equations I — M.S.
MA011T Fundamentals of Statistics — 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
MA025T Precalculus I — M.S.

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MA026T Quantitative Methods I — M.S.
MA027T Quantitative Methods II — M.S.
MA028T Precalculus II — M.S.
MA029T Quantitative Methods III — M.S.

Marketing

MK001T Principles of Marketing
MK002T Principles of Retailing
MK003T Principles of Selling
MK006T Principles of Insurance
MK007T Principles of Bank Operations
MK008T Trust Functions and Services
MK014T Exploring World Trade
MK013T Bank Public Relations and Marketing
MK016T Counselor Selling
MK017T Techniques of Exporting
MK019T Home Mortgage Lending
MK020T Savings/Time Deposit Banking
MK021T Foreign Trade Documentation

Medical and Surgical

MS001T Emergency and First Aid Procedures

Music

MU001T Applied Music: Instrumental
MU006T Applied Music: (Instrumental Keyboard)
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
MU019T Beginning Piano

Folk music H
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
 OE014T Alphabetic Keyboard
 OE015T Number Keys and Skill Drives
 OE016T Correspondence I and Skill Drives
 OE017T Tabulations I and Manuscripts I
 OE018T Correspondence II and Skill Drives
 OE019T Business Forms I and Manuscripts
 OE020T Correspondence III and Skill Drives
 OE021T Tabulations II and Manuscripts
 OE022T Correspondence IV and Skill Drives
 OE023T Business Forms II and Manuscripts
 OE024T Correspondence V and Skill Drives
 OE025T Tabulations III and Manuscripts
 OE027T Correspondence VI and Skill Drives
 OE028T Business Forms III and Manuscripts VI
 OE029T Correspondence VII and Skill Drives
 OE030T Tabulations IV and Manuscripts VII
 OE031T Secretarial Projects I/Skill Drives
 OE032T Secretarial Projects II/Skill Drives
 OE033T Career Projects I and Skill Drives
 OE034T Career Projects II and Skill Drives
 OE035T Career Projects III and Skill Drives
 OE036T Career Projects IV and Skill Drives
 OE037T Career Project V and Skill Drives
 OE038T Speed, Accuracy and Production Building
 OE039T Individually Prescribed Instruction
 OE040T Current Office Issues

Personal Development

PD005T Human Potential Lab.
 PD001T Group Dynamics

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.
 PH011T Medical Physics
 PH006T General Physics III — M.S.
 PH007T Astronomy — M.S.
 PH008T 21st Century Introductory Physics — M.S.
 PH009T Independent Study — Physics — M.S.

Philosophy/Religion

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

Political Science

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

Psychology/Education

PY002T General Psychology — 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
 PY009T Introduction to Teaching — S.S.
 PY020T Psychology of Human Growth: Conc. to Senescence — S.S.
 PY021T Intro. to Personality and Social Psychology — S.S.
 PY022T Psychology of Human Relations — S.S.

Recreation

RE001T Intro. to Recreation

Sociology

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
 SO010T Independent Study in Sociology
 SO011T Juvenile Delinquency & Deviancy — S.S.
 SO013T Sociology of Poverty — S.S.

Social Science

SS001T Social Science I Future College — S.S.
 SS002T Social Science II Future College — S.S.
 SS003T Social Science III Future College — S.S.

Social Welfare

SW001T Introduction to Social Welfare
 SW002T Community Agencies

VOCATIONAL- TECHNICAL PROGRAMS

Agricultural Department

- Agricultural Building Services
- Farm Equipment Mechanics
- Farm Supply Sales and Service
- Horse Husbandry
- Horticulture/Natural Resources
 - Agricultural Resources
 - Landscape-Nursery-Garden Center
 - Turf Management
- Production Agriculture
- Veterans Farm Coop

Business Department

- Accounting Specialist
- Administrative Secretary
- Clerical-Receptionist
- Fashion Merchandising
- Floriculture
- Food Service Management
- Food Service Training
- Food Store Marketing
- General Secretary
- Home Furnishings
- Insurance Secretary
- Junior Accounting
- Legal Secretary
- Retail Marketing

Data Processing Department

- Computer Operations
- Keypunch
- Programmer
- Programmer Analyst

Environmental Occupations Education Department

- Environmental Health Assistant
- Environmental Health Technician
- Water and Wastewater Technology

Health Occupations Education Department

- Dental Assistant
- Dental Lab Technician
- Medical Assistant
- Nursing Education
 - Practical Nursing
 - Associate Degree Nursing
- Occupational Therapy Assistant
- Operating Room Technician
- Orthopaedic Physician's Assistant
- Respiratory Therapy

Trade and Industry Department

- Architectural Drafting
- Auto Collision Repair
- Auto Mechanics
- Communication Electronics
- Electrical Equipment Servicing
- Electronics Engineering Technology
- Evening Machine Shop
- Graphic Arts
- Machinist
- Mechanical Engineering Technology
- Welding

AGRIBUSINESS & NATURAL RESOURCES

AGRICULTURAL SUPPLIES AND SERVICES

The Agricultural Supplies and Services 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 feed, seed, fertilizer, and farm supplies. Practical employment experience periods are included. Student schedules are planned around their individual needs through a faculty advisor system. Program chairmen and faculty advisors approve a student's schedule.

Students successfully completing 110 credits in this program receive an Associate of Applied Science degree; those completing 55 credits receive a diploma.

First Year

	<i>Credits</i>
<i>Fall Quarter</i>	
Enterprise Orientation	4
Agriculture Product Marketing	4
Agribusiness Records	4
Farm Power and Machinery	4
Career Planning Seminar	1
	<u>17</u>

	<i>Credits</i>
<i>Winter Quarter</i>	
Agricultural Mechanization	4
Animal Health	4
Feed Rations	3
Career Planning Seminar	1
Farm Supply Enterprise, Winter	5
	<u>17</u>

	<i>Credits</i>
<i>Spring Quarter</i>	
Machinery Operations	3
Agricultural Chemicals	3
Enterprise Analysis	3
Employment Seminar	1
Employment Experience (4 weeks)	4
Farm Supply Enterprise, Spring	4
	<u>18</u>

	<i>Credits</i>
<i>Summer Quarter</i>	
Optional Employment Experience	1-6
Optional Clinics and Short Courses	1-16

Second Year

	<i>Credits</i>
<i>Fall Quarter</i>	
Agric. Supply Management, Fall	4
Communication Skills	3
Agriculture Finance	3
Land Use and Conservation	3
Employment Experience Option (4 weeks)	4
<i>Elective</i>	
Special Projects	(3)
	<u>17</u>

	<i>Credits</i>
<i>Winter Quarter</i>	
Agric. Supply Management, Winter	5
Human Relations	3
Livestock Nutrition	4
Machinery Economics	4
<i>Elective</i>	
Special Projects	(3)
	<u>16</u>

	<i>Credits</i>
<i>Spring Quarter</i>	
Agric. Supply Management, Spring	4
Ag. Computations	3
Agricultural Economics	3
Farmstead Planning	3
Employment Experience (4 weeks)	4
<i>Elective</i>	
Special Projects	(3)
	<u>17</u>

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 in careers such as farm operators, livestock technicians, buyers for agriculture products, and crop technicians. Special emphasis is placed on management and decision making. Students spend a great deal of time at the college Central Demonstration Farm which is equipped with swine and beef herds and crop fields. Practical employment experience periods are included. Student schedules are planned around their individual needs through a faculty advisor system. Program chairmen and faculty advisors approve a student's schedule.

Students successfully completing 110 credits in this program receive an Associate of Applied Science degree; those completing 55 credits receive a diploma.

First Year

<i>Fall Quarter</i>		<i>Credits</i>
Enterprise Orientation		4
Agriculture Product Marketing		4
Agribusiness Records		4
Farm Power and Machinery		4
Career Planning Seminar		<u>1</u>
		17
<i>Winter Quarter</i>		<i>Credits</i>
Agricultural Mechanization		4
Animal Health		4
Feed Rations		3
Career Planning Seminar		1
<i>Electives</i>		
Beef Enterprise, Winter		(5)
Swine Enterprise, Winter		(5)
Crop Enterprise, Winter		(5)
		17
<i>Spring Quarter</i>		<i>Credits</i>
Machinery Operations		3
Agricultural Chemicals		3
Enterprise Analysis		3
Employment Seminar		1
Employment Experience (4 weeks)		4
<i>Electives</i>		
Beef Enterprise, Spring		(4)
Swine Enterprise, Spring		(4)
Crop Enterprise, Spring		(4)
		18
<i>Summer Quarter</i>		<i>Credits</i>
Optional Employment Experience		1-6
Optional Clinics and Short Courses		1-16

Second Year

<i>Fall Quarter</i>		<i>Credits</i>
Animal Science Management, Fall		4
Communication Skills		3
Agriculture Finance		3
Land Use and Conservation		3
Employment Experience Option		4
<i>Elective</i>		
Special Projects		(3)
		17

<i>Winter Quarter</i>		<i>Credits</i>
Animal Science Management, Winter		5
Human Relations		3
Livestock Nutrition		4
Machinery Economics		4
<i>Elective</i>		
Special Projects		(3)
		16

<i>Spring Quarter</i>		<i>Credits</i>
Animal Science Management, Spring		4
Ag. Computations		3
Agricultural Economics		3
Farmstead Planning		3
Employment Experience Option		4
<i>Elective</i>		
Special Projects		(3)
		17

HORSE HUSBANDRY

The Horse Husbandry program is designed and planned for students to adequately learn those husbandry and management skills necessary to earn a good living in the horse industry. Students enrolled in this program spend 60% of each day in the laboratory actually working with horses and are involved directly in the business functions of the horse enterprise at Kirkwood Community College. The other 40% of a student's day is spent in the classroom learning technical horse management. This is a six-quarter program.

Student schedules are planned around their individual needs through a faculty advisor system. Students successfully completing 100 credits in the program receive an Associate of Applied Science degree; those completing 50 credits receive a diploma.

First Year

<i>Fall Quarter</i>		<i>Credits</i>
Enterprise Orientation		4
Horsemanship		4
Farm Power and Machinery		4
Agribusiness Records		4
Career Planning Seminar		<u>1</u>
		17

Winter Quarter
 Horse Enterprise, Winter
 Feed Rations
 Horse Health
 Career Planning Seminar

Credits
 8
 3
 5
 1
 17

Spring Quarter
 Horse Enterprise, Spring
 Horse Breeding
 Hoof Care
 Career Planning Seminar

Credits
 8
 4
 4
 1
 17

Second Year

Fall Quarter
 Stable Management, Fall
 Communication Skills
 Horse Judging
 Horse Training
 Elective
 Special Projects

Credits
 5
 3
 4
 4
 (3)
 16

Winter Quarter
 Stable Management, Spring
 Human Relations
 Specialized Training
 Horse Shows
 Elective
 Special Projects

Credits
 5
 3
 4
 4
 (3)
 16

Spring Quarter
 Stable Management, Spring
 Human Relations
 Specialized Training
 Horse Shows
 Elective
 Special Projects

Credits
 5
 3
 4
 4
 (3)
 16

VETERANS FARM COOP

The Veterans Farm Coop program is 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.

FARM MANAGEMENT CURRICULUM

First Year

<i>Summer Quarter</i>	<i>Cr.</i>
Records & Management	2.5
Monogastric Nutrition	2.5
Field Crop Problems	2.5
Coop (2 weeks)	<u>2.0</u>
	9.5

<i>Fall Quarter</i>	
Current Ag. Topics	3.0
Ruminant Nutrition	3.0
Soil & Plant Science	3.0
Coop (3 weeks)	<u>3.0</u>
	12.0

<i>Winter Quarter</i>	
Records & Management	4.5
Swine Production	4.5
Soil Fertility	<u>4.5</u>
	13.5

<i>Spring Quarter</i>	
Current Ag. Topics	2.5
Ag. Comm. Skills	2.5
Ag. Chemicals I	2.5
Coop (3 weeks)	<u>3.0</u>
	10.5

Second Year

<i>Summer Quarter</i>	<i>Cr.</i>
Records & Management	2.5
Beef Production	2.5
Forage & Oat Production	2.5
Coop (2 weeks)	<u>2.0</u>
	9.5

<i>Fall Quarter</i>	
Current Ag. Topics	3.0
Grain Marketing	3.0
Tractor Maintenance	3.0
Coop (3 weeks)	<u>3.0</u>
	12.0

<i>Winter Quarter</i>	
Records & Management	4.5
Corn Production	4.5
Livestock Marketing	<u>4.5</u>
	13.5
<i>Spring Quarter</i>	
Current Ag. Topics	2.5
Tillage & Planting Equip. Adjustment	2.5
Farm Construction I	2.5
Coop (3 weeks)	<u>3.0</u>
	10.5

Third Year

<i>Summer Quarter</i>	
Records & Management	Cr.
Farm Construction II	2.5
Land Use & Conservation	2.5
Coop (2 weeks)	<u>2.0</u>
	10.5

<i>Fall Quarter</i>	
Current Ag. Topics	3.0
Harvesting Equipment Adjust.	3.0
Ag. Finance	3.0
Coop (3 weeks)	<u>3.0</u>
	12.0

<i>Winter Quarter</i>	
Records & Management	4.5
Agriculture Law	4.5
Farmstead Planning & Mech.	<u>4.5</u>
	13.5

<i>Spring Quarter</i>	
Current Ag. Topics	2.5
Livestock Production	2.5
Futures Market	2.5
Coop (3 weeks)	<u>3.0</u>
	10.5

FARM FACILITY AUTOMATION

<i>Summer Quarter</i>	
Records and Management	Cr.
Grain & Feed Handling I	2.5
Grain & Feed Handling II	2.5
Coop	<u>2.0</u>
	9.5

<i>Fall Quarter</i>	
Current Ag. Topics	3.0
Bldg. Layout I	3.0
Bldg. Layout II	3.0
Coop	<u>3.0</u>
	12.0

<i>Winter Quarter</i>	
Records & Management	4.5
Carpentry & Wood Const. I	4.5
Carpentry & Wood Const. II	<u>4.5</u>
	13.5

<i>Spring Quarter</i>	
Current Ag. Topics	2.5
Materials Selection I	2.5
Ag. Comm. Skills	2.5
Coop	<u>3.0</u>
	10.5

<i>Summer Quarter</i>	
Records & Management	2.5
Structures I	2.5
Beef Production	2.5
Coop	<u>2.0</u>
	9.5

<i>Fall Quarter</i>	
Current Ag. Topics	3.0
Plumbing & Water Supply I	3.0
Plumbing & Water Supply II	3.0
Coop	<u>3.0</u>
	12.0

<i>Winter Quarter</i>	
Records and Management	4.5
Waste Management I	4.5
Corn Production	<u>4.5</u>
	13.5

<i>Spring Quarter</i>	
Current Ag. Topics	2.5
Welding I	2.5
Welding II	2.5
Coop	<u>3.0</u>
	10.5

<i>Fall Quarter</i>	
Records and Management	3.0
Concrete I	3.0
Ag. Finance	3.0
Coop	<u>3.0</u>
	12.0

<i>Winter Quarter</i>	
Current Ag. Topics	4.5
Electricity on Farm I	4.5
Ag. Law	<u>4.5</u>
	13.5

<i>Spring Quarter</i>	
Records & Management	2.5
Tractor & Farm Equip. Maint. & Adjust. I	2.5
Tractor & Farm Equip. Maint. & Adjust. II	2.5
Coop	<u>3.0</u>
	10.5
<i>Summer Quarter</i>	
Current Ag. Topics	2.5
Vent., Insulation & Htg. I	2.5
Land Use & Conservation	2.5
Coop	<u>2.0</u>
	9.5

FARM EQUIPMENT MECHANICS

The Agricultural Mechanics program is designed to prepare individuals for entry employment, or employment advancement, as specialized machinery mechanics, farm service representatives, parts men, farm machinery salesmen, or supervisors. During the first year, students work in modern lab facilities, learning work habits, assembly and handling of farm machinery, small gas engine overhaul, and implement truck operation. The second year of the program students may specialize in one of two areas; Agricultural Mechanic, or Parts Room Sales and Service. The Agricultural Mechanic students have access to modern equipment and diesel engines, repair of diesel pumps and injectors, and repair and overhaul of tractor hydraulic systems and transmissions. Parts Room Sales and Service students work in modern equipment and diesel labs, learning overhaul of gas and diesel engines, basic hydraulics, operations of a parts room, and business operations.

An Associate of Applied Science degree is awarded when a student has successfully completed 105 credits which is equal to six quarters. A student receives a diploma upon receiving 57 credits which is equal to three quarters.

<i>First Quarter</i>	<i>Credits</i>
Ag. Computations	3
Ag. Equipment Principles I	7
Basic and Applied Electricity	8
Special Projects	<u>(3)</u>
	18

<i>Second Quarter</i>	<i>Credits</i>
Ag. Computations	3
Ag. Equipment Principles II	7
Basic and Applied Gas Engines	8
Special Projects	<u>(3)</u>
	18

<i>Third Quarter</i>	<i>Credits</i>
Ag. Computations	3
Communication Skills	3
Reconditioning and Repair	5
Special Projects	<u>(3)</u>
Ag. Equipment Principles III	<u>7</u>
	18

<i>Fourth Quarter</i>	<i>Credits</i>
Basic Hydraulics	3
Gasoline Engine Diagnosis Overhaul	8
Power Transfer Systems I	3
Psychology of Human Relations	<u>3</u>
	17

<i>Fifth Quarter</i>	<i>Credits</i>
Applied Hydraulics	3
Power Transfer Systems II	3
Diesel Diagnosis & Overhaul	8
Implement Business Functions	<u>(3)</u>
Technical Ag.	<u>(3)</u>
	17

<i>Sixth Quarter</i>	<i>Credits</i>
Power Transfer Systems III	3
Unit Diagnosis & Overhaul	8
Advanced Hydraulics	3
Ag. Shop Maintenance	<u>3</u>
	17

AGRICULTURAL BUILDING SERVICES

This program is designed and planned for students to adequately learn performance and management skills necessary to earn a living in the agricultural building and structures industry. A career as a foreman in mid-management awaits this program's graduate. Instructional emphasis areas are carpentry; electricity; plumbing and heating; concrete and masonry; metal working; structural steel; and excavation. The student receives a diploma when satisfactorily completing 72 credits which is equal to four quarters. Students receive a certificate when one quarter is completed. Students may enroll any quarter.

<i>Fall Quarter</i>	<i>Credits</i>
Agricultural Seminar	1
Job Safety	2
Tools and Equipment	3
Facility Planning I	6
Facility Construction I	<u>6</u>
	18
<i>Winter Quarter</i>	<i>Credits</i>
Livestock Requirements	3
Livestock Ventilation Systems	3
Facility Planning II	6
Facility Construction II	<u>6</u>
	18
<i>Spring Quarter</i>	<i>Credits</i>
Crop Storage Requirements	3
Crop Drying Principles	3
Facility Planning III	6
Facility Construction III	<u>6</u>
	18
<i>Summer Quarter</i>	<i>Credits</i>
Farmstead Planning	3
Agricultural Foremanship	3
Facility Planning IV	6
Facility Construction IV	<u>6</u>
	18

HORTICULTURE/NATURAL RESOURCES

Students in the Horticulture program can specialize in one of three areas, namely: Landscape, Nursery, and Garden Center; Parks and Natural Resources; and Grounds and Turf. All students are required to take the same core courses and students elect courses in their specialty areas during the second year.

Students receive an Associate of Applied Science degree upon obtaining 96 credits which is about six quarters. Diplomas are given for 48 credits which is equal to three quarters. Students generally take 15-19 credits per quarter.

A description of the three specialty areas is as follows:

1) *Landscape, Nursery and Garden Center*

The Landscape, Nursery, Garden Center program is designed to prepare students for entry employment, or employment advancement, in

the landscape, nursery, garden center industry. Students receive preparation leading to employment in careers such as landscaping, nursery production, nursery sales, greenhouse workers, garden center workers. Students gain practical decision-making experience in the college greenhouse, and the horticulture laboratories.

2) *Parks and Natural Resources*

The Parks and Natural Resources program is designed to prepare students for entry employment, or employment advancement, in the field of parks and natural resource areas. Students receive preparation leading to employment in careers such as county conservation officers, county and state park officers, lake officers, park attendants, conservation exhibit officers, park workers, wildlife managers, and other park related industries. Students gain practical decision-making experience in the college greenhouse, and the horticultural laboratories.

3) *Grounds and Turf*

As more and more emphasis is put on resource conservation and countryside beautification, new and exciting career fields are emerging for golf course managers, grounds keepers, turf specialists, turf recreational directors, industrial and institutional grounds managers, and other closely allied fields. Much practical experience is gained by students in this program, as an extensive laboratory is maintained by the college.

First Year

<i>Fall Quarter</i>	<i>Credits</i>
Horticulture Equipment	4
Turfgrass Management	4
Landscape Construction	4
Plant Materials I	4
Career Planning Seminar	<u>1</u>
	17

Winter Quarter
 Landscape Design I
 Plant Propagation I
 Soils & Fertilizer
 Plant Insects & Disease
 Career Planning Seminar

Credits
 4
 4
 4
 4
 1
 17

Spring Quarter
 Greenhouse Practices
 First Aid/Safety
 Employment Experience

Credits
 4
 4
 8
 16

Second Year

Fall Quarter
 Agribusiness Procedures
 Nursery Stock Production
 Soil & Water Mechanics
 Facility Construction I
 Plant Material II
 Avian Wildlife
 Special Projects
 Recreational Area Design
 Herbaceous Plant Material
 Forest Management
 Landscape Design II
 Human Relations

Credits
 3
 3
 3
 3
 3
 4
 3
 3
 3
 3
 3
 3
 37

Winter Quarter
 Agribusiness Procedures
 Grounds Equipment Management
 Oral Communications
 House Plants
 Mammalian Wildlife
 Special Projects
 Park Management Problems
 Landscape Design III
 Ag. Computations
 Plant Material III
 Park Systems Law

Credits
 3
 3
 3
 3
 4
 3
 3
 3
 3
 3
 3
 34

Spring Quarter
 Agribusiness Procedures
 Lakes & Rivers Management
 Garden Center Operations
 Aquatic Wildlife
 Special Projects
 Wildlife Reserves
 Salesmanship
 Communication Skills
 Employment Experience

Credits
 3
 3
 3
 2
 3
 3
 3
 3
 3
 8
 31

BUSINESS

Office Education

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

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

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

Any person who holds a Certified Professional Secretary Certificate may make application to receive up to 32 hours credit toward an Associate Degree of Applied Science. The following courses are accepted for credit:

		<i>Cr.</i>	<i>Hrs.</i>
LW005T	Business Law I	4	48
OE011T	Secretarial Procedures	4	48
EC004T	Economics I	4	48
AC001T	Principles of Accounting I	3	36
AC002T	Principles of Accounting II	3	36
OE010T	Filing Systems & Records Control	3	36
OE007T	College Typing II	3	60
OE008T	College Typing III	3	60
AM019U	Office Management	3	36
PY004U	Psychology of Human Relations	2	24

Core Courses

All Office Education students will complete these core courses:

College Typewriting Modules 1-18

OE014T	Alphabetic Keyboard	.5	10
OE015T	Number Keys and Skill Drives	.5	10
OE016T	Correspondence I/Skill Drives	.5	10
OE017T	Tabulations I/Manuscripts I	.5	10
OE018T	Correspondence II/Skill Drives	.5	10

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OE019T	Business Forms I/Manuscript II	.5	10
OE020T	Correspondence III/Skill Drives	.5	10
OE021T	Tabulations II/Manuscripts III	.5	10
OE022T	Correspondence IV/Skill Drives	.5	10
OE023T	Business Form II/Manuscript IV	.5	10
OE024T	Correspondence V/Skill Drives	.5	10
OE025T	Tabulations III/Manuscripts V	.5	10
OE027T	Correspondence VI/Skill Drives	.5	10
OE028T	Bus Forms III/Manuscripts VI	.5	10
OE029T	Correspondence VII/Skill Drive	.5	10
OE030T	Tabulations IV/Manuscripts VII	.5	10
OE031T	Secretarial Proj I/Skill Drive	.5	10
OE032T	Secretarial Proj II/Skill Drive	.5	10
OE016V	Office Careers	1	24
OE010T	Filing Systems and Records Control	3	36
CM002U	Communication Skills I	3	36
OE001U	Office Procedures I	4	60
PD001U	Personal Development	2	24
OE015V	Transcribing Machines	2	36
OE004U	Office Calculating Procedures	4	60
CM001U	Business Writing	3	36
OE025V	Office Education Seminar	1	12
AM003T	Business Internship	5	200

Administrative Secretary

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

Upon successful completion of this two-year program, graduates receive an Associate of Applied Science Degree.

	<i>Cr.</i>	<i>Hrs.</i>
<i>Core Courses</i>	37	680

With the coordinator's approval the following transfer courses may be substituted for the corresponding core courses.

CM101T	Composition I	4	48
OE011T	Secretarial Procedures	4	48
OE009T	Office Machines	3	48

In addition to the core courses, students complete College Typewriting Modules 19-24

OE033T	Career Project I/Skill Drives	.5	10
OE034T	Career Project II/Skill Drives	.5	10
OE035T	Career Project III/Skill Drives	.5	10
OE036T	Career Project IV/Skill Drives	.5	10
OE037T	Career Project V/Skill Drives	.5	10
OE038T	Speed Accuracy & Prod Building	.5	10
OE001T	College Shorthand I	4	60
OE002T	College Shorthand II	4	60
OE003T	College Shorthand III	4	60
OE004T	College Shorthand Transcription	3	48
AM019U	Office Management	3	36
AC001T/	Principles of Accounting I or	3	36
AC004V	Office Accounting	4	48
AC002T/	Principles of Accounting II or	3	36
AC006U	Management Accounting	4	48
DP046U/	Elements of Data Processing or	3	36
DP006T	Computer/Data Processing Concepts	3	36
CM201T/	Public Speaking or	3	36
CM204T	Interpersonal Communications	3	36
EC004T/	Economics I or	3	36
EC002T	Principles of Business Economics	3	36
LW005T	Business Law I	4	48
AM008T	Survey of Business Occupations	1	12
	Micro Courses	3	36
PY002T	General Psychology	4	48
AM003T	Business Internship	7	
	Electives ¹	12	

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.

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

	<i>Cr.</i>	<i>Hrs.</i>
<i>Core Courses</i>	37	680

In addition to the core courses, students complete

PY004U/	Psychology of Human Relations or	2	24
PD005T	Human Potential Lab	2	24
AC004V	Office Accounting	4	48
OE002U	Office Procedures II	3	60

¹Electives are selected with the coordinator's approval.

DP001V	Introductory Key punch	2	48
	Receptionist Seminar	1	12
	Electives ¹	5	

General Secretary

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

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

	<i>Cr.</i>	<i>Hrs.</i>
<i>Core Courses</i>	37	680

In addition to the core, students complete

College Typewriting Modules 19-24

OE033T	Career Project I/Skill Drives	.5	10
OE034T	Career Project II/Skill Drives	.5	10
OE035T	Career Project III/Skill Drives	.5	10
OE036T	Career Project IV/Skill Drives	.5	10
OE037T	Career Project V/Skill Drives	.5	10
OE038T	Speed Accuracy & Prod Building	.5	10
OE001T	College Shorthand I	4	60
OE002T	College Shorthand II	4	60
OE003T	College Shorthand III	4	60
OE004T	College Shorthand Transcription	3	48
PY004U/	Psychology of Human Relations or	2	24
PD005T	Human Potential Lab	2	24
OE002U	Office Procedures II	3	60
AC004V	Office Accounting	4	48
	Electives ²	7	

Insurance Secretary

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

¹Electives are selected with the coordinator's approval.

²Electives are selected with coordinator's approval.

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

	<i>Cr.</i>	<i>Hrs.</i>
<i>Core Courses</i>	37	680

In addition to the core, students complete

College Typewriting Modules 19-24

OE033T	Career Project I/Skill Drives	.5	10
OE034T	Career Project II/Skill Drives	.5	10
OE035T	Career Project III/Skill Drives	.5	10
OE036T	Career Project IV/Skill Drives	.5	10
OE037T	Career Project V/Skill Drives	.5	10
OE038T	Speed Accuracy & Prod Building	.5	10
OE001T	College Shorthand I	4	60
PY004U	Psychology of Human Relations	2	24
AC004V	Office Accounting	4	48
	Micro Courses in Business ¹	1	12
	Principles of Insurance	4	48
OE014V	Insurance Terminology	2	24
OE028V	Insurance Typewriting	3	36
	Insurance Office Procedures	3	36
OE003U	Insurance Machine Transcription	3	36
	Electives ²	12	

Legal Secretary

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

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

	<i>Cr.</i>	<i>Hrs.</i>
<i>Core Courses</i>	37	680

In addition to the core courses, students complete

OE001T	College Shorthand I	4	60
OE002T	College Shorthand II	4	60

¹Requirement may be fulfilled by completing two out of the following Micro courses: Personal Insurance, Consumer Economics, Marketing, or Social Problems.

²Electives are selected with the coordinator.

OE003T	College Shorthand III	4	60
OE004T	College Shorthand Transcription	3	48
PY004U	Psychology of Human Relations	2	24
AC004V	Office Accounting	4	48
LW005T	Business Law I	4	48
LW006T	Business Law II	4	48
OE006V	Legal Terminology	3	48
OE005V	Legal Typing	3	48
AC008V	Income Tax Procedures	3	36
OE003V	Legal Dictation	3	36
OE004V	Legal Machine Transcription	3	36
OE002V	Law Office Procedures	3	36

Medical Secretary

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

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

	<i>Cr.</i>	<i>Hrs.</i>
<i>Core Courses</i>	37	680

In addition to the core, students complete

College Typewriting Modules 19-24¹

OE033T	Career Project I/Skill Drives	.5	10
OE034T	Career Project II/Skill Drives	.5	10
OE035T	Career Project III/Skill Drives	.5	10
OE036T	Career Project IV/Skill Drives	.5	10
OE037T	Career Project V/Skill Drives	.5	10
OE038T	Speed Accuracy & Prod Building	.5	10
AC004V	Office Accounting	4	48
PY004U	Psychology of Human Relations	2	24
BY006U	Basic Anatomy and Physiology	4	60
BY001V	Medical Secretarial Terminology	3	48
OE012V	Medical Secretarial Typing	3	48
OE011V	Medical Secretarial Office Procedures	4	48
MS007V	Pharmacology	1	24
OE010V	Medical Machine Transcription	3	36
LW001V	Medical Law	1	24
	Electives ²	15	15-20

¹Modules 19-24 are required if the shorthand sequence is not taken.

²Electives other than shorthand may be taken with the approval of the coordinator.

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
DP006T	Computer & D.P. Concepts	3	
DP048U	Business App. of Data Processing	2-3	
EC004T	Economics Macro	3	36
EC005T	Economics Micro	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 and	5	60
MA011T	Fundamentals of Statistics or	5	60
MA026T	Quantitative Method I		
MA027T	Quantitative Method II		
	General Education Elective	6	72

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
DP006T	Computer & D.P. Concepts	3	
DP048U	Business Applications of D.P.	2-3	
LW005T	Business Law I	3	36
EC002T	Principles of Business Economics I	3	36
CM002U	Communication Skills I	3	36
CM003U	Communication Skills II	3	36
MA002U	Basic Mathematics	0	arr.
PD005T	Human Potential Laboratory	2	24

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	3	36
MK018U	Principles of Display	2	36
MK019U	Small Business Org./Man.	2	24
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	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 Seminar	6	144
HE002U	Fashion History	3	36
MK008U	Fashion Show Procedures	5	60
AT001U	Fashion Art	3	36
HE003U	Textiles	3	36
HE004U	Textiles Laboratory	1	24
CM204T	Speech I	3	36
PY004U	Psychology of Human Relations	3	36
PD001U	Personal Development I	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
MK002T	Prin. of Retailing	4	48
	Electives	10	

Food Store Management

The Food Store Management 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 meet-

ing the requirements of this vast and rapidly expanding field of work.

The Food Store Management 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 Seminar	6	144
AM003T	Business Internship	24	864
MK041U	Food Store Merch. I	3	36
MK042U	Food Store Merch. II	3	36
MK013U	Food Store Planning and Layout	3	36
AM005U	Checkout Management	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
EC002T	Principles of Business Economics	4	48
DP046U	Elements of Data Processing I	3	36
	Electives	12	144

Food Service Training

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

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

Graduates receive a diploma.

		Cr.	Hrs.
HE001U	Introduction to Food Service/ Hospitality Careers	1	12
HE010U	Nutrition and Food Composition I	4	48
HE009U	Food Service Sanitation and Safety	3	36
MA002U	Basic Mathematics	0	36
CM002U	Communication Skills I	3	36
HE005U	Food Production I	6	144
MA017U	Food Service Related Math	3	36
PY004U	Psychology of Human Relations	3	36
HE011U	Nutrition and Food Composition II	4	48
HE008U	Menu Planning and Servicing Fundamentals	3	36
HE006U	Food Production II	6	144
	Elective	3 or 4	36/48
HE016U	Quantity Food Purchasing	3	36
HE015U	Production Analysis	3	60
HE007U	Food Production III	3	72
HE017U	Food Service Internship I	6	216

Food Service Management

Courses providing advanced study in technical, related and general education and additional on-the-job training applicable to food service management, commercial or institutional, will be available for the students interested in management careers. The three-quarter program for food production personnel and/or permission of the program coordinator are a prerequisite to this advanced course of study.

Graduates receive an Associate of Applied Science Degree.

		<i>Cr.</i>	<i>Hrs.</i>
CM003U	Communication Skills II	3	36
HE014U	Food Service Cost Control	3	36
AM022U	Principles of Supervision	3	36
EC002T	Business Economics	4	48
AM052U	Dining Room Management I	5	108
AM053U	Dining Room Management II	5	108
AC004U	Food Service Bookkeeping	3	36
LW005T	Business Law	4	48
CM201T	Speech	3	36
HE012U	Equipment and Design	4	60
HE013U	Gourmet Foods/Catering	3	72
HE018U	Food Service Internship II	6	216
MK019U	Small Business Ownership and Operation	2	24
	Elective	3 or 4	36/48

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.

		<i>Cr.</i>	<i>Hrs.</i>
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
AC005V	Floriculture Bookkeeping	4	4
MK002V	Floriculture Seminar	1	2
MK021U	Sales Presentation	3	3
AT004V	Floral Designing IV		6

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	4	48
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
MK034U	Home Furnishings Seminar	6	144

MK014U	Merchandising	4	48
AT003U	Survey of Interiors I	2	24
MK032U	Home Furnishings I	3	36
MK033U	Home Furnishings II	4	48
HE003U	Textiles	3	36
HE004U	Textiles Laboratory	1	24
AT002U	Decorative Accessories	2	48
CM201T	Speech I	3	36
PY004U	Psychology of Human Relations I	3	36
AT004U	Design Relationships	2	24
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.
AT006U	Survey of Interiors II	2	24
MK019U	Small Business Organization/Management	2	24
	Electives	12	

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	4	48
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
MK016T	Counselor Selling	4	48
MK019U	Small Business Organization and		
	Operation	2	24

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

Retail Management

The Retail Management 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.

		Cr.	Hrs.
MK010U	Retail Marketing Seminar	6	144
MK003T	Principles of Selling	4	48
MK002T	Principles of Retailing	4	48
MK001T	Principles of Marketing	4	48
MK017U	Principles of Advertising	4	48
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

70 VOCATIONAL- TECHNICAL PROGRAMS

Credit Supplemental Programs Management Development

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

The program provides an extensive selection of both general and technical management courses offered on either a credit or non-credit basis. All programs lead to a Certificate of Completion, which verifies that you have acquired the specialized training, knowledge and skills needed for management-level advancement. A certificate can be attained by completing 30 quarter hours of credit in either Industrial Management, Sales/Marketing Management, Administrative Management, or Traffic/Transportation Management. Other programs in Agribusiness and Allied Health are being planned for the near future.

Credits earned in the Management Development program can be applied toward a Diploma of 54 credit hours, or towards an Associate of Applied Science or an Associate of Arts degree both 90 quarter hours in length.

Any student pursuing an Associate of Arts degree and who anticipates transferring this degree as the first two years of a four year degree, should first obtain advice from Kirkwood counselors or the coordinator of the Program on the transferability of this Program. This transferability will vary depending upon the 4 year institution involved.

Previously taken courses at any accredited institution which parallel the offerings of the Management Development program will be considered for credit. Previous work experience related to the student's career emphasis will also be considered for credit towards the Diploma and Associate Degree programs.

*I. MANAGEMENT DEVELOPMENT
CERTIFICATE PROGRAMS
(Option 1)*

*A. INDUSTRIAL MANAGEMENT (30 quarter hours
minimum)*

REQUIRED CORE COURSES

Introduction to Management
Techniques of Supervision
Human Behavior in Organizations
Principles of Business Economics
(Principles of Econ may be substituted)
Management Communications

SPECIALIZED OR CAREER COURSES

Required for all Industrial Management students — none
Any three of the following courses are required:

Industrial Engineering
Inventory Production & Control
Labor and Management Relations
Work Simplification
Introduction to Quality Control

Management Tools for Decision Making
Industrial Marketing
Introduction to Purchasing

ELECTIVES TO BE CHOSEN FROM:

Any courses listed under Specialized Area not selected to meet that requirement and these additional courses:

Human Resources Management
Accounting for Non-Accounting Managers
Data Processing for Non-DP Managers
OSHA/Its Application
Management by Objectives
Organizational Behavior
Current Topics in Management
Blue Print Reading
The Metric System
Human Potential Lab

*B. SALES/MARKETING MANAGEMENT (30 quarter
hrs minimum)*

REQUIRED CORE COURSES

Introduction to Management
Techniques of Supervision
Human Behavior in Organizations
Principles of Business Economics
(Principles of Econ may be substituted)
Management Communications

SPECIALIZED OR CAREER COURSES

Required for all Sales/Marketing students — none
Any 3 of the following courses are required:

Sales Promotion for Results
Sales Management
Counselor Selling
Principles of Marketing

Industrial Marketing
Principles of Selling

ELECTIVES TO BE CHOSEN FROM:

Any course listed under Specialized Area not selected to meet that requirement and these additional courses:

Labor and Management Relations
Human Resources Management
Management Tools for Decision Making
Accounting for Non-Accounting Managers
Management by Objectives
Data Processing for Managers
Organizational Behavior
Current Topics in Management
The Metric System
Blue Print Reading
Human Potential Lab

C. ADMINISTRATIVE MANAGEMENT (30 quarter hrs)

REQUIRED CORE COURSES

Introduction to Management
Techniques of Supervision
Human Behavior in Organizations Principles of Business Economics
(Principles of Econ may be substituted)
Management Communications

SPECIALIZED OR CAREER COURSES

Required for all Office/Administrative students — None
Any three of the following courses are required:

Office Management
Human Resources Management
Wage and Salary Administration
Public Administration

Management Information Systems
Labor and Management Relations

ELECTIVES TO BE CHOSEN FROM:

Any courses listed under Specialized Area not selected to meet that requirement and these additional courses:

Accounting for Non-Accounting Managers
Management by Objectives
Human Resources Management
Data Processing for Managers
Organizational Behavior
Current Topics in Management
Human Potential Lab

D. TRAFFIC & TRANSPORTATION MANAGEMENT

REQUIRED CORE COURSES

Introduction to Management
Techniques of Supervision
Human Behavior in Organizations
Principles of Business Economics
(Principles of Econ may be substituted)
Management Communications

SPECIALIZED OR CAREER COURSES

*All these courses required for Traffic student;

Traffic & Transportation Mgmt I
Traffic & Transportation Mgmt II
Traffic & Transportation Mgmt III
Traffic & Transportation Mgmt IV
Traffic & Transportation Mgmt V
Traffic & Transportation Mgmt VI

RECOMMENDED ELECTIVES

None

II. MANAGEMENT DEVELOPMENT
DIPLOMA PROGRAM
(Option 2)

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

- Intro. to Sociology
- Principles of Economics I, II
- Human Potential
- Business Law I
- Principles of Accounting I, II, III
- General Psychology
- Speech
- Comp. I, II

III. ASSOCIATE DEGREE PROGRAMS(Option 3)

The student may complete either an Associate of Applied Science Degree or an Associate of Arts Degree in Management Development. Both degrees include 90 quarter hours of course work.

- A) The Associate of Applied Science Degree is a more "technically" oriented degree which allows the student to specialize further than he might under the AA degree, in a specific occupational area.

The student must complete at least 18 hours from the general education core and must have completed one of the 30 hour certificate program options for this award.

- B) Associate of Arts Degree requires the student to complete the college's requirements for the AA degree and in addition must have completed one of the 30 hour certificate programs of Management Development out-

lined previously. Special attention should be given to the planning of this program option if the student anticipates transferring as the transferability will vary depending upon the institution involved.

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>		<i>Cr.</i>	<i>Hrs.</i>
DP001U	Self-Service Aids	1	12
DP002U	Punched Card Data Processing	2	36
DP006T	Computer and DP Concepts	3	36
DP013U	Intro. to Cobol Prog.	5	84
DP004U	Flowcharting Techniques	2	24
	Electives	3	36
		18	254
<i>Second Quarter</i>			
DP020U	Program Analysis	2	36
DP043U	Documentation I	2	24
DP040U	Related Equipment I	1	24
DP022U	Disk Operating System (DOS) Coding	5	84
DP014U	Adv. Cobol Prog.	5	84
	Electives	3	36
		18	288

Third Quarter

DP023U	Advanced Disk Operating System (DOS) and Data Mang.	5	84
DP007U	Assembler Lang. I	5	84
DP016U	Introduction to Fortran Prog.	3	48
DP049U	Introduction to Systems	3	36
		<hr/>	<hr/>
		16	252

Fourth Quarter

DP008U	Assembler Lang. II	5	84
DP028U	Telecommunications Concepts	3	36
CM002U	Communication Skills I	3	36
AC001U	Accounting Survey	3	36
	Electives	3	36
		<hr/>	<hr/>
		17	128

Second Year

Fifth Quarter

		<i>Cr.</i>	<i>Hrs.</i>
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	2	36
		<hr/>	<hr/>
		18	300

Sixth Quarter

AM022U	Principles of Supervision	3	36
DP037U	Installation Management I	3	36
DP006U	Applied Statistics	3	36
DP036U	Assigned Programming Projects	5	108
	Electives	3	37
		<hr/>	<hr/>
		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	3	36
		<hr/>	<hr/>
		18	216

Eight 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	6	72
		<hr/>	<hr/>
		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.

First Quarter

		<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	3	72
		<hr/>	<hr/>
		17	264

Second Quarter

DP027U	Systems Utilities	2	36
DP039U	Records and Scheduling of Data Processing Oper.	3	36
AM022U	Principles of Supervision	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	3	72
		<hr/>	<hr/>
		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.

		Cr.	Hrs.
DP003V	Vocational Key punch	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	3	36
		17	300

ENVIRONMENTAL OCCUPATIONS

ENVIRONMENTAL HEALTH/ TECHNOLOGY

In 1973, the Environmental Health Assistant program was expanded to include six months, or two additional quarters, of campus connected classroom, laboratory, and practical field learning experiences. Only graduates of the Environmental Health Assistant program are eligible to enroll in this expanded program. Environmental Health Assistants who successfully complete the additional course work will receive an Associate of Applied Science Degree in Environmental Health Technology, and be considered a qualified Environmental Health Technician. The Environmental Health Technician will be able to perform the same tasks, and be eligible for the same job positions, as the Environmental Health Assistant. However, the Environmental Health Technician will also be able to perform job tasks in the following areas: planning, zoning, radiation monitoring, and evaluation of public water and wastewater treatment plants. Such additional capabilities may enable the Environmental Health Technician to qualify for additional job positions in the following types of agencies: Planning and Redevelopment departments, Zoning Administration offices, Civil Defense and Disaster Preparedness agencies, and Radiation Monitoring units.

Graduates receive an Associate of Applied Science Degree.

		Cr.	Hrs.
<i>First Quarter</i>			
EV001T	Man and His Environment	4	48
PY002T	General Psychology	4	48
EV002U	Environmental Health Administration	4	48
EV011U	Planning and Zoning	4	48
PH002U	Introduction to Physics	4	48
<i>Second Quarter</i>			
EV019U	Radiation Control	3	36
EV003U	Public Water Technology	4	60
EV002U	Public Wastewater Technology	4	60
PS003T	State and Local Government	4	48
<u>CM003U</u>	Communication Skills II	3	36

*Program has Veteran's approval.

(Term in which courses are offered subject to change.)

ENVIRONMENTAL HEALTH ASSISTANT

The Environmental Health Assistant program is designed to prepare the student, men and women, for careers with city and county boards of health, housing improvement agencies, state environmental quality and agriculture departments, plus private industries.

The Environmental Health Assistant curriculum is four quarters in length. It features a combination of classroom, laboratory and practical field learning experiences, during the first three quarters. The last quarter, usually the summer, involves a student internship in an environmental health agency, such as a local health department.

Graduates receive a diploma.

		Cr.	Hrs.
<i>First Quarter-</i>			
EV004U	Introduction to Environmental Health	3	48
EV015U	Insect and Rodent Control	3	36
EV012U	Private Wastewater Systems	5	72
<u>MA018D</u>	Beginning Algebra	5	60
<u>CH001T</u>	Principles of Chemistry	4	60

environ. catalog numbers can be changed back to F173 on a per student basis

these were all v courses at one time

Second Quarter		
MS001U	Diseases of Man	3 36
EV003U	Housing Inspection	5 60
EV006U	Food Sanitation	4 60
EV016U	Private Water Supplies	4 60
BY010U	Principles of Microbiology	3 60
Third Quarter		
EV008U	Occupational Health & Industrial Safety	4 60
EV009U	Recreational Sanitation	5 72
EV010U	Solid Waste Management	5 72
EV018U	Air Quality Management	3 36
EV007U	Milk Sanitation	5 72
CM002U	Communication Skills I	3 36
Fourth Quarter		
EV013U	Supervised Field Studies	10 384
EV014U	Seminar — Environmental Health	2 24

Second Quarter		
EV024V	Water Treatment and Distribution	16 264
PH002V	Intro. to Physics	4 60
CM002U	Communications Skills I	3 36
Third Quarter		
EV023V	Wastewater Treatment	21 300
CH010T	Principles of Chemistry	4 60
Fourth Quarter		
EV027V	Water and Wastewater Plant Administration	2 24
EV028V	Research Projects	6 80
AM005T	Principles of Management	3 48
EV026V	Supervised Field Study	13 320

*Program has veteran's approval.
(Term in which courses are offered subject to change.)

(Term in which courses are offered subject to change.)

WATER AND WASTEWATER TECHNOLOGY

The Water and Wastewater Technology program is designed to prepare the student for entry employment in the areas of collection, distribution, treatment, and laboratory analysis in water and wastewater facilities. The four quarter curriculum is implemented with classroom, laboratory, and practical field learning experiences, with the last quarter devoted to basic management, research projects, and eight weeks of supervised internship in area treatment plants. A specially designed laboratory is available for realistic experiences.

The vast expanding field can provide career opportunities with municipal or privately owned water or wastewater facilities, State and Federal regulatory agencies, private laboratories, and engineering firms.

Graduates of the one year program receive a diploma and state certification as Water and Wastewater Treatment Plant Operator.

First Quarter		
EV025V	Water Resources and Water Quality Control	15 240
MA018D	Beginning Algebra	5 60
BY010U	Principles of Microbiology	4 60

HEALTH OCCUPATIONS

Nursing Education

The cored approach to Practical and Associate Degree Nursing provides the career ladder opportunity on an optional basis with skills common to the Practical and Technical Nurse offered.

By providing a common core of learning experiences, Nursing Education will:

- 1) increase student's occupational options
- 2) provide a curriculum structure which is more adaptable to providing for the student, with previous health care experience, who seeks advance placement.
- 3) increase direct health care experiences prior to the student's making an occupational decision.
- 4) more efficiently and effectively utilize faculty expertise and on-and-off campus facilities.

Students will be admitted to Nursing Education if they are 17 years of age or older on a first come first serve basis.

First Quarter

NS003U	Nursing I (Fund. of Nursing)	9
BY006U	Anatomy and Physiology (Basic)	4
NS13U	Nutrition	2
NS002U	Metrology	1

Second Quarter

NS004U	Nursing II (Med.-Surg.)	10
PY002T	Psychology	4
CM201T	Speech	3

Third Quarter

NS005U	Nursing III (Maternal & Child)	10
BY004U	Microbiology I	4
PY020T	Psychology of Growth and Dev.	4

Students will be counseled into the PN or ADN program on the basis of:

- (a) student's goals, expectations, and interests.
- (b) ability to meet Nursing I, II, and III objectives.
- (c) performance.

(No single factor will determine the direction the student takes.)

Practical Nursing Program

Following successful completion of Nursing I, Nursing II, and Nursing III the student entering Nursing PN IV will spend approximately sixteen hours in the clinical area per week and approximately four hours in the classroom. Much of the student's learning is done on an independent basis.

Graduates receive a diploma and is eligible to write the state examination for practical nursing.

Fourth Quarter

	PN Nursing IV (Med-Surg.)	13
	Nursing Seminar	2
CM001T	Composition I or Elective	2-4

Associate Degree Nursing

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

Graduates receive an Associate of Applied Science Degree.

Fourth Quarter

NS006U	ADN Nursing IV (Psychiatric Nursing)	10
CM101T	Composition I	4
SQ004T	Sociology <i>Intro</i>	4

Fifth Quarter

NS007U	ADN Nursing V (Med-Surg)	12
BY008U	Mod Anatomy and Physiology - <i>Homeostatic</i>	4
	Elective	2

Sixth Quarter

NS008U	ADN Nursing VI (Med-Surg)	12
CM102T	Composition II	4
	Elective	2

Seventh Quarter

NS009U	ADN Nursing VII (Adv. Maternal & Child Nut)	12
NS001U	Changing patterns in Health Care and Nursing	1
SQ006T	Social Problems	4

Eighth Quarter

NS010U	ADN Nursing VIII (High Priority Care and Man. Prin.)	16
NS011U	Seminar Nursing	2

Nursing Education Advance Placement

The Advance Placement segment of the Nursing Education Program is a fifteen-month course for LPN's, coremen, or those who have had some basic nursing education. The students take a series of challenge exams and diagnostic tests to evaluate their areas of strengths and weaknesses. They may receive up to 3 quarters of credits of the Associate Degree Nursing Program and start at the Nursing IV level. They also enroll in an advance placement seminar which is to assist the students in the transition from practitioner to student.

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. An Associate of Applied Science Degree or Associate of Arts Degree will be awarded if minimal requirements are met. Refer to the requirement for these degrees listed in this catalog.

First Quarter		Cr.	Hrs.
DN102U	Dental Materials	5	72
DN103U	Dental Assisting	6	84
DN101U	Dental Orientation	3	36
DN115U	Dental Lab. Assisting I	3	60
BY110U	Dental Anatomy	3	36
BY111U	Head and Neck Anatomy	3	36
		23	324

Second Quarter		
DN113U	Dental Radiography I	2 36
DN116U	Dental Lab. Assisting II	2 36
DN109U	Lab. Practicum I	4 96
CM101T	Composition I	4 48
MS028U	First Aid	1 12
BY109U	Oral Microbiology	2 36
DN120U	Dental Pharmacology (mod) Specialties (sequenced)	1 12
DN106U	Pedodontics (mod)	1 12
DN107U	Oral Surgery (mod)	1 12
DN117U	Periodontics (mod)	1 12
DN118U	Endodontics (mod)	1 12
DN123U	Orthodontics (mod)	1 12
		21 336

Third Quarter		
PD005T	Human Potential (or Gen. Psych.)	2 24
DN114U	Dental Radiography II	2 24
AM033U	Dental Office Management I	2 36
DN110U	Lab. Practicum II	6 144
CM204T	Speech I (or equal)	3 36
DN121U	Preventive Dentistry	2 36
DN122U	Oral Pathology (mod)	1 12
		18

Fourth Quarter		
AC007U	Dental Bookkeeping	2 36
AM034U	Dental Office Management II	3 36
DN111U	Clinic I	4 108
DN112U	Clinic II	4 108

Preventive Dentistry Program

This program is designed for dental assistants who wish to specialize in dental patient education.

Curriculum		Cr.	Hrs.
DN127U	Preventive Dentistry Seminar I	3	36
DN129U	Preventive Dentistry Lab I	1	12
PY002T	General Psychology	4	48
	Elective	4	48
DN128U	Preventive Dentistry Seminar II	3	36
DN130U	Preventive Dentistry Lab II	2	48
SO004T	Introduction to Sociology	4	48
PY004T	Educational Psychology	4	48

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>			
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>			
DN006U	Clinical Experience I & Seminar	12	384
<i>Fourth Quarter</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

<i>Fifth Quarter</i>			
DN008U	Acrylic Jacket Crowns and Veneers	5.5	102
DN027U	Partial Denture Techniques II	5	60
DN022U	Denture Techniques II	6	120
PY002T	General Psychology	4	48
DN015U	Projects Lab. IV (DLT)		36
<i>Sixth Quarter</i>			
DN009U	Precision Attachment Partial	6	120
DN010U	Cast Metal Base Dentures	3	60
DN011U	Porcelain Techniques	5	96
CM002U	Communication Skills I	2.5	36
DN020U	Laboratory Management (DLT)	2.5	48
<i>Seventh Quarter</i>			
PY007U	Sales Psychology and Human Relations	3	36
DN028U	GIS (Orthodontics)	16	348
	GIS (Orthodontics)	8	156
DN029U	GIS (Fixed Bridges)	16	348
	GIS (Fixed Bridges)	8	156
DN030U	GIS (Ceramics)	16	348
	GIS (Ceramics)	8	156
DN031U	GIS (Removable Bridges)	16	348
	GIS (Removable Bridges)	8	156
DN032U	GIS (Full Dentures)	16	348
	GIS (Full Dentures)	8	156
		16	384

(NOTE: A student may select a 16 hour course or two 8 hour courses from the curriculum)

<i>Eighth Quarter</i>			
DN007U	Clinical Experience II & Seminar (DLT)	12	384

Respiratory Therapy

The Respiratory Therapy curriculum is designed to prepare students as allied health specialists in the field of respiratory therapy.

The role of the Respiratory Therapist is primarily, but not limited to, cardio-respiratory care in the form of: oxygen administration, ventilatory support, blood gas analysis, chest-physiotherapy, and pulmonary rehabilitation. His role also often encompasses other related therapeutic and diagnostic functions such as pulmonary function testing, electrocardiography, and cardio-vascular monitoring.

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

Graduates receive an Associate of Applied Science Degree.

First Year

First Quarter

	<i>Cr.</i>	<i>Hrs.</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 Respiratory Therapy I	4	5
		<u>23</u>

Second Quarter

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 Therapy Techniques	4	5
		<u>24</u>

Third Quarter

BY010T Human Anatomy & Physiology III	4	6
BY007U Medical Microbiology	2	3
MS018U Fundamentals of Respiratory Therapy III	7	12
PH001T Medical Physics	4	5
		<u>26</u>

Fourth Quarter

MS019U Supervised Laboratory Experience I	16	30
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Second Year

Fifth Quarter (Fall)

	<i>Cr.</i>	<i>Hrs.</i>
PY002T General Psychology	4	7
Elective	4	4
MS018U Fundamentals of Respiratory Therapy III	7	12
MS020U Supervised Laboratory Experience II	6	12
	<u>21</u>	<u>35</u>

Sixth Quarter (Winter)

CM201T Speech	3	3
Elective	4	4
MS024U Respiratory Therapy Techniques II	2	3

MS021U Supervised Laboratory Experience III	9	17
	<u>18</u>	<u>27</u>

Seventh Quarter (Spring)

MS032U Independent Study	3	3
AM023U Medical Department Management	3	3
MS022U Supervised Laboratory Experience IV	12	23
	<u>18</u>	<u>29</u>

Eighth Quarter (Summer)

MS020U Supervised Clinical Experience V & Seminar	12	30
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total 224

Medical Assistant Program

The Medical Assistant Program is comprised of four, twelve-week quarters. The duties of the assistant, under the doctor's supervision, are both administrative and clinical. The typical day may include answering the telephone and scheduling appointments, assisting the doctor with examinations, arranging hospital admissions, assisting in emergencies, performing laboratory tests authorized by the doctor, ordering medical supplies and typing medical reports and filling in insurance forms.

Following graduation, the student may take the national certification test offered by the American Association of Medical Assistants. Those passing the test become nationally certified medical assistants.

Graduates of the program receive a diploma. The Medical Assistant Program at Kirkwood is accredited by the Council on Medical Education of the American Medical Association in cooperation with the American Association of Medical Assistants.

First Quarter

	<i>Cr.</i>	<i>Hrs.</i>
Medical Procedures I	5	108
Integrated Basic Science I	10	168
Psychology of Human Relations I	4	48
Medical Law and Economics	2	24

<i>Second Quarter</i>		
Medical Procedures II	7	120
Integrated Basic Science II	4	84
Psychology of Human Relations II	4	48
Business Skills I	3	72

<i>Third Quarter</i>		
Medical Procedures III	4	84
Integrated Basic Science III	3	36
Medical Typing	2	36
Clinical Experience I (MA)	6	168
English Elective	3	36

<i>Fourth Quarter</i>		
Medical Office Management	1	12
Medical Psychology and Social Problems	2	24
Clinical Experience II and Seminar (MA)	12	288

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 co-operating 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.

<i>First Quarter</i>			
BY006U	Basic Anatomy and Physiology	4	60
PY002T	General Psychology	4	48
TH010V	Orientation to Occupational Therapy	2	60
TH007V	Media and Skills I	2	48
CM101T	Composition I	4	48
PS005T	Human Potential Laboratory	2	24
MS028V	First Aid	1	24
PY002V	Interpersonal Relationships	3	48

<i>Second Quarter</i>			
BY008U	Modular Anatomy and Physiology	4	60
TH004V	Function and Dysfunction	5	84
TH007V	Media and Skills II	2	96
CM001V	Medical Communications	3	36
TH013V	Project Lab OTA	1	24
PY020T	Psychology of Growth/Development, Conception-Senescence	4	48

<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 the fourth quarter)		
TH003V			

<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.

	Cr.	Hrs.
<i>First Quarter</i>		
Basic Anatomy and Physiology	4	60
<u>Principles of Biology</u>	<u>4</u>	60
Principles of Immobilization I	3	60
Operating Room Techniques	3	48
Introduction to Health Care & Personnel Relations	2	36
<u>Comp I</u>	<u>4</u>	48
	20	312
<i>Second Quarter</i>		
Modular Anatomy and Physiology	4	60
Microbiology I	4	84
Emergency Care	4	60
Orthopaedic Conditions I	4	48
Supervised Laboratory Experience I	6	144
	20	396
<i>Third Quarter</i>		
Principles of Immobilization II	3	60
Supervised Laboratory Experience II	7	180
Orthopaedic Conditions II	4	48
<u>Comp II</u>	<u>4</u>	48
<u>Speech</u>	<u>3</u>	36
	19	372
<i>Fourth Quarter</i>		
Introduction to Physical Therapy, Orthotics and Prosthetics	3	48
Office Procedures	2	36
Supervised Laboratory Experience III/Seminar	9	216
<u>General Education (1 Elective)</u>	<u>4</u>	48
	16	348
<i>Fifth Quarter</i>		
Supervised Clinical Experience IV/Seminar	12	360
<i>Sixth Quarter</i>		
Supervised Clinical Experience V/Seminar	12	360

Operating Room Technician

The Operating Room Technician is prepared to function in the operating room under the supervision of an R.N., assisting surgeons and anesthesiologists. She/he is knowledgeable in the function of surgical instruments and equipment and can identify and prepare instruments for a variety of operative procedures; able to set up the operating room suite and sterile tables, and prepare the patient for an operative procedure during which she/he utilizes aseptic technique in passing instruments and assisting the surgical team as directed. Other responsibilities include: transferring and transporting patients to and from the operating room; care of operative specimens; operating sterilizers, lights, suction machines, and electrosurgical apparatus. She/he may also be prepared to assist professional personnel in the emergency room and delivery room.

	Cr.	Hrs.
<i>First Quarter</i>		
*Basic Anatomy and Physiology I	4	60
*Introduction to Health Care and Personnel Relations	2	36
*Operating Room Techniques	3	48
Composition I (4) or Composition Skills I (3)	4/3	48/36
Integrated Practicum (Independent Study)	2	72
General Psychology	4	48
	19/18	312/300
<i>Second Quarter</i>		
Applied Pharmacology (1st 6 weeks only)	1	12
Microbiology (2nd 6 weeks only)	2	42
*Emergency Care	3	48
Operating Room Techniques II	3	48
Supervised Clinical Practicum I	6	216
	15	366
<i>Third Quarter</i>		
Operating Room Techniques III	3	48
Psychology Growth and Development	4	48
Supervised Clinical Practicum II and Seminar	8	264
	15	360

<i>Fourth Quarter</i>		
Operating Room Techniques IV	3	36
Supervised Clinical Practicum III/Seminar	10	360
	<hr/>	<hr/>
	13	396

*Courses cored with the Orthopaedic Physician's Assistant curriculum

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 residential. The total course is four twelve-week quarters or 1,440 clock hours.

Graduates receive a diploma.

<i>First Quarter</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	20
GR012V Related Disciplines	2	2
CS001V Estimating	3	3
CS002V Presentations	2	2
CM002U Communication Skills I	3	3

<i>Fourth Quarter</i>		
GR011V Architectural Drafting IV	14	29
PY003V The Profession	1	1

Additional minimum requirements for an Associate Degree.

<i>Math/Science</i>		<i>Credits</i>
MA004T	College Algebra	5
MA010T	Trigonometry	5
or		
PH001T	College Physics	4
PH002T	College Physics II	4

<i>Humanities</i>		
AT002T	Art History I	3
AT003T	Art History II	3
AT004T	Art History III	3
or		
HY004T	Western Civilization I	4
HY005T	Western Civilization II	4

Europe in the age: }

<i>Social Science</i>		
PS003T	State and Local Government	<i>Iowa Govt - Today + Tomorrow</i>
PY002T	General Psychology	4
or		
SO004T	Introduction to Sociology	4
or		
SO008T	Introduction to Cultural Anthropology	4
<i>English</i>		
CM101T	Composition I	4
CM102T	Composition II	4
CM201T	Speech I — Public Speaking	3

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

An Associate of Applied Science Degree can be awarded if the diploma and requirements are met regardless of sequence.

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)		75
Welding		75
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	5
<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 the automotive shop.

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>	<i>Cr.</i>	<i>Hrs.</i>
MH001V Auto Mechanics Lab I	10	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	2	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
*MM010V	Auto. Mech. Welding	2	48

*Will be offered when schedule allows.

<i>Third Quarter</i>					
EL004V	Television I	11	5	12	17
✓ EL003V	Broadcast Systems	4	3	2	5
✓ EL007U	Communication Electronics I	5	3	5	8
<i>Fourth Quarter</i>					
EL006V	Troubleshooting	5	1	9	10
EL008U	Communication Electronics II	5	3	4	7
AM003U	Business Practices	3	3	0	3
EL005V	Television II	4	2	5	7
EL013V	Digital Circuits	2	1	2	3

Electronics/Electrical Occupations

Three programs are offered in the electronics field providing for a vast range of interests, backgrounds and abilities.

Communication Electronics

Communication Electronics is oriented toward the fields of radio and television broadcasting and radio-TV servicing. Major emphasis is on maintenance and troubleshooting of existing equipment. Successful completion of the Communication Electronics program qualifies the student for an entry job as a radio-TV serviceman, broadcast engineer, two-way radio serviceman, test technician, commercial sound technician, or as a technician in many related fields. A diploma is awarded to those who successfully complete this four quarter course.

Graduates receive a diploma.

<i>First Quarter</i>				<i>Cr.</i>	<i>Lec.</i>	<i>Lab.</i>	<i>Hrs.</i>
EL001U	Introduction to Electronics	3	1	5	6		
EL029U	Electronic Circuits I	12	8	8	16		
MA012U	Technical Mathematics I	4	4	1	5		
EL001V	Electronic Shop Methods	1	0	3	3		
<i>Second Quarter</i>							
EL030U	Electronic Circuits II	10	5	10	15		
EL002V	Audio Systems	5	4	8	12		
CM002U	Communication Skills I	3	3	0	3		

Electronics Engineering Technology

Electronics Engineering Technology is oriented toward research and development electronics. Major emphasis is on circuit analysis, basic design and modification. Successful completion of the Electronics Engineering Technology program qualifies the student for an entry job as a research and development technician, an engineering associate, or an instrumentation technician in certain industries. Other occupations include field engineer, sales representative, and electronics draftsman. An Associate Degree is awarded to those who successfully complete this six-quarter program.

<i>First Quarter</i>				<i>Cr.</i>	<i>Lec.</i>	<i>Lab.</i>	<i>Hrs.</i>
EL001U	Introduction to Electronics	3	1	5	6		
EL002U	Electric Circuits I	7	5	4	9		
MA012U	Technical Mathematics I	4	4	1	5		
EG008U	Engineering Problems	3	2	3	5		
CM002U	Communication Skills I	3	2	3	5		
<i>Second Quarter</i>							
EL003U	Electric Circuits II	7	5	4	9		
EL035U	Active Devices	7	4	6	10		
MA014U	Technical Mathematics II-E	4	4	1	5		
CM003U	Communication Skills II	3	3	0	3		
PY004U	Psychology of Human Relations I	3	3	0	3		
<i>Third Quarter</i>							
EL031U	Electric Circuits III	7	5	4	9		
EL015U	Solid State Circuit Analysis & Design	7	4	6	10		
GR001U	Electronic Drawing	3	1	5	6		
MA015U	Technical Mathematics III	4	4	1	5		

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Fourth Quarter

EL013U	Industrial Electronics	3	2	3	5
EL033U	Electronic Test Methods	3	2	3	5
EL034U	Transform Circuit Analysis	4	3	2	5
EL006U	Communication Electronics	7	4	6	10
PH001U	Applied Physics I	4	3	2	5

Fifth Quarter

EL022U	Network Analysis and Design	4	3	2	5
EL014U	Pulse and Switching Circuits	6	5	2	7
PH002U	Applied Physics II	4	3	2	5
EC003U	American Institutions	3	3	0	3
EL010U	Television Circuit Analysis	7	4	6	10

Sixth Quarter

EL024U	Advanced Electronic Problems	4	3	2	5
EL025U	Design Project	3	0	6	6
CM004U	Technical Reporting	3	2	3	5
EL021U	Digital Systems	4	3	3	6
EL012U	Transmission Systems	6	4	4	8

Electrical Equipment Servicing

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

First Quarter

	Cr.	Lec.	Lab.	Hrs.	
EL008V	Electrical Principles	11	8	7	15
PH001V	Mechanisms	4	3	2	5
MA011U	Mathematics I	5	5	0	5
EL009V	Shop Processes	2	0	5	5

Second Quarter

EL010V	Electrical Circuits	10	5	10	15
EL011V	Diagram Interpretation	3	2	3	5
EL012V	Electro-Mechanical Systems I	4	3	2	5
MA003U	Mathematics II	5	5	0	5

Third Quarter

EL018V	Principles of Refrigeration	7	5	5	10
EL014V	Electro-Mechanical Systems II	7	5	5	10
EL015V	Control Circuit Devices	5	4	3	7
PY004U	Human Relations	3	3	0	3

Fourth Quarter

EL016V	Control Circuits & Systems	8	5	7	12
EL017V	Equipment Troubleshooting	10	5	10	15
CM002U	Communication Skills	3	3	0	3

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-make-up, theory of color, stripping and plate-making, and offset presswork. In the final stages the student will become familiar with management problems, estimating, production control, plant organization and layout, industrial relations and related technical data.

First Quarter (Fall or Spring)

	Cr.	Lec.	Lab.	Hrs.	
GR011U	Copy Preparation I	7	24	120	144
GR007U	Layout and Design	4	12	84	96
GR009U	Typography	5	12	96	108
EC001U	Printing Economics	1	12	0	12
		17			360

Second Quarter (Winter or Summer)

GR012U	Copy Preparation II	8	24	156	180
GR027U	Offset Presswork I	4	12	84	96
GR021U	Process Camera I	2	12	20	32
GR024U	Stripping I	2	6	26	32
GR019U	Platemaking I	1	6	14	20
		17			360

<i>Third Quarter (Spring or Fall)</i>					
GR022U	Process Camera II	4	12	84	96
GR025U	Stripping II	3	12	48	60
GR028U	Offset Presswork II	7	24	120	144
GR020U	Platemaking II	3	12	48	60
		<hr/>			<hr/>
		17			360

<i>Fourth Quarter (Summer or Winter)</i>					
GR029U	Offset Presswork III	4	12	84	96
GR023U	Process Camera III	2	12	20	32
GR026U	Stripping III	2	12	20	32
GR031U	Bindery Operations	1	12	8	20
GR030U	Copy Preparation III	8	24	156	180
		<hr/>			<hr/>
		17			360

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	8
	<hr/>
	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 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 enter the machinist trade and to become skilled machinists or machine operators.

A balance of practical shop work and related instruction provide a solid foundation for future advancements in the trade. Related instruction includes shop math, blueprint reading and machine technology. The practical shop work is individualized so that students can progress at their own speed.

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

The day program is 3 quarters in length and involves 1080 clock hours and 55 credits. The evening program is 4 quarters in length and involves 920 clock hours and 48 credits. Its content is similar to the day program.

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
Turret lathe	75
Milling machine	200
Grinding	80
Special production machines	40
Mathematics and Blueprint Reading	200
Safety procedures	40
	<hr/>
	1080

		Day		Evening	
		Cr.	Hrs.	Cr.	Hrs.
<i>First Quarter</i>					
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

Single courses are available in the evenings and begin each college quarter. These courses are scheduled two evenings per week and involve 96 clock hours and 4 credits each.

These courses are as follows:

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

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.

<i>First Quarter</i>		Cr.	Hrs.
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>		Cr.	Hrs.
CM003U	Communication Skills II	5	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

<i>Third Quarter</i>		Cr.	Hrs.
MA015U	Technical Mathematics III	4	4
GR004U	Engineering Drawing III	5	10
EG001U	Statics	8	10
MH002U	Hydraulics	4	6

<i>Fourth Quarter</i>		Cr.	Hrs.
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

<i>Fifth Quarter</i>		Cr.	Hrs.
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

<i>Sixth Quarter</i>		Cr.	Hrs.
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.

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.

First Quarter

	<i>Cr.</i>	<i>Hrs.</i>
MM011V Introduction to Arc Welding	1	26
MM025V Weaving the Electrode	.5	12

MM028V	Flame Cutting	1	18
MM026V	Introduction to Joint Welding	1	28
MM027V	Powdered Iron Weld Methods	1	28
MM029V	Butt Joints — Flat	1	30
MM030V	Horizontal Weld Techniques	1	24
MM031V	Vertical Welding Techniques	1	26
MM032V	Overhead Welding Techniques	.5	18
MA011U	Mathematics I	3	36
MM034V	Blueprint Reading for Welders	3	36
MM033V	A.W.S. Test — Low Hydrogen Electrodes	3.5	78

Second Quarter

MM017V	Semi-Automatic Welding	3	60
MM035V	Oxy-acetylene Light Gauge Steel Welding	1	20
MM036V	Oxy-acetylene Heavy Steel Welding	1	20
MM037V	Brazing and Silver Solder	1	20
MM038V	Oxy-acetylene Cast Iron Repair	1	20
MM039V	Oxy-acetylene Non-Ferrous Materials	1	20
MM019V	Heliarc Welding	5	114
MM020V	Special Arc Welding Techniques	3	60
MA003U	Mathematics II	3	36

Third Quarter

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 & Shop Supervision	1	24

Special Courses

MM010V	Welding for Auto Mechanics	2	48
MM012V	Welding Special Projects	2	48

Apprenticeship Training 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 over 200 indentured apprentices, involving seven apprenticeship programs.

Represented in these programs are carpentry, electrical, ironworkers, millwright, plumbing and steamfitting, sheetmetal, and bricklayers. All are equal opportunity programs. Classes are presently being conducted in the eve-

ning at local school buildings, on college campus, 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 colleges Apprenticeship Coordinator, 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.	4000 — 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:

The curriculum covers the following major areas of instruction: mathematics, blueprint reading, welding and rigging. Contact local business agent for a more detailed breakdown of curriculum this year.

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:

	<i>Total Hours 8000+ Hours</i>
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.

Bricklayers

Official from local apprenticeship committee and Kirkwood Community College are presently anticipating an apprentice program in the merged area ten for the 1974-75 school year.





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.
- 2) The three numerals in the body of the course number are random, and do not imply sequence.
- 3) The letter at the end of the course number represents the level of instruction, according to the following code.

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

A list of courses no longer taught at Kirkwood is available by contacting the Registrar.

*T = Courses asterisked are under review by curriculum instruction committee for permanent approval as part of the Art & Sciences curriculum.

ACCOUNTING

College Parallel

Credit

- AC001T PRINCIPLES OF ACCOUNTING I (0647)** ^{3/4}
Approaches accounting theory and procedures from the business entity concept. Accounting principles covered include understanding the balance sheet and income statements, matching costs and revenues, working paper development, and debit-credit relationships. (3/0)
- AC002T PRINCIPLES OF ACCOUNTING II (0733)** ^{3/4}
Emphasizes partnership and corporate entities, worksheet adjustments and asset valuation. (3/0) Prereq: Principles of Accounting I.
- AC003T PRINCIPLES OF ACCOUNTING II (0831)** ^{3/4}
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, receivable, 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.
- AC003U ACCOUNTING FOR NON-ACCOUNTING MANAGER** **2**
Introduces the various financial statements and their relation and contribution to the profitability of a business to the non-financial manager. Also covers terminology used in accounting practices.
- AC004U FOOD SERVICE BOOKKEEPING** **3**
Covers basic principles of bookkeeping applicable to food service. Special attention is given to uniform system of accounts for food service establishments and institutions, preparation of financial statements, and recording of basic transactions. Includes working with 10-Key adding machine and the basic performance of a cash register. (3/0)
- 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 AGRIBUSINESS RECORDS** **4**
Designed to familiarize students with farm records: accounting inventories, valuation, cash flow, net worth, depreciation, and different types of record systems. (2/5)
- 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 statement. Special attention is given to patient billing, preparing for audits, peg board accounting, use of data processing services, and insurance tax forms. (4/0)

AC007U 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)

AEROSPACE

AF001T AFROTC CORPS TRAINING 0
Designed as a leadership training laboratory in which students plan, organize, and direct their own cadet corps program to provide a variety of leadership experiences for each student. Cadet corps meets one hour a week.

AF002T U.S. DEFENSE FORCES 2
An introductory course designed to acquaint students with the doctrine, mission, and organization of the U.S. Air Force, and the role of Army, Navy, and Air Force units in national defense. Two class hours a week during the Winter and part of the Spring Quarter. (0/2)

***AF003T THE DEVELOPMENTAL GROWTH OF AIR POWER-I (The Early Years) 2**

The entire year will be devoted to a critical analysis of the development of air power, doctrine, technology, organization, and employment of air power. Two class hours a week during Fall thru Spring Quarters. (0/2)

***AF004T THE DEVELOPMENTAL GROWTH OF AIR POWER-II (Post World War II — Present) 2**

Continuation of Air Power I. (0/2)

AGRICULTURE

Vocational-Technical

AG001U TECHNICAL AGRICULTURE I 3
Studies application of chemicals, attachments, up-to-date production practices, and current trends. (3/0)

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, 1
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. (2,1/3,0)

AG004U LIVESTOCK NUTRITION 4
Provides basic information needed by salesmen, and farmers in meeting the feed requirements of livestock. It includes an understanding of biological principles and body processes of animals. (3/2)

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 CAREER PLANNING SEMINAR (1061) 1
Assists the student in managing his affairs as an employee. Includes "mini courses" on current topics. Also includes planning a students courses and activities while at Kirkwood.

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. (4/0)

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 3

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. (2/3)

AG011U MACHINERY OPERATIONS (0762) 3

Features approved methods of operating all farm machines with emphasis on safety. (1/4)

*** AG012U EMPLOYMENT EXPERIENCE (0132) 1-9**

Offers employment arranged to give students practical full-time on-the-job training with an employer or self-employed.

AF013U AQUATIC WILDLIFE 2

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

AG014U FARMSTEAD PLANNING 3

Covers analyzing a farmstead, replanning it, and using capital to replace labor when profitable. The course includes types of equipment and methods of mechanization. (2/2)

AG015U PARKS MANAGEMENT PROBLEMS II 3

Offers an advanced study in the subject matter areas of personnel, land utilization, and park liability laws. (2/2)

AG016U FEED RATIONS (1214) 3

Deals with the technical work of the feed mill where formulating and mixing feed rations are practiced: selection of ingredients to provide specified amounts of nutrients, use of feed additives, types of feeds to recommend for different classes of livestock. (2/3)

AG017U FIELD CROP PRODUCTION 91266) 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 3

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. (2/2)

AG019U TURFGRASS MANAGEMENT 4

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. (2/5)

AG022U HORSE NUTRITION 4

Includes types of feed, required amount of nutrients, physiology, and up-to-date research. Values of feeds, requirements for different horses, different kinds of training, brood mares, foals, stallions, weanling, yearlings, race horses, old horses, endurance horses, etc. (2/3)

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)

AG026U GARDEN CENTER OPERATION 3

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. (2/3)

AG027U HOUSE PLANTS 3

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

AG029U LANDSCAPE CONSTRUCTION (1097) 4

Includes layout and execution of landscape plans incorporating the use of horticultural equipment, and land leveling, soil and water mechanics. (2/4)

AG030U LANDSCAPE DESIGN I (1094) 4

Develops understanding of the functions 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. (2/3)

AG032U RECREATIONAL AREA 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. (2/3)

AG033U GROUNDS EQUIPMENT MANAGEMENT 3
Offers advanced specialized training in servicing of equipment utilized in turf management. Much emphasis is placed on individualized study. (1/4)

AG034U LANDSCAPE DESIGN III 3
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. (2/3)

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 4
Provides a working knowledge of soils and fertilizers. This course prepares a student for making proper amendments to an existing soil as a means of improving its productivity. (2/4)

AG039U PLANT DISEASE AND INSECTS 4
Studies diseases and insects that are found on midwestern plant materials. A study of appropriate chemicals for treating these problems is also undertaken. (2/4)

AG041U AGRIBUSINESS TRAVEL 2-16
Studies livestock, crop and management problems in agriculture in the United States through traveling to points of interest selected by the Agribusiness and Natural Resources Department. Student travel time is from one to two weeks.

AG042U WEED IDENTIFICATION (1108) 3
Includes material on identification, classification, and control of midwestern 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) 4
Develops knowledge of adaptable plant materials used in the landscaping field. (2/4)

AG045U PLANT MATERIALS II (1095) 3
Continues Plant Materials I with increased emphasis on the adaptability of specific varieties and new varieties of nursery stock. Prereq: Plant Materials I. (2/3)

AG046U PLANT MATERIALS III (1098) 3
Continues Plant Materials I and II, offering intensive study of new varieties of plant materials. Prereq: Plant Materials I & II. (2/2)

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 techniques 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.

AG051U HORSE SHOWS 3
Includes history, historical development of light and draft breeds, their uses and purposes. Registration requirements will be discussed as well as area field trips. (2/3)

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)

AG054U HORSEMANSHIP 4
Studies horse care before and after riding; initial seat position; elements of the seat; posting trot; aids; turns; leads off the cantor; equitation; and coordination of the aids. (2/5)

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. (1/4)

AG058U ADVANCED TURFGRASS MANAGEMENT II 3
Offers advanced training in preparation for the Iowa Chemical Applicators Licensing test. It also covers advanced lab training in turf culture, chemical applications, etc. (2/3)

AG059U SPECIAL PROJECTS (NATURAL RESOURCES) 3, 4, or 6
Offers self-planned project work in individual interest areas. (3, 4, 6/0)

- AG060U GROUNDS EQUIPMENT MANAGEMENT II 3**
Offers advanced specialized training in servicing of equipment utilized in turf management. Much emphasis is placed on individualized study. (2/2)
- AG061U LIVESTOCK REQUIREMENTS 3**
Includes requirements of agricultural livestock, specifications in the area of space and specialized feeding and watering equipment. Particular emphasis is placed on sanitation and overall environment. (3/0)
- AG062U HORTICULTURE EQUIPMENT (1102) 4**
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. (2/4)

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.

- AG064U BEEF ENTERPRISE, WINTER 5**
Discusses nutrition, budgeting, and breeding. (2/8)
- AG065U BEEF ENTERPRISE, SPRING 4**
Discusses marketing, showing, and calving. (2/4)
- AG072U SWINE ENTERPRISE, WINTER 5**
Studies production and breeding programs. (2/8)
- AG073U SWINE ENTERPRISE, SPRING 4**
Studies life-cycle management practices. (2/4)
- AG075U HORSE ENTERPRISE, WINTER 8**
Includes grooming, feeding, personality breeding, stabling, exercising, facilities and daily husbandry problems occurring in the winter of the year. Also includes some horsemanship. (2/12)
- AG111U FARM SUPPLY ENTERPRISE, WINTER 5**
Discusses records management. (2/8)
- AG112U FARM SUPPLY ENTERPRISE, SPRING 4**
Discusses sales and service. (2/4)

- AG115U CROP ENTERPRISE, WINTER 5**
Discusses machinery costs and crop planning. (2/8)
- AG116U CROP ENTERPRISE, SPRING 4**
Studies tillage planting corn and soybeans. (2/4)
- AG078U HORSE HEALTH 5**
Offers a brief insight into physiology of the horse. Discussion of diseases and health problems, parasites, signs of good and bad health, digestive problems and diseases, as well as basic aid care. (2/7)
- AG079U FIELD CROP PLANNING 6**
Designed to enable the students to develop a corn and soybean management program. Included are units dealing with: variety selection, seedbed preparation, fertilization, weed and insect control, diseases, and approved practices in raw crop production. (5/3)
- AG081U DAIRY PRODUCTION 10**
Includes dairy selection, breeding, housing and equipment, nutrition, herd health, and husbandry practices. (5/10)
- AG150U LIVESTOCK NUTRITION 4**
Provides basic information needed by salesmen, herdsman, and farmers in meeting the feed requirements of livestock. It includes an understanding of biological principles and body processes of animals. (3/2)
- AG080U AVIAN WILDLIFE 4**
Presents a practical study of life habits, migration, protection laws, habits, and general information about avian (birds) wildlife. (4/0)
- AG082U VFC COOP 3, 2**
Is a supervised home farm work period for Farm Coop program students. (0/4-6)
- AG083U VFC RECORDS AND MANAGEMENT 4.5, 2.5, 3**
Is an applied home farm business course for Farm Coop program students in the area of records and management. (4.5, 2.5, 3/0)
- AG084U VFC MONOGASTRIC NUTRITION 2.5**
Is an applied home farm business course for Farm Coop program students in the area of monogastric nutrition. (2.5/0)
- AG085U VFC FIELD CROP PROBLEMS 2.5**
Is an applied home farm business course for Farm Coop program students in the area of field crop problems. (2.5/0)
- AG086U VFC RUMINANT NUTRITION 3**
Is an applied home farm business course for Farm Coop program students in the area of ruminant nutrition. (3/0)

AG087U VFC SOIL AND PLANT SCIENCE 3
Is an applied farm business course for Farm Coop program students, in the area of soil and plant science. (3/0)

AG088U VFC SWINE PRODUCTION 4.5
Is an applied farm business course for Farm Coop program students in the area of swine production. (4.5/0)

AG089U VFC SOIL FERTILITY 4.5
Is an applied home farm business course for Farm Coop students in the area of soil fertility. (4.5/0)

AG099U VFC GRAIN & FEED HANDLING I 2.5
Discusses principles and economics of grain drying, selecting grain drying method and storage, use of silos and sealed structures, and determining capacities of structures. (2.5/0)

AG100U VFC GRAIN & FEED HANDLING II 2.5
Includes feed processing, layouts and automatic systems. Economics grain handling, size of grain and farm storage. (2.5/10)

AG101U VFC WASTE MANAGEMENT I 4.5
Deals with animal waste and economics of disposal, including liquid manure handling, oxidation ditch and anaerobic manure lagoons. (4.5/10)

AG104U VFC WASTE MANAGEMENT II 4.5
Involves study in runoff control, silt and gutter construction use, the design of farm waste storage tanks, EPA regulations, and economic use of animal waste. (4.5/0)

AG090U VFC AGRICULTURAL FINANCE 3
Is an applied home farm business course for Farm Coop program students in the area of agricultural finance. (3/0)

AG092U VFC BEEF PRODUCTION 2.5
Is an applied home farm business course for Farm Coop program students in the area of beef production. (2½/0)

AG093U VFC FORAGE AND OAT PRODUCTION 2.5
Is an applied home farm business course for Farm Coop program students in the area of forage and oat production. (2½/0)

AG094U VFC GRAIN MARKETING 3
Is an applied home farm business course for Farm Coop program students in the area of grain marketing. (3/0)

AG095U VFC TRACTOR MAINTENANCE 3
Is an applied home farm business course for Farm Coop program students in the area of tractor maintenance. (3/0)

AG096U VFC CORN PRODUCTION 4.5
Is an applied home farm business course for Farm Coop program students in the area of corn production. (4.5/0)

AG097U VFC LIVESTOCK MARKETING 3
Is an applied home farm business course for Farm Coop program students in the area of livestock marketing. (3/0)

AG098U VFC TILLAGE AND PLANNING EQUIPMENT ADJUSTMENT 2.5
Is an applied home farm business course for Farm Coop program students in the area of tillage and planning equipment adjustment. (2.5/0)

AG102U VFC HARVESTING EQUIPMENT ADJUSTMENT 3
Is an applied home farm business course for Farm Coop program students in the area of harvesting equipment adjustment. (3/0)

AG105U VFC FARMSTEAD PLANNING AND MECHANIZATION 4.5
Is an applied home farm business course for Farm Coop program students in the area of farmstead planning and mechanization. (4.5/0)

AG107U VFC FUTURES MARKET 2.5
Is an applied home farm business course for Farm Coop program students in the area of the futures market. (2.5/0)

AG108U AGRICULTURAL SHOP MAINTENANCE 3
Concentrates on skills needed to keep the physical plant in repair. Areas of study include electric motors, electric wiring, plumbing, and general carpentry. (3/0)

AG152U LAND USE AND CONSERVATION 3
Covers soil conservation practices, such as terraces, contours, and rotations. (2/2)

AG198U CROP DRYING PRINCIPLES 3
Includes the principles by which crops are dried and economical aspects of drying for the selection by the farmer/customer. (3/0)

AG199U CROP STORAGE REQUIREMENTS 3
Includes specifications of particular field crops and the implication placed upon the construction of storage facilities. (3/0)

AG200U ANIMAL HEALTH 4
Concentrates on products used to control diseases and parasites in animals. This course deals with product recommendations; basic principles of disease prevention and control; and effect of weather; environment on disease; and disease symptoms. (2/5)

- AG201U HORSE PHYSIOLOGY** 4
Discusses the conformation of the horse, the respiratory, digestive, nervous, and circulatory systems plus skeletal structure. (2/3)
- AG202U HORSE ENTERPRISE, SPRING** 8
Includes grooming, feeding, personality, stabling, exercising, facilities, and daily husbandry problems occurring in the spring of the year. Also includes show preparation. (2/12)
- AG203U HORSEMANSHIP II** 4
A continuation of horsemanship I with emphasis placed on paralleled use of basic and advanced forms of riding techniques. (2/5)
- AG204U HORSE BREEDING** 3
Covers the physiology of breeding, brood mare selection and care, and stallion management. Also breeding techniques, including artificial insemination. (2/2)
- AG205U FARMSTEAD PLANNING** 3
Includes the principles of farmstead planning and arrangement, particularly toward site selection, traffic and predominant selection factors. Emphasis will be placed on distance from water and other services. (2/2)
- AG206U GREENHOUSE PRACTICES** 3
Provides the student the opportunity to receive concentrated and practical education in greenhouse practices encountered during the spring session. (0/6)
- AG207U AGRICULTURAL SUPPLY MANAGEMENT, FALL** 4
Provides the "whys" of decision-making in office procedures, records management, harvesting and drying techniques, handling and marketing grain. (2/3)
- AG208U ANIMAL SCIENCE MANAGEMENT, FALL** 4
Provides the "whys" of decision-making in nutrition, and record keeping within the enterprises offered at the Farm Laboratory. (2/3) Prereq: Ent. Orien. Enterprises Wtr. and Spr.
- AG209V ENTERPRISE ORIENTATION** 4
Covers orientation and evaluation for the various agricultural enterprises offered at the Farm Laboratory. A prerequisite for Winter and Spring Quarter Enterprise courses. (2/5)
- AG210U HORSE TRAINING** 4
Provides instructions for obtaining the abilities and skills of training various breeds and types of horses. (2/3)
- AG211U HORSE JUDGING** 4
Provides instruction for obtaining the abilities for judging various breeds and qualities of horses. (2/3)
- AG212U STABLE MANAGEMENT, FALL** 5
Designed to provide understandings and abilities in the organization, business aspects, and operation of horse stables. Areas of study include records, care and health of horses in the management of stables. (3/5)
- AG213U ANIMAL SCIENCE MANAGEMENT, WINTER** 5
Provides the "whys" of decision-making in animal health, genetics, facilities and equipment, and records management. (3/5)
- AG214U AGRICULTURAL SUPPLY MANAGEMENT, WINTER** 3
Provides the "whys" of decision-making in product merchandising and purchasing, machinery costs, crop planning and various tillage methods. (3/5)
- AG215U MACHINERY ECONOMICS** 4
Studies the economics relating to size, efficiency, maintenance, and use of farm power and machinery. Includes discussion of renting, leasing, and/or purchasing equipment. (3/2)
- AG216U STABLE MANAGEMENT, WINTER** 5
Continuation of Stable Management, Fall; with emphasis on facilities, equipment, records, and money management. (3/4) Prereq: Stable Management, Fall
- AG217U SPECIAL PROJECTS — TECHNICAL AGRICULTURAL STUDY 3, 4, or 6**
Designed as a self planned individual instruction course for student work in the area of technical agricultural study. (3, 4, 6/0)
- AG218U SPECIAL PROJECTS — AGRONOMY 2, 3, 4, or 6**
Designed as a self planned individual instruction course designed for student work in the area of agronomy. (3, 4, 6/0)
- AG223U HOOF CARE** 4
Provides instruction around the care and condition of horses' legs and hoofs. (2/5)
- AF224U AGRICULTURAL SUPPLY MANAGEMENT, SPRING** 4
Provides the "whys" of decision-making in sales and services, fertilizer application, weed control and insect control (8/18) Prereq: AG. Supply Mgt., Wtr.
- AG219U SPECIAL PROJECTS — ANIMAL SCIENCE 2, 3, 4, or 6**
Designed as a self planned individual instruction course for student work in the area of animal science. (2, 3, 4, 6/0)

AG220U SPECIAL PROJECTS — HORSE SCIENCE 2, 3, 4, or 6

Designed as a self planned individual instruction course designed for student work in the area of horse science. (3, 4, 6/0)

AG221U SPECIAL PROJECTS — AGRIBUSINESS 2, 3, 4, or 6

Designed as a self planned individual instruction course designed for student work in the area of agribusiness. (3, 4, 6/0)

AG222U SPECIAL PROJECTS — HORTICULTURE 3, 4, or 6

Designed as a self planned individual instruction course designed for student work in the area of horticulture. (3, 4, 6/0)

AG225U ANIMAL SCIENCE MANAGEMENT, SPRING 4

Provides the basis of decision-making in marketing, budgeting, selection of breeding stock, and breeding stock management. (2/3)

AG226U HORSE TRAINING II 4

Provides in-depth instruction in the specialized training of various breeds and types of horses. (2/3)

AG227U STABLE MANAGEMENT, SPRING 5

Continuation of Stable Management, Winter; with emphasis on specialized areas of stable management, types of stables, specialized stations, and care and health of breeding stock. (3/4) Prereq: Stable Mgt., Winter

AG228U SPECIALIZED TRAINING 4

Provides in-depth instruction in the specialized training of various breeds and types of horses. (2/3)

AG229U HORSE SHOWS 4

Provides instruction for understanding various types of shows, purchasing and merchandising various breeds of horses, and horse shows as a business. (2/3/)

AG223U HOOF CARE 4

Provides instruction around the care and condition of horses' legs and hoofs. (2/5)

AG224U AGRICULTURAL SUPPLY MANAGEMENT, SPRING 4

Provides the basis for decision-making in sales and services, fertilizer application, weed control and insect control. (2/3)

AG230U ANIMAL EVALUATION AND SELECTION 1-4

Develops students potential in livestock selection. Farm Lab livestock and various field trips to fairs, livestock exhibitions and livestock farms will serve as a means of applying the classroom knowledge. Students will judge live animals as well as their carcasses. (1-2/1-8)

AG109U FARM POWER & MACHINERY (1523) 4

Areas of instruction will be economic principles applied to farm machinery, fuels, lubricants, coolants, belts, chains, sprockets, and tires. Applied machinery operation, maintenance and repair are stressed. (2/4)

AG103U AGRICULTURAL FINANCE (1530) 3

Includes credit and its relation to maximizing farm income: credit sources, proper use, how to secure credit, and repayment capacities. (2/2)

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.

AM008T SURVEY OF BUSINESS AND ITS OCCUPATIONS 1

Utilizes a different speaker from business each week. Each speaker provides information on the nature and details of his business occupation of 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)

AM006T LABOR MANAGEMENT RELATIONS: MANagements VIEWPOINT 5

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)

AM007T LABOR MANAGEMENT RELATIONS: LABOR'S VIEWPOINT .5

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)

AM009T SOCIAL PROBLEMS IN BUSINESS	.5		
Helps student become aware of sex and racial discrimination in business and in themselves and ways of dealing with the problem. (2/0)			
AM010T STOCK MARKET I	.5		
Shows the mechanics and logic of stock trading activity. Students learn to understand security investments. (2/0)			
AM011T STOCK MARKET II	.5		
Covers how a person decides to invest and what companies' annual reports tell the investor. (2/0)			
AM012T BUSINESS ENVIRONMENT ECONOMICS	.5		
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)			
*AM080T BANK INVESTMENTS	3		
Analyzes the nature of primary reserves and loanable funds and how their uses are determined. (3/0)			
*AM081T PERSONAL FINANCE	3		
Approaches the financial problems of families. Explores decision making relative to acquiring and allocating income. Focuses on management of consumer credit, savings and investment, insurance, home ownership, and estate planning. (3/0)			
AM013T BUSINESS ENVIRONMENT GOVERNMENT	.5		
Covers those governmental and legal factors that influence business activity in the United States. (2/0)			
AM014T CAPITALISM AND ECONOMICS	.5		
Covers a conceptual arrangement of those economic factors which influence business activity in the United States. (2/0)			
AM015T CONSUMER ECONOMICS	.5		
Studies the basic fundamentals of consumer finance and the effects of these fundamentals on the United States economy. (2/0)			
AM016T INTERNATIONAL BUSINESS OPERATIONS	.5		
Devoted to a discussion of the economic and governmental aspects of international trade, marketing, and business. (2/0)			
AM017T FRANCHISING	.5		
Describes what franchising is, tells how it is useful, and acquaints the student with its legal aspects. (2/0)			
AM018T BUSINESS CREDIT	.5		
Encourages an appreciation of the importance and extent of short term business credit. (2/0)			
		AM019T MOTIVATION	.5
		Acquaints students with the art of motivational theory and its relationship to organizational behavior. (2/0)	
		AM020T PERSONAL INSURANCE	.5
		Analyzes the need and benefits of personal insurance. (2/0)	
		AM021T BUSINESS ORGANIZATION	.5
		Provides an overview of the major forms of business ownerships. (2/0)	
		AM023T DATA PROCESSING	.5
		Surveys data processing to give the student some insight into its objectives, techniques, applications and results. (2/0)	
		AM001T AGRICULTURE FINANCE	3
		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) Recommended: 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. (0/3-36)	
		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.

AM045T HUMAN BEHAVIOR IN ORGANIZATIONS 3
Explores problems of human behavior in organizations through lab exercises, cases, and readings. Human relations problems and relationships with peers, subordinates, and supervisors and the dynamics of effective group interaction are discussed. Theories of contemporary behavioral scientists and industrial psychologists are reviewed. (3/0)

AM052T INTRODUCTION TO MANAGEMENT 2
Explains the evolutionary development of management styles and philosophies. Studies will be made of the various authors of influential management techniques. Included, also, will be an examination of societal attitudes and their effect on the management process. (2/0)

AM077T ORGANIZATIONAL BEHAVIOR 2
Examines group in relation to organizational effectiveness. Focuses on factors that improve work group functioning. (2/0)

AM078T MANAGEMENT COMMUNICATIONS 2
Based on a unified communications concept; and built around the technical principles common to oral, written and visual communications. Includes aspects of listening, interviewing, writing, reading, speaking and briefing techniques. (2/0)

AM079T TECHNIQUES OF SUPERVISION 2
Emphasis on the managerial directing function. Necessary supervisory qualities are examined along with duties and responsibilities. Emphasis on maximization of worker potential and application to achievement of individual and organizational goals. (2/0)

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.

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 3
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. (2/2)

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 be total farm business. (2/2)

AM024U AGRIBUSINESS PERSONAL FINANCE 2
Discusses individual and family life, health, accident, liability, automobile, and home owners insurance as they apply to agribusiness employees. Other areas of study will include: planning budget, using consumer credit, understanding and paying taxes, planning estates, and keeping financial records (as they pertain to agribusiness employees). (2/0)

AM025U AGRIBUSINESS PRACTICES 3-9

Discusses making change, handling money from sales; sales tickets; figuring discounts and taxes; pricing merchandise; business terminology; business organization and personnel policy; inventory control; credit control; advertising and promotion; business money management; and simplifying work in an agribusiness. (2-4/2-10)

AM027U RECREATION AREA MANAGEMENT 5

Involved in mid-management level problems found in parks and other recreational area establishments. The course centers around budget preparation and management, personnel management, etc. (2/8)

AM029U WAGE AND SALARY ADMINISTRATION 2

Designed to give a rational approach to the various elements of a compensation program; job description, job evaluations, salary surveys and administrative policies. (2/0)

AM033U DENTAL OFFICE MANAGEMENT I 2

Provides instruction for the student relative to dental business office management, traffic flow in office design, and appointment control. Presents office policies, job interviews, ethical conduct, and proper terminology used in office procedures. (2/1)

AM034U DENTAL OFFICE MANAGEMENT II 3

Provides instruction for the student relative to dental business office management, handling mail, supplies, and invoices, and filing and storage. Presents case management, financial arrangements, and taxes. (3/0)

AM030U SALES MANAGEMENT 2

Includes discussion of sales organizations, policies for sales, merchandising and distribution, layout of territories, selection and training of sales force. (2/0)

AM031U MANAGEMENT INFORMATION SYSTEMS 2

Covers nature of systems, parameters for the business system, measurement problems, information theory, models for management, decision making and control of systems. (2/0) Prereq: AM052T Process of Management.

AM032U INTRODUCTION TO QUALITY CONTROL 2

Introduces the techniques and principles of statistical quality control within industry. Various techniques of sampling will be utilized. Charting and graphing for observer results will be accomplished. (2/0)

AM035U INDUSTRIAL ENGINEERING 2

Considers management uses of industrial engineering techniques to plan, control, and evaluate manufacturing projects. Also covered are appropriation control, scheduling networks, and economic lot sizes. (2/0)

AM042U MANAGEMENT TOOLS FOR DECISION MAKING 2

Designed as a discussion of management decision making tools. Topics will include such areas as use of breakeven analysis, statistics, PERT and others.

AM043U MANAGEMENT OF HUMAN RESOURCES 3

Helps managers develop an understanding of the personnel functions; recruiting, interviews, placement training and evaluation. (3/0)

AM044U WORK SIMPLIFICATION 2

Designed for everyone in business, industry or education interested in the philosophy work simplification. A short course.

AM045U MANAGING DATA PROCESSING 2

Top management has lost its awe of the computer and has begun to expect measurable returns on its data processing investment. Data Processing management is increasingly asked to adapt to dramatic changes in computing technology. This course is intended to aid data processing managers in integrating the department's function, strategies and goals with those of the total organization.

AM046U OFFICE SUPERVISION I 2

Includes the role of the office supervisor, motivating and understanding the office employee, maintaining office discipline, techniques of office delegation, handling grievances and complaints, and what every office supervisor should know about training office employees.

AM047U HUMAN RESOURCES MANAGEMENT 3

Includes managerial philosophy of personnel administration; emphasizing study of personnel techniques of recruiting, interviewing, selecting, placement, training and evaluating. (3/0)

AM048U GENERAL INVENTORY AND PRODUCTION CONTROL 3

Designed to present the basic concepts and techniques of production planning and inventory control. The course stresses the influence which all usual departments within an industrial organization have upon the production planning and control function.

AM049U LABOR AND MANAGEMENT RELATIONS I 2

Designed to expose participants to an objective view of how labor "feels" and how management "views" each other within total institutional objectives. (2/0)

AM050U MANAGEMENT BY OBJECTIVES 2

Concentrates on developmental perspectives as a managerial philosophy with emphasis on MBOs expanding use and popularity. Included are the "how to" aspects of developing a MBO philosophy and subsequently measuring the success of such effort. (2/0)

AM051U OSHA/AN UNDERSTANDING 2

Designed to familiarize management personnel with the rules and regulations of the Williams-Stuger Occupational Safety and Health Act. This course is an introduction to OSHA with coverage on the general implications of the law and will not emphasize industrial or construction standards specifically. (2/0)

AM052U DINING ROOM MANAGEMENT I 5

Provides experiences in mid-management supervisory skills. Emphasizes development and implementation of production schedules, employee training, menu planning, ordering of supplies, production assignments and meal costing. (1/8)

AM053U DINING ROOM MANAGEMENT II 5

Continues experiences in mid-management supervision skills. Emphasizes meal service types of table service, waiter/waitress training, order taking, customer relations, guest checks. Students compute daily "sales and income" and in cooperation with kitchen production report determine profit/loss. (1/8)

AM054U PUBLIC ADMINISTRATION MANAGEMENT 3

Designed to give the student a basic understanding of principles and concepts underlying the generic field of public administration in federal, state, and local government — line-staff, span of control responsibility, accountability. (3/0)

***AM055U CURRENT TOPICS IN MANAGEMENT 1-2**

Designed for discussion/review of contemporary issues in the changing field of management. Course may be repeated for a maximum of 4 hours credit. A short-term course. (1-2/0)

AM037U TRAFFIC TRANSPORTATION MANAGEMENT II 3

Covers shipping documents and their applications, freight claims, tariff circulars, construction and filing of tariffs. Also introduces freight rates and tariffs in practical application. (3/0)

AM038U TRAFFIC TRANSPORTATION MANAGEMENT III 3

Continues study in freight rates and tariffs, terminal facilities and switching, demurrage, reconsignment, stop-off, transit, routeing, warehousing and distribution, materials handling and packaging. (3/0)

AM039U TRAFFIC TRANSPORTATION MANAGEMENT IV 3

Covers rates, import-export rates and procedures, further in-depth study of rates and routes, milling-in-transit, loss and damage, overcharges and undercharges. (3/0)

AM040U TRAFFIC TRANSPORTATION MANAGEMENT V 3

Studies classification and rate committee procedures, tariff and rate interpretation and introduction to the Interstate Commerce Act. (3/0)

AM041U TRAFFIC TRANSPORTATION MANAGEMENT VI 3

Studies the Interstate Commerce Act and other Acts pertaining to transportation plus a study of the Rules of Practice before the Interstate Commerce Commission. (3/0)

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 (1001) 3

Offers instruction in the actual applied functions of an implement business. Time is spent analyzing successful practices of community implement businesses. (2/2)

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.

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)

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. (5/0)7 weeks

AM007V RETAIL FLOWER SHOP OPERATION III (0699) 3
Studies the floral business: proper merchandise display, selling, and expediting a floral order and terminology. Prereq: Retail Flower Shop Operation II. (5/0) 7 weeks.

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.

AM023U MEDICAL DEPARTMENT MANAGEMENT (RT) 3
Principles of managing a medical department including, staffing, physical layout, inventory control, budgeting, public relations, etc., are studied. (3/0)

ART

College Parallel

AT001T ART APPRECIATION (0827) 4
Provides an overview of art from a historical, contemporary and aesthetic frame of reference. Recommended for non-art majors. (3/2)

AT002T ART HISTORY 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, hard-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 PRINTMAKING 2
 Introduces wood cut, engraving, dry point and silk screen techniques in contemporary and traditional methods of reproducing. (0/4)

***AT027T FINE ARTS WORKSHOP 9**
 Provides a special intensive workshop in any one of a number of areas of the Fine Arts including drama, music, ceramics, painting, and crafts. (3/12)

***AT028T ART TECH. AND MATERIALS**
 Introduces techniques of drawing the world and objects using various media. Covers forms and materials in Art through Studio experiences. Recommended for Art Majors. (2/2)

AT022T FUNDAMENTALS OF PRINTMAKING II 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 PRINTMAKING III 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 FUNDAMENTS 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 in 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 3
 Surveys the development of historical and contemporary home furnishings styling and its relationship to today's home and changing habits. (3/0)

AT006U SURVEY OF INTERIORS II 2
 Studies home furnishings and the decorative arts from the Victorian trend through contemporary designers. (2/0) Prereq.: Survey of Interiors I.

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)

AT001V FLORAL DESIGNING I 4
 Introduces basic designing principles and rules, study of geometric designs of bouquest, corsages, Christmas arrangements, foliage arrangements, and potted plants, care of cut flowers and foliage, use of tools and supplies, identification of flowers and foliage 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)

BIOLOGICAL SCIENCES

College Parallel

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. (3/3)

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)

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. (3/3)

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.

BY004T BIOLOGY OF THE PLANT KINGDOM 4
Emphasizes the phylogeny of the plant kingdom. Discussion of life cycles of representative plants at various levels of the plant kingdom are used to build an appreciation and understanding of the major evolutionary steps leading to and including the angiosperms. Laboratory emphasizes life cycle construction and understanding. (2/4) Prereq: Prin. of Bio.

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 student. Topics will be announced prior to the quarter offered.

BY011T INVERTEBRATE ZOOLOGY I (1301) 4
Surveys the classification, diversity, morphology, physiology, development, behavior, ecology and evolutionary relationships of the major invertebrate phyla. Emphasis will be on living forms, both freshwater and marine. Field work will stress adaptations and ecological relationships. (3/2)

***BY006T INVERTEBRATE ZOOLOGY II** 4
A continuation of Invertebrate Zoo. I. Groups covered will include the molluscs, annelida, arthropoda, echinodermata, in addition to numerous minor phyla. Laboratory work will stress both morphology and physiology, in addition to ecological distribution. (3/2) Prereq: Inv. Zoo. I

BY024T VERTEBRATE ZOOLOGY I 4
Introduces the principles of vertebrate Zoology, emphasizing such topics as vertebrate morphology; taxonomy and systematics; evolution, phylogenetic relationships, and diversity. Fishes, amphibians, and reptiles are covered. Laboratory work supplements the lectures. (3/2) Prereq: Prin. of Bio. Bio. of Org. or Consent of Instructor.

BY025T VERTEBRATE ZOOLOGY II 3
A continuation of Vert. Zoology I with emphasis on birds and mammals. In addition, ecological relationships and population dynamics are also stressed. Field trips as well as in-lab experiences supplement the material of this course. (4/2) Prereq: Vert. Zoo. I.

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 with a study of basic body structure, in addition to a concentrated study of body fluids, blood, R-E systems, and the endocrine system with applications to homeostasis. Lab work is based on current topics of study. (3/3)

BY009T HUMAN ANATOMY AND PHYSIOLOGY II 91354) 4

Continues Anatomy and Physiology I. Further study of the structure and function of systems such as nervous, skeletal, muscular, and cardiovascular 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.

BY010T HUMAN ANATOMY AND PHYSIOLOGY III (1275) 4

Further study of the structure and function of systems such as respiratory, digestive, excretory, and reproductive, etc. is continued. Laboratory work is based on current topics of study with emphasis on homeostasis. Lectures and laboratories are designed to complement each other. (3/3)

BY014T MICROBIOLOGY I 4

Emphasizes pathogenic bacteria and viruses: Their morphology, cultural characteristics and pathogenicity, along with epidemiology, transmission, diagnostic test and an introduction to immunology. Laboratory emphasis on culturing, identification, staining, sterilization, disinfection and asepsis. (2/5) Prereq: Prin. of Bio.

***BY015T MICROBIOLOGY II 3**

A continuation of Microbiology I with continued emphasis on immunology, diagnostic test, viruses and viral diseases and with studies in the Rickettsia and Gungi. (2/4) Prereq: Microbiology I or instructor permission.

Vocational-Technical

BY002U DENTAL ANATOMY I (DLT) (1327) 5

Introduction to terminology, identification, description and individual characteristics of the teeth and surrounding structures found in human dentition. Includes the drawing of various views of individual teeth, and the formation of required surfaces in wax on stone casts. (3/4)

BY003U ORAL ANATOMY (0646) 3

Limited to the anatomical and physiological features, structures, and function of the human head 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 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

Continuation in the study of dental anatomy through waxing techniques in restoring individual characteristics of each tooth in the permanent dentition as it relates to prosthetic dentistry. (1/6)

BY010U PRINCIPLES OF MICROBIOLOGY 3

Studies the nature of bacteria, related microorganisms and their relation to the economy of man and nature, with application to industry, sanitation, agriculture and disease. Laboratory emphasizes on culturing, identification, staining, physiology, sterilization and disinfection. (2/2) Prereq: Departmental Approval.

BY006U BASIC ANATOMY AND PHYSIOLOGY 4

Designed and required for students enrolled only in the following health occupation careers: Nursing Education, Orthopaedic Physicians Assistants, Operating Room Technicians, Medical Assistants, Medical Secretaries, and Occupational Therapy Assistants. A systems approach to human structure and function in covered in one quarter. (3/2)

BY008U MODULAR ANATOMY AND PHYSIOLOGY 4
Designed specifically as a second quarter course for students enrolled in Orthopaedic Physicians Assistants, Occupational Therapy Assistants, and Associate Degree Nursing programs. Only Orthopaedic Physician's Assistants and Occupational Therapy Assistants students enroll during the winter quarter for a clinical approach to neural, muscular, vascular, and skeletal applications. Only Associate Degree Nursing students enroll during Fall and Spring quarters for homeostatic interrelationships of all systems. Course presentation includes lecture, laboratory, self-study, seminar, and group discussions. (3/3) Prereq: Basic A & P or equiv.

BY109U 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. (2/5)

BY110U DENTAL ANATOMY 3
Studies the structure, function and form of the teeth, individual teeth, and their supportive structures. (2/1)

BY111U 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. (2/1)

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 basis of inorganic chemistry with a minimal amount of mathematics needed. Also covers an introduction to measurement, atomic structure, bonding, chemical reactions, kinetic molecular theory, properties of important elements, and acidity and basicity. (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 to organic structure, nomenclature, physical and chemical properties, and organic reactions. (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 metabolism.

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)

CH004T QUANTITATIVE ANALYSIS (0593) 6
Introduces methods of chemical analysis stressing gravimetric, volumetric and spectrophotometric approaches. Emphasis is placed on fundamentals of measurement, treatment of data, and error analysis. (3/6)

CH008T ORGANIC CHEMISTRY I (0366) 4
Introduces theory and practice of organic chemistry with emphasis on structure and nomenclature. Areas especially stressed are chemical bonding, functional groups, various types of isomerism, aromaticity, resonance, tautomerism, and spectral interpretation. The lab includes the use of U.V.-visible, and I.R. spectrophotometers. (3/3)

CH009T ORGANIC CHEMISTRY II (0457) 4
A continuation of Organic I with emphasis on organic reactions and reaction mechanisms. The lab includes the preparation of several organic compounds. (/3)

CH010T ORGANIC CHEMISTRY III (0551) 4
A continuation of organic reactions and reaction mechanisms followed by a brief intro to Biochemistry. (3/3)

***CH007T NUTRITION 5**
Designed to show the relationship between good nutrition and good health. Consequently, food selection and preparation, along with introductory biochemical principles are included. (4/2) Prereq: Prin. of Chem or High school chem.

***CH013T INDEPENDENT STUDY IN CHEMISTRY 1**
Offers individual or group projects pursuing special interests in modern chemistry involving such topics as literature, reviews, laboratory investigations, or topic investigations. Projects determined by student in coordination with instructor. (1/0) Prereq: 8 hr. College level chemistry

***CH014T INDEPENDENT STUDY IN CHEMISTRY (selected topics) 3**

The course is designed to supplement material covered in the second year of course work in chemistry. Topics are chosen from area of chemistry having current interest. (2/1) Prereq: Gen. Chem. I Instructor Consent

Vocational-Technical

CH001U VFC AG. CHEMICALS I 2.5

Is an applied home farm business course for Farm Coop program students in the area of Agricultural Chemicals. (2.5/0)

CH002U VFC AGRICULTURAL CHEMICALS II 2.5

Is an applied home farm business course for Farm Coop program students in the area of agricultural chemicals. (2.5/0)

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.

CM103D COMPOSITION TECHNIQUES I (0351) 4

Offers help to students who are concerned about grammar and literary skills. Emphasis on clear writing and effective expression. Part classroom work and writing lab work. This course is developmental credit and does not count toward graduation. (4/0)

***CM004D COMPOSITION TECH I 4**

Offers help to students who are concerned about grammar and literacy skills. Emphasis is on clear writing and effective expression. Part Classroom work and part writing lab. This course is developmental credit and does not count toward graduation. (4/0)

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)

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)

***CM109T HUMANITIES I — FUTURE COLLEGE 4**

Humanities component of a 12-hour interdisciplinary project. (4/0)

***CM110T HUMANITIES II — FUTURE COLLEGE 4**

Continuation of Humanities I — Future College (4/0) Prereq: Humanities I.

***CM116T COMPOSITION II — MASS MEDIA 4**
Deals with mass media as a major societal influence. Involved are the technical, economic and legal aspects of the media. Emphasis is on critical evaluation and analysis. (4/0) Prereq: Comp. I or Equivalent.

CM117T COMPOSITION II: TECHNICAL WRITING 4
Deals with objective precision in the writing of business correspondence, technical briefs, proposals, and articles. Especially recommend for students in Law Enforcement, Management, science, or pre-law. (4/0) Prereq: Comp I or Equivalent.

CM118T COMPOSITION II: CONTEMPORARY NON-FICTION 4
Deals with techniques of critical reading, thinking, and writing via contemporary non-fiction which concerns current social issues such as violence, alienation, social values, and social roles. (4/0) Prereq: Comp. I or Equivalent.

CM119T COMPOSITION II: HUMANITIES 4
Presents an overview of artistic communication via art, music, and writing. Material is thematically treated — centering on man's search for identity. Emphasis is on critical analysis and synthesis. (4/0) Prereq: Comp. I or Equivalent.

***CM120T HUMANITIES III — FUTURE COLLEGE 4**
Third quarter of interdisciplinary, non-traditional study. (4/0)

CM203T SPEECH I — PERSUASION 3
Presents the implications and uses of persuasion for responsible and effective social interaction and the need to be critical of persuasive devices used upon him. (3/3)

***CM212T BANK LETTERS AND REPORTS 3**
Designed for those bank officers, supervisors, and employees who dictate or review correspondence. A review of letter forms that emphasizes fundamental principles underlying modern correspondence, and examines different kinds of bank letters. (3/0)

***CM303T RADIO REPORTING AND ANNOUNCING 4**
Offers skills in the delivery of news and allied information, to develop techniques in gathering, writing and editing news, feature, and editorial material. (4/0)

***CM304T RADIO AND TV PRODUCTION 4**
Presents basic principles, procedures, and techniques of TV and radio production and to develop skill and creativity in various production assignments, such as camera, audio production, floor management, and film editing. (4/0)

CM305T MEDIA LAB 2
Offered in conjunction with work on the Kirkwood FM-Radio Station. A student must be actively working on the radio station as announcer, production manager, continuity writer, programmer or director to qualify for this course. The majority of instruction comes from laboratory experience and a weekly seminar with radio station staff. A student may take this course twice for credit. (0/4)

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 application 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 requirements. (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 CM 205T)

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.

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 career situations. (2,3/0,2)

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)

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)

CM006U EFFECTIVE COMMUNICATION 1.5
 We write. We read. We listen. We talk, but we can only be understood within the comprehension of the person to whom we relate. This comprehension is composed of many items: Childhood experiences, education, national background, religion, socio/economic/political surroundings and the roles which we play: father, mother, friend, worker, car owner, husband, wife, consumer, etc. The obstacles to understanding are formidable. Yet we can only communicate when we understand. (2/0)

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)

COOPERATIVE EDUCATION

***CE001T COOPERATIVE EDUCATION EXPERIENCE 1-8**
 Offers structured work experience providing career verification on the job in a learning environment for Arts and Science students related to their major academic interest. Prereq: Instructor Approval. Must be taken with CE002T.

***CE002T COOPERATIVE EDUCATION SPECIAL TOPICS 1-4**
 Offers a learning experience in conjunction with a structured work situation. Instruction and readings will relate to the particular job experience and supplement same. Prereq: Instructor approval. Must be taken with CE001T.

***CE003T COOPERATIVE EDUCATION PREPARATION 0-1**
 Designed to complete individual needs prior to a Cooperative Work Experience. Testing, interviewing, and objective setting will be involved as needed by each individual.

***CE004T CAREER DECISION MAKING 3**
 Designed to give a grasp of the process of making a career decision. This is to be accomplished by identifying the individual's desires, relating these to the requirements of various career fields, and developing an understanding of the tradeoffs involved in making a career decision. (3/0)

CORRECTIONS

College Parallel

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 supervision, management, administration, and evaluation in a correctional setting. Emphasis on staff recruitment and development, budgeting, administrative decision making and public relations as they relate to the institutional setting.

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)

CONSTRUCTION

Vocational-Technical

CS001U FARM CONSTRUCTION (1524) 2-6
 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. (1-3/2-10)

CS002U FACILITY CONSTRUCTION 3
Covers concrete work, carpentry, 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 2.5
Is an applied home farm business course for Farm Coop program students in the area of farm construction. (2.5/0)

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)

CS006U TOOLS AND EQUIPMENT 3
Includes basic instruction for use of all applied hand tools, including saws, squares, measuring devices, drills, planes, chisels, levels, etc. Students will be expected to obtain proficiency in this area. (2/2)

CS007U FACILITY PLANNING I 6
Includes specifications, layout, material selection, job planning and equipment usage of clear span structures. (2/8)

CS008U FACILITY CONSTRUCTION I 6
Includes construction, job analysis, job site management, job site completion and safety of clear span structures. (1/10)

CS009U FACILITY PLANNING II 6
Includes specifications, layout, material selection, job planning and equipment usage of portable agriculture facilities. (1/11)

CS010U FACILITY CONSTRUCTION II 6
A Continuation of Facility Construction I. (1/11)

CS011U LIVESTOCK VENTILATION SYSTEMS 3
Includes heating, cooling and other air movement devices as applies to the ventilating of livestock systems. Applied plumbing and electrification are included. (3/0)

CS012U FACILITY PLANNING III 6
Includes specifications, layout, material selection, job planning and equipment usage of storage facilities. (1/11)

CS013U FACILITY CONSTRUCTION III 6
Includes construction, job analysis, job site management, job site completion and safety of storage facilities. (1/11)

CS014U FACILITY CONSTRUCTION IV 6
Includes construction, job analysis, job site management, job site completion and safety of agricultural turn key facilities. (1/10)

CS015U FACILITY PLANNING IV 6
Includes specifications, layout, material selection, job planning and equipment usage of agricultural turn key facilities. (1/10)

CS016U CARPENTRY — MILLWORK FOR ARCHITECTURAL DRAFTSMEN 3
Covers light construction, framing, millwork, trim, doors, windows and glazing. Factory and site built basic cabinets and jointing. (3/0) Prereq: GR010V

CS017U ELECTRICAL-MECHANICAL SYSTEMS FOR ARCHITECTURAL DRAFTSMEN 3
Covers application of drafting concepts for site and area lighting and wiring, including power and equipment wiring. Applied drafting concepts for waste and domestic water piping, hot water, steam, forced aid heating, air conditioning and ventilation. (3/0) Prereq: GR010V.

CS018U CONCRETE-MASONRY FOR ARCHITECTURAL DRAFTSMEN 3
Studies concrete footings and foundations. Architectural concrete, pre-cast concrete, structural concrete and wall panels. Included is the study of unit masonry and stone masonry applications. (3/0) Prereq: GR010V.

CS019U VFC PLUMBING AND WATER SUPPLY I 3
Discusses plumbing systems and water sources. Solutions and treatment for water problems. Also characteristics of pump and piping. (3/0)

CS020U VFC PLUMBING AND WATER SUPPLY II 3
Studies drilling and well descriptions, water quantity versus needs, tiling systems, economic comparisons, and drainage systems for the farm. (3/0).

CS021U VFC CARPENTRY AND WOOD CONST. I 4.5
Studies safety use of hand and power tools; roof construction, framing, exterior wall and household carpentry. (4.5/0)

CS022U VFC CARPENTRY AND WOOD CONST. II 4.5
Involves study in wood preservatives and plywood construction. Economics of various fasteners. Construction of windows and doors. Also wood farm equipment. (4.5/0)

CS023U VFC BUILDING LAYOUT I 3
Covers farmstead planning and recreation; farm service center; wind-breaks; and landscaping. (3/0)

CS024U VFC BUILDING LAYOUT II 3
Studies fencing, fuel storage, building appraisal, and making and reading working drawings. (3/0)

- CS025U VFC STRUCTURES I** 2.5
Covers types and economic comparisons of swine, beef, dairy, and horse facilities. (2.5/0)
- CS026U VFC STRUCTURES II** 2.5
Includes grain and family living structures. Also machinery and farm service center facilities. (2.5/0)
- CS027U VFC MATERIALS SELECTION I** 2.5
Deals with economics, selection paints and preservatives, calculation of material and comparing costs. (2.5/0)
- CS028U VFC MATERIALS SELECTION II** 2.5
Identifies lumber standards, comparison roofing materials and selection of hardware. (2.5/0)
- CS029U VENTILATION, INSULATION AND HEATING I** 2.5
Covers ventilation systems, needs and economic comparisons, and types of insulation. (2.5/0)
- CS030U VENTILATION, INSULATION AND HEATING II** 2.5
Involves study in proper use of insulation for farm buildings, heating systems and the economics, ventilation, insulation and heating needs. (2.5/0)
- CS031U CONCRETE I** 3
Studies on the farm concrete mixtures selection and design, economics of ready mix versus mixing on the job, placing, forming, reinforcing, finishing and curing concrete. (3/0)
- CS032U CONCRETE II** 3
Discusses special applications of concrete, also masonry and portland cement, aggregate and water for concrete. (3/0)
- 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 of 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/1 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	DP011U INTRODUCTION TO REPORT PROGRAM GENERATOR (0894)	2
Provides extensive training in occupations of key punching. Provides training on several types of machines. (1/14)		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)	
DP001U SELF-SERVICE AIDS FOR PROGRAMMERS (0515)	1	DP013U INTRODUCTION TO COBOL PROGRAMMING (0149)	5
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)		Studies Cobol programming concepts and techniques, and writing and testing of Cobol programs. (3/4)	
DP002U PUNCHED-CARD DATA PROCESSING (0603)	2	DP014U ADVANCED COBOL PROGRAMMING (1253)	5
Studies functional wiring and basic operation of unit record equipment. Includes the interpreter, reproducer, sorter, collator, and accounting machine. (1/2)		Continues introduction to Cobol Programming. (3/4)	
DP003U COMPUTER OPERATING TECHNIQUES (0352)	2	DP015U COBOL PROJECTS (1252)	5
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)		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)	
DP004U FLOWCHARTING TECHNIQUES (1430)	2	DP016U INTRODUCTION TO FORTRAN PROGRAMMING (0615)	3
Covers the study and practice of the most commonly used techniques for the graphic representation of system or program logic. (2/0)		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)	
DP005U INTRODUCTION TO S/360-370 (0538)	3	DP017U ADVANCED LANGUAGES (0037)	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)		Covers programming with advanced compiler languages, such as Cobol and Fortran. (2/2)	
DP006U APPLIED STATISTICS	4	DP018U INTRODUCTION TO PROGRAMMING LANGUAGE I (0439)	3
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)		Introduces language specifications for System 360 PL/I. (2/2)	
DP007U ASSEMBLER LANGUAGE I (0345)	5	DP020U PROGRAM ANALYSIS (0462)	2
Studies IBM 360/370 basic assembler language programming concepts and techniques. Includes the writing and testing of assembler language programs. (3/4)		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)	
DP008U ASSEMBLER LANGUAGE II (0102)	5	DP021U DISK OPERATING SYSTEM (DOS) CONCEPTS AND FACILITIES (0346)	3
Continues Assembler Language I. (3/4)		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)	
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)			

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 process 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

Provided 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 merchandized 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)
- DP010U DATA PROCESSING FOR THE MANAGERS 2**
Articulates as completely as possible, the relationships between man and machine and the role of each in the industrial or business organization. By attempting to separate the emotional agreements from the statements of fact, this course tells, in layman's language, what the computer can do, or cannot do, not how it works. (3/0)
- DP080U INTRODUCTION TO COMPUTERS AND ASSEMBLER LANGUAGE PROGRAMMING 3**
Provides fundamentals of computers and computerized data processing. Programming in IBM assembler language. (3/0)
- DP081U INTRODUCTION TO COMPUTERS AND COBAL PROGRAMMING 3**
Provides fundamentals of Computers and computerized data processing. Programming in Cobol language. (3/0)
- DP082U ADVANCED COBOL PROGRAMMING (SPECIAL) 3**
Continuation of Introduction to Computers and Cobol Programming. (3/0)
- 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: DP 055U, 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 ability of student to dissect words used in dental terminology as to roots, prefixes, and suffixes. Also includes brief introduction to dental history, ethics and jurisprudence, work authorization, and professional organizations associated with dental laboratory field.

DN002U PORCELAIN TECHNIQUES 5

Covers basic principles of design, fabrication, and staining of restorations of porcelain, or porcelain to metal, including operation and maintenance of related equipment and use of supplies. (2/6)

DN028U GUIDED INDEPENDENT STUDY ORTHODONTICS 8 or 16

The student and instructor will prepare a contract for individualized study in Orthodontics. This contract will include the phase of orthodontics the student and instructor feel necessary to make the student knowledgeable and competent in this field of laboratory work. Prereq: Previous modules related to this subject.

DN029U GUIDED INDEPENDENT STUDY FIXED BRIDGES 8 or 16

The student and instructor will prepare a contract for individualized study in fixed bridges. This contract will include the phases of fixed bridgework the student and instructor feel necessary to make the student knowledgeable and competent in this field of laboratory work. Prereq: Previous modules related to this subject.

DN030U GUIDED INDEPENDENT STUDY CERAMICS 8 or 16

The student and instructor will prepare a contract for individualized study in Ceramics. This contract will include the phases of porcelain the student and instructor feel necessary to make the student knowledgeable and competent in this field of laboratory work. Prereq: Previous modules related to this subject.

DN031U GUIDED INDEPENDENT STUDY REMOVABLE BRIDGES 8 or 16

The student and instructor will prepare a contract for individualized study in removable bridges. This contract will include the phase of removable partials the student and instructor feel necessary to make the student knowledgeable and competent in this field of laboratory work. Prereq: Previous modules related to this subject.

**DN032U GUIDED INDEPENDENT STUDY
FULL DENTURES 8 or 16**

The student and instructor will prepare a contract for individualized study in full dentures. This contract will include the phases of full dentures and student and instructor feel necessary to make the student knowledgeable and competent in this field of laboratory work.

DN127V PREVENTIVE DENTISTRY SEMINAR I 3

Includes how to teach dental patient oral health measures. Also setting up, planning, and evaluation of a preventive dental health program for patients. (3/0) Prereq: Dental Asst. Grad, or Exam

DN128V PREVENTIVE DENTISTRY SEMINAR II 3

Continuation of Preventive Dentistry Seminar I (3/0) Prereq: Prev. Dent. Sem. I

DN129V PREVENTIVE DENTISTRY LAB I 1

Includes laboratory tests related to preventive dental health, dental health community services, and clinical practice in teaching preventive dentistry. (0/2) Prereq: D.A. Graduate or Examination

DN130U PREVENTIVE DENTISTRY LAB II 5

Continuation of Preventive Dentistry Lab I, with emphasis on clinical practice (0/10) Prereq: Prev. Dent. Lab I

DN005U DENTAL EQUIPMENT (D.L.T.) (0793) 4

Studies proper arrangement, care and maintenance, safety procedures and availability of common types of dental equipment. Includes some operation. (3/2)

**DN006U CLINICAL EXPERIENCE AND
SEMINAR I (D.L.T.) (0579) 12**

Assignment to dental laboratories or dental offices to gain practical experience relating to instructional and manipulative skills given in classroom setting. (0/12)

**DN007U CLINICAL EXPERIENCE II AND
SEMINAR, (D.L.T.) (0679) 12**

Continuation of Clinical Experience I. (0/12)

**DN008U ACRYLIC JACKET CROWN AND
VENEERS II (D.L.T.) (0774) 5.5**

Covers the principles, techniques of staining and curing, and fabrication of various types of acrylic jacket and veneer crowns.

**DN009U PRECISION ATTACHMENTS
PARTIALS (D.L.T.) (0917) 6.5**

Studies principles and design of various types of intracoronal retention for removable partial dentures, including actual construction of removable partial dentures incorporating precision attachments. (3/7)

DN010U CAST METAL BASE DENTURES (0010) 3

Continuation of complete denture construction involving the design and construction of complete dentures with cast metal bases (Ticonium)

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.

**DN020U LABORATORY MANAGEMENT
(D.L.T.) (0375) 2.5**

Study in surveying potential sites for new laboratories, design of laboratories, bookkeeping and cost analysis, and all facets dealing with the establishment and operation of a dental laboratory. (2.5/0)

**DN021U DENTURE TECHNIQUES I (D.L.T.)
(0907) 6.5**

Provides an introduction to the outline and study of procedures related to denture construction. Involves the fabrication of temporary removable partial dentures and complete dentures. (3.5/6)

DN106U 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)

DN107U ORAL SURGERY (DA) 1

Covers surgical procedures for the assistant in the treatment of diseases and injuries to the oral cavity. (1/0)

DN109U LAB PRACTICUM I (DA) (0212) 4

Assigns each student to clinical areas of operative, crown-bridge and prosthetics at the college of Dentistry in Iowa City for practical experience. (0/8)

DN110U 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)

DN111U 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)

DN112U CLINIC II (DA) 4
Continues clinic I in a private dental office. (0/12)

DN113U DENTAL RADIOGRAPHY I (DA) 2
Presents a basic background of dental radiation and safety. Emphasis is given to exposing, processing and mounting dental films. (2/1)

DN114U DENTAL RADIOGRAPHY II (DA) 2
Continues Dental Radiography I. Emphasis on exposure angulation, evaluation of films and corrective measures. (2/1)

DN022U DENTURE TECHNIQUES II (D.L.T.) (0067) 5
An adventure into the esthetics, phonetics, and function associated with complete dentures. Working with a special advanced articulator and advanced work in tooth arrangements. (2/6)

DN023U ARTICULATORS AND ARTICULATION (0185) 3.5
An introduction in the study of mechanical devices used to simulate the movements of oral anatomy with relation to the construction of dental prosthesis. (1/5)

DN024U CAST INLAY AND CROWN (D.L.T.) (0205) 5
The technique of pouring casts, mounting techniques, recognition of gingival margin preparations, preparation and trimming of individual dies, and the actual construction of inlays and crowns. (2/6)

DN025U CROWN AND BRIDGE (D.L.T.) (0370) 10
Studies types, designs, and procedures used in constructing fixed partial dentures, including actual construction of various types of fixed partial dentures. (4/12)

DN026U PARTIAL DENTURE TECHNIQUES I (D.L.T.) (0385) 4
Examines the principles and theories of survey, design, and blockout techniques for simple removable partial dentures, and actual construction of cobalt-chrome removable partial dentures. (2/4)

DN027U PARTIAL DENTURE TECHNIQUES II (D.L.T.) (0476) 5
An advanced study in the design and fabrication of special types of removable partial dentures. (2/6)

DN101U DENTAL ORIENTATION (DA) (0089) 3
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, and a thorough study of State Practice Acts. (3/0)

DN102U DENTAL MATERIALS (DA) (1036) 5
Includes the chemical and physical composition of the basic groups of dental materials. The laboratory phase offers clinical demonstration of the use of each material and individualized manipulative practice. (4/2)

DN103U DENTAL ASSISTING (DA) (0270) 6
Covers basic principles of chairside assisting. It includes the identification, use and maintenance of equipment and instruments, passing and receiving instruments, oral evacuation, charting, and to work as a member of the dental health team. (4/3)

DN115U DENTAL LAB. ASSISTING I (DA) (0792) 4
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)

DN116U DENTAL LAB. ASSISTING II (DA) (0883) 2
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)

DN117U PERIODONTICS (DA) 1
Covers theory of diseases relating to the tissues surrounding the teeth. Treatment of the diseases and preventive therapeutic measures. (1/0)

DN118U ENDODONTICS (DA) 1
Covers causes of disease and therapeutic procedures relating to the pulpal tissues of the teeth. (1/0)

DN120U DENTAL PHARMACOLOGY (DA) 1
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)

DN121U PREVENTIVE DENTISTRY (DA) 2
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)

DN122U ORAL PATHOLOGY (DA) 1
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)

DN123U ORTHODONTICS (DA) 1
Deals with the construction and types of orthodontic appliances, malocclusions, types of conditions, preparation of diagnostic records, facial growth and development, tooth movement, patient education and office procedure. (1/0)

DRIVER EDUCATION & SAFETY

DS001U JOB SAFETY 2
Includes on-job safety and the job's relation of OSHA. Students will be made aware of various interdependent responsibilities. (1/2)

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)

DR102T 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

EC009T ECONOMICS OF COLLECTIVE BARGAINING 3
Covers problems of the industrial labor setting as applied to collective bargaining. Topics reviewed include wage-determination and employment theory, internal and external problems of the labor force, union structure and government, growth and theory of labor movements and evolution of substantive labor law in the U.S. Emphasis will be placed on the historical, political, and institutional setting of the collective bargaining process. (3/0) Prereq: Eco. I

EC010T PUBLIC POLICY AND COLLECTIVE BARGAINING 3
Continuation of Economics of Collective Bargaining I (3/0)

EC011T DISPUTE SETTLEMENT AND LABOR RELATIONS 3
Offers an analysis of problems encountered in the area of employer-employee differences with respect to the meaning and application of contract terminology. Cases in arbitration are used to illustrate problem areas in the industrial relations setting. Areas of study include: Grievance handling; arbitration of grievances; discipline; wages; vacations and holidays; work assignments; seniority; distribution of overtime; subcontracting; technological change. Additional focus will be directed to the public sector. No prior course is required.

EC013T PRINCIPLES OF ECONOMICS (MACRO) 4
Introduces principles of the economizing problem with emphasis on national income and employment analysis. Includes nation income accounting, the business cycle, money and banking, fiscal and monetary theory and policy, and economic growth. Recommended for students pursuing a Baccalaureate Degree Program. (4/0)

EC014T PRINCIPLE OF ECONOMICS (MICRO) 4
Continues emphasizing markets, the price system and the allocation of resources, demand and supply, market structures, price and output determination, and income distribution. Recommended for students pursuing a Baccalaureate Degree program. (4/0)

EC015T PRINCIPLES OF BUSINESS ECONOMICS 4
Acquaints the student with the business enterprise in the perspective of the modern economy, and introduces the economizing problem and a comprehensive analysis of markets and the price system. The course also stresses the role of the business sector in examining national income and employment theory. Recommended for Associate Degree programs only. Transfer status uncertain. (4/0)

EC016T CONTEMPORARY ECONOMIC PROBLEMS 4
Offers advanced analysis of some of the topics discussed in Principles of Economics (Macro) (Micro). The course will focus on one or more contemporary economic problems. Individual and group projects will be assigned. 4/0 prerequisite Principles of Economics (Macro) and (Micro)

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 1
 Covers estimating production costs, specification of equipment, materials inventory, and control, and the study of systems which expedite graphic reproductions. Application of techniques in estimating to actual job production specifications and cost. (1/0)

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 volume of individual businesses and the GNP are analyzed for the practical purpose of evaluating the future potential. (3/0)

EC006U MEAT ANIMAL ECONOMICS 1 to 6
 Explores the business of raising, feeding, and marketing livestock for profit. Subject matter will include breeding programs, livestock marketing, consumerism, market grades and classes, cycles, cycles in supplies and prices, and meat technology. (5/3)

ENGINEERING

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 studies 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)** 5
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. (3/4) Prereq: Communication Electronics I.
- 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 electromagnetic 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 DIGITAL SYSTEMS** 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.
- EL016U ELECTRICITY ON FARM I** 4.5
Emphasizes the importance of electricity, understanding terms and measurements, principles of wiring, switches and circuits, selecting wire types sizes and overcurrent devices. (4.5/0)
- EL017U ELECTRICITY ON FARM II** 4.5
Involves selection of electric motors, motor care and control systems care. (4.5/0)
- EL046U CIRCUIT ANALYSIS I** 2
Studies techniques and methods of analyzing electric circuits, resistive and reactive. Completion of this course and Electronics I satisfies the requirement for Electric Circuits I. (2/0) Prereq: Electronics I
- EL047U CIRCUIT ANALYSIS II** 2
Covers the analysis of Active Devices in a circuit, with an emphasis on solid-state devices and how they amplify. Completion of this course and Electronics II satisfies the requirement for Active Devices. (2/0) Prereq: Electronics II
- EL048U CIRCUIT ANALYSIS III** 2
Covers equivalent circuits and their parameters. Topics include small and large signal amplifiers and feedback. Completion of this course and Electronics III satisfies the requirement for Solid-State Circuit Analysis and Design. (2/0) Prereq: Electronics III
- EL049U CIRCUIT ANALYSIS IV** 2
Is an analytical study of systems of amplitude modulation, frequency modulation, and single-side-band systems. Completion of this course and Electronics IV satisfies the requirement for Communication Electronics. (2/0) Prereq: Electronics IV
- EL050U CIRCUIT ANALYSIS V** 4
Includes analysis and design of electronic switching circuits including clippers, clampers, multivibrators, shapers, blocking oscillators, logic circuits, and sweep circuits. Completion of this course and Electronics V satisfies the requirement for Pulse and Switching Circuits. (4/0) Prereq: Electronics V

EL051U CIRCUIT ANALYSIS VI	2	EL011V DIAGRAM INTERPRETATION	3
Includes an analysis of control circuits and devices. Some of the topics include silicon controlled rectifiers, thyratrons, and photo-electric devices. Completion of this course and Electronics VI satisfies the requirement for Industrial Electronics. (2/0) Prereq: Electronics VI		Develops skills in reading schematics, wiring diagrams, and blue prints. (2/3)	
EL052 ELECTRONICS I	5	EL012V ELECTRO-MECHANICAL SYSTEM I	4
Studies the theory and application of the physics of electricity as it applies to the field of electronics. Included are definitions, symbols, components, Ohm's law, Kirchhoff's laws, and Thevenin's theorem with application to resistive and reactive circuits. (4½/1) Prereq: MA011U		Studies real systems, both mock-up and actual equipment. Included are such things as motor control panels, appliances including automatic washers, dryers, and dish washers. (3/2) Prereq: Elec. Princ.	
EL053U ELECTRONICS II	5	EL013V DIGITAL CIRCUITS	2
Covers the theory and application of active devices, with emphasis placed on biasing techniques and the theory of amplification in transistor amplifiers. (4/1-¾) Prereq: Electronics I or equivalent.		Introduces the service technician to electronic computer circuits. Some of the topics studied are logic gates, number systems, arithmetic circuits, flip-flops, counters and converters. (1/2)	
EL054U ELECTRONICS III	5	EL014V ELECTRO-MECHANICAL SYSTEMS II	7
Includes a study of amplifiers, oscillators, power supplies and regulators. (4/1-¾) Prereq: Electronics II or equivalent		Continues Electro-Mechanical Systems I, this course also includes refrigerators, electric ranges, garbage disposers, small appliances, as well as industrial systems. (5/5) Prereq: El. Mech. Systems I	
EL055U ELECTRONICS IV	5	EL015V CONTROL CIRCUIT DEVICES	5
Introduction to transmitters, receivers and antennas; with an emphasis on troubleshooting and alignment techniques. (4/1-¾) Prereq: Electronics III or equivalent.		Introduces vacuum and gas tubes and solid state devices. Emphasis is placed on the use of these devices in control circuits. Emphasis is placed on silicon controlled rectifiers, diodes, transistors, phanotrons, and thyratrons. (4/3) Prereq: Electrical Ckts.	
EL056U ELECTRONICS V	2	EL016V CONTROL CIRCUITS AND SYSTEMS	8
Covers the theory and application of operational amplifiers and an introduction to logic circuits. (1¾/½) Prereq: Electronics IV or equivalent		Studies the types of control circuits and systems found in industry and in home appliances. Some of the topics covered include welding controls, motor controls, automatic door openers, temperature controls, humidistats, and warning devices. (5/7) Prereq: Ctr. Ckt. Dev.	
EL057U ELECTRONICS VI	2	EL017V EQUIPMENT TROUBLESHOOTING	10
Introduces the theory and operation of synchros and servo systems. (1¾/½) Prereq: Electronics II or equivalent.		Offers the student the opportunity to troubleshoot all types of electro-mechanical equipment. An effort is made to include as large a variety as possible. It provides an opportunity for the student to put into practice all of the troubleshooting techniques he has learned during the entire course, and gives him a chance to develop techniques for the first time. (5/10) Prereq: El-Mch Sys II	
EL008V ELECTRICAL PRINCIPLES	11	EL018V PRINCIPLES OF REFRIGERATION	7
Studies the theory and application of the physics of electricity. Included are definitions, symbols, components, Ohm's law, Kirchhoff's laws, and the theory of magnetism. Laboratory experiments are designed to enhance the learning of the theories studied. (8/7)		Familiarizes the student with the basic refrigeration terms and the major components, tubing, and fittings in a refrigeration system. Also acquaints the student with the principles of heat quantity measurements, and the theory of refrigeration and refrigeration systems. (5/5) Prereq: El Mech Sys I	
EL009V SHOP PROCESSES	2	EL024U ADVANCED ELECTRONIC PROBLEMS (0036)	4
Develops skills in the use of hand tools, drill press, oxy-acetylene welding, brazing, and arc welding. Also included are care of tools, inventorying, soldering, and wiring techniques. (0/5)		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.	
EL010V ELECTRICAL CIRCUITS	10		
Studies electrical circuits including motors, circuit breakers, controls, three-phase systems, transformers, relays, and the proper use of special measuring instruments. (5/10) Prereq: Electrical Princ.			

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. Continues with emphasis on the electrical systems of farm equipment. (2/2)

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 magnetism. 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) 8

This course includes the theory, testing, and troubleshooting of audio systems, including simple audio amplifier theory, tape recorders, and public address sound reinforcement systems. (4/8) Prereq: Electronic Circuits I.

EL003V BROADCAST SYSTEMS (1371) 4

Includes television synch 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) 5

Offers practical experience in troubleshooting electronic equipment in a service shop atmosphere, with student responsibility in the areas of supervision, scheduling of work, safety, showroom displays, technical testing, measuring, and troubleshooting. (1/9) Prereq: Communication Electronics I.

ENVIRONMENTAL STUDIES**College Parallel****EV001T MAN AND HIS ENVIRONMENT I: ATMOSPHERE 4**

One of three non-sequential courses in the interdisciplinary area of man and the environment. All three quarters will be taught cooperatively by a social scientist, a biologist, and a physical scientist with subject matter coming from a variety of disciplines. Environmental problems and challenges resulting from the interaction of man with the environment are treated from underlying principles and social scientific perspective. Quarter topics include scientific method, atmospheric circulation, air pollution, ecosystem and the air, urban and rural air pollution control techniques, pollution legislation and conservation ethic. Three hours science credit, one hour social science credit.

**EV002T MAN AND HIS ENVIRONMENT:
HYDROSPHERE 4**

(See Man and the Environment: Atmosphere) This quarter includes interaction of atmosphere hydrosphere and lithosphere biology of a closed ecosystem, ecology, water environment, pollution of waters, power and energy, thermal pollution, wastewater treatment, control technology, humanity and water, legislation and pollution control. Three hours science credit and one hour social science credit.

**EV003T MAN AND HIS ENVIRONMENT:
LITHOSPHERE 4**

(See Man and the Environment: Atmosphere) This quarter deals with the social aspects of mankind which interacts with the environment. Included topics are: rural and agricultural environment, energy cycles, the urban environment transportation, population, food, solid waste, national priorities, economics of pollution, legal aspects of pollution, control enforcement, conservation and comparative social and political systems responses to environmental issues. Two hours science credit and two hours social science credit.

***EV004T SCIENCE I — FUTURE COLLEGE 4**

Science component of a 12-hour interdisciplinary project. (4/0)

***EV005T SCIENCE II — FUTURE COLLEGE 4**

Continuation of Science I — Future College. (4/0) Prereq: Science I

***EV006T SCIENCE III — FUTURE COLLEGE 4**

Third quarter of interdisciplinary non-traditional study. (4/0)

EV002U PUBLIC WASTEWATER TECHNOLOGY 4

Considers the operation and evaluation of public wastewater treatment systems. (3/2)

EV003U PUBLIC WATER TECHNOLOGY 4

Considers operation and evaluation of public water supply and treatment system. (3/2)

EV002V ENVIRONMENTAL HEALTH 4

Includes such subjects as Governmental Aspects of Public Health, Legal Considerations, Organizational Considerations, Personnel Factors, Fiscal Management, and Public Relations. (4/0)

EV018V AIR QUALITY MANAGEMENT 3

Considers the sources of air pollution, the classification of pollutants, the meteorological aspects, the effects of atmospheric pollution, and the prevention and control of air pollution, and the monitoring of pollutants. (3/0)

EV019V RADIATION CONTROL 3

Covers fundamentals of radiation, biological effects of radiation, types of X-ray units, and common hazards, radioactive sources, radiation protection, disposal of radioactive wastes, and environmental radiation surveillance and monitoring. (3/0)

EV021V SOLID WASTE MANAGEMENT 15

Provide the student with essential skills in current solid waste management practices. (20/20)

EV023V WASTEWATER TREATMENT 21

Design concepts and operation procedures for current and developing methods of wastewater treatment. Analytical methods for water quality monitoring. Application of laboratory results to plant operation. Plant maintenance and safety. Management skills and public relations policies. Emphasis on job experience training. (17/8) Prereq: Water Trt/Dist.

EV024V WATER TREATMENT AND DISTRIBUTION 16

Design and operations of shallow and deep wells, surface impoundments. Water treatment methods and quality control test. Water storage and distribution systems design, installation, repair and operation. Management practices and health regulations. (10/12) Prereq: Water Res/Qual

**EV025V WATER RESOURCES AND WATER
QUALITY CONTROL 15**

Evaluation of water resources and availability. Analysis of water usage trends v.s. rates of replenishment. Concepts of water re-use. Physical and chemical characteristics of surface and sub-surface water supplies. Survey of underground waters of Iowa. Water tables, sub-surface geology. Potable water quality standards. Planning and equipping sanitary laboratories. Introduction to water laboratory procedures.

EV026V SUPERVISED FIELD STUDIES 13

Offers a period of training in an operating water or wastewater plant where the trainee assumes the same work schedule as the employed operators. An opportunity is offered for participation in the daily operation controls, shutdowns, emergency repairs, equipment overhaul, laboratory tests and to some extent, the management problems of the plant. Prereq: Wastewater Trt.

**EV027V WATER AND WASTEWATER PLANT
ADMINISTRATION 2**

Offers instruction and practice in planning and conducting an organized system of plant records and reports. Introduction to personnel procedures and municipal management responsibilities in water and wastewater processing. Emphasis on public relations and report writing. (6/0) Prereq: Wastewater Trt.

EV028V RESEARCH PROJECTS 6

Offers special investigative projects, selected by the student, to fit his own interests. Furnishes experience in selecting planning and execution of concentrated approaches to learning. Written and oral report required as completion of project. (16/4) Prereq: Wastewater Trt.

EV001W WASTEWATER TREATMENT PLANT OPERATOR — PREPARATORY 15

Provides training in: knowledge of treatment plant design and operations; orientation in water supply and wastewater control; specific skills in operating a unit process, elgi sampling/testing/meter reading and repair/pump maintenance; skills in applied mathematics, communications and science and insight into rewards of career growth through continued educational participation. The purpose of the course is to provide the trainee with a marketable skill that will make him employable at entry level operator positions in wastewater treatment plants. (316/6) Prereq: H.S. diploma or equivalent.

EV002W WASTEWATER TREATMENT PLANT OPERATOR 32

Provides training in: knowledge of treatment plant design and operations; orientation in water supply and wastewater control; specific skills in operating a unit process; e.g. sampling/testing/meter reading and repair/pump maintenance; skills in applied mathematics, communications and science and insight into rewards of career growth through continued educational participation. The purpose of the course is to provide the trainee with a marketable skill that will make him employable at entry level operator positions in wastewater treatment plants. (7/8) Prereq: H.S. Diploma or equivalent

EV003W WATER TREATMENT PLANT OPERATOR 34

Provides training in: knowledge of treatment plant design and operation; orientation in water supply and wastewater control; specific skills in operating a unit process; e.g. sampling/testing/meter reading and repair/pump maintenance; skills in applied mathematics, communications and science and insight into rewards of career growth through continued educational participation. The purpose of the course is to provide the trainee with a marketable skill that will make him employable at entry level operator positions in wastewater treatment plants. (10/11) Prereq: H.S. diploma or equivalent

EV004W WASTEWATER TREATMENT PLANT OPERATOR — UPGRADE LEVEL 20

Provide plant operators with the skill necessary to perform laboratory analysis for the control and monitoring of municipal wastewater treatment plants. (8/32)

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)

EV003U 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)

EV004U INTRODUCTION TO ENVIRONMENTAL HEALTH 3

Offers an overview of the organized community effort to overcome disease and upgrade the level of health of the public. (3/0)

EV006U 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)

EV007U 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)

EV008U OCCUPATIONAL HEALTH AND INDUSTRIAL SAFETY (1386) 4

Studies community and occupational sanitation problems including industrial and home hygiene and safety. (3/2)

EV009U RECREATIONAL SANITATION (1390) 3

Covers the health and safety aspects of parks, trailer parks and swimming pools including regulation enforcement and testing. (2/2)

EV010U SOLID WASTE MANAGEMENT 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)

EV011U PLANNING AND ZONING 4

Considers the development of a master community plan for the orderly development and redevelopment of all areas. It will include a study of the Police Power through the improvement and street application of building codes, fire and health inspections and zoning regulations; the power of Eminent Domain and the power of Taxation and Public Credit. (4/0)

EV012U PRIVATE WASTEWATER SYSTEMS 4

Emphasizes small water-borne wastewater disposal systems. Design and evaluation of such systems to include systems in tight soils. (4/2)

- EV013U 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)
- EV014U SEMINAR — ENVIRONMENTAL HEALTH (0379) 2**
Studies problems encountered during field learning experience. (2/0)
- EV015U 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)
- EV016U PRIVATE WATER SUPPLY 5**
Considers source and protection of private water supplies. Also considers water quality, sanitary survey and water sampling, bacterial and chemical examinations of water. (4/2)

FOREIGN LANGUAGES

College Parallel

INDIVIDUALIZED FOREIGN LANGUAGE PROGRAM

All courses in the Department of Foreign Languages are on a modular system of individualized instruction, taught in the Centralized Learning Laboratory. Instructors, native consultants, and para-professionals assist the student. Students who have had previous language study should consult the department head for correct placement.

- 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. (4/0)
- FL002T ELEMENTARY FRENCH II (0859) 4**
Continues Elementary French I. Prereq: Elementary French I or equivalent. (4/0)
- FL003T ELEMENTARY FRENCH III (0027) 4**
Continues Elementary French II. Prereq: Elementary French II or equivalent. (4/0)

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. Prereq: Elementary French III or equivalent. (3/0)

FL005T INTERMEDIATE FRENCH II (0232) 3
Continues Intermediate French I. Prereq: Intermediate French I or equivalent. (3/0)

FL006T INTERMEDIATE FRENCH III (0332) 3
Continues Intermediate French II. Prereq: Intermediate French II or equivalent. (3/0)

FL007T FRENCH CIVILIZATION I (1313) 3
Provides readings on France and the French people: France, the provinces, the people and their way of life. Courses 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. May be repeated for credit.

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. (4/0)

FL011T ELEMENTARY GERMAN II (0676) 4
Continues Elementary German I. Prereq: Elementary German I or equivalent. (4/0)

FL012T ELEMENTARY GERMAN III (0769) 4
Continues Elementary German II. Prereq: Elementary German II or equivalent. (4/0)

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. (4/0)

- FL014T ELEMENTARY SPANISH II (0768) 4**
Continues Elementary Spanish I. Prereq: Elementary Spanish I or equivalent. (4/0)
- FL015T ELEMENTARY SPANISH III (0860) 4**
Continues Elementary Spanish II. Prereq: Elementary Spanish II or equivalent. (4/0)
- 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. Prereq: Elementary Spanish III or equivalent. (3/0)
- FL017T INTERMEDIATE SPANISH II (0143) 3**
Continues Intermediate Spanish II. Prereq: Intermediate Spanish I or equivalent. (3/0)
- FL018T INTERMEDIATE SPANISH III (0233) 3**
Continues Intermediate Spanish II. Prereq: Intermediate Spanish II or equivalent. (3/0)
- 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. Conducted in Spanish. May be taken as independent study. (3/0) Prereq: Intermediate Spanish III or equivalent. May be repeated for credit.
- 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. Conducted in Spanish. (3/0) Prereq: Intermediate Spanish III or equivalent. May be repeated for credit.
- 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. Prereq: Elementary German III or equivalent. (3/0)
- FL024T INTERMEDIATE GERMAN II 3**
Continues Intermediate German I. Prereq: Intermediate German I or equivalent. (3/0)
- FL025T INTERMEDIATE GERMAN III 3**
Continues Intermediate German II. Prereq: Intermediate German II or equivalent.

- *FL031T ADVANCED GERMAN I 3**
Provides readings of contemporary German literature on present-day topics, revealing the German attitudes toward life. Course taught in German. Prereq: Intermediate German III, or instructor's permission. (3/0)
- *FL032T ADVANCED GERMAN II 3**
Offers readings of selected short stories from Arthur Schnitzler to Uwe Johnson. Courses taught in German. Prereq: Intermediate German III, or instructor's permission. (3/0)
- *FL033T ADVANCED GERMAN III 3**
Offers further readings from the 1970's, exhibiting modern language, literary style, and current trends. Learning the relationship of English and German vocabulary. Course taught in German. Prereq: Intermediate German III, or instructors permission. (3/0)

FIRE SAFETY

- *FS001T HISTORY AND PHILOSOPHY OF FIRE SCIENCE 3**
Provides a basic description and explanation of the core courses required for the Associate Degree will be given and discussed. History and philosophy of fire protection, organization at the local, state and national level; relationship with the insurance, industry, governmental and other agencies will be studied. A study of why our fire services are organized and an introduction to basic fire problems, evaluations and a survey of fire protection. (3/0)
- *FS002T FIRE PROTECTION SYSTEMS AND EQUIPMENT 3**
Examines the in-house devices and systems utilized to support the role of the fire service in the detection and suppression of fire. (3/0)
- *FS003T INDUSTRIAL FIRE PROTECTION AND SECURITY 3**
Develops the precautions and safe-guards essential for protection of lives and property in various types of occupational establishments. (3/0)
- *FS004T FLUID FLOWS 3**
Involves application of the laws of hydraulics, design features, flow characteristics and tests needed to insure adequate water supplies on the fire ground. Flow testing is an integral part of this course. (3/0)
- *FS005T STRATEGIC PLANNING FOR FIRE PROTECTION 3**
Designed to help the student understand the overall fire problem at the area, community, multiple building complex, and the individual building level. The course would provide the student with the ability to identify overall and specific fire problems. It would also teach the management tools (systems analysis) and data collection systems from which he can then develop solutions and alternatives. (3/0)

***FS006T FIRE INVESTIGATION 3**

Studies the solid technical matters in a clear and useful manner, permitting the man to go to the scene of a fire and come back with some answer as to what caused it, who set it, what defect was responsible, or generally, what happened. (3/0)

***FS007T HAZARDOUS MATERIALS 3**

Develops the properties of chemically active and hazardous materials, such as flammable liquids, combustible solids, oxidizing and corrosive materials and radioactive compounds, as they are related to materials and processes connected with transportation, storage, usage and fire potentials. (3/0)

***FS008T TACTICS FOR FIRE PROTECTION 3**

Includes organization for major fires, including preplanning, command post operations, utilization of manpower and equipment for large scale operations, supply and communication. (3/0)

***FS009T FIRE PROTECTION ADMINISTRATION AND MANAGEMENT 3**

Includes application and implementation in the fire service: relationship of administration at various levels of the organization including communications, legal aspects, budgeting, and evaluation of fire data for statistical purposes. The in-depth study of management as it is defined: a dynamic process which effectively utilizes all resources, human and material, in the achievement of policy and goals established for the department. (3/0)

***FS010T BUILDING DESIGN FOR FIRE PROTECTION 3**

Studies building construction as it relates to its reaction under fire conditions. Interpretation and application of fire prevention in building codes as they are related to the structural strengths of the particular design. (3/0)

***FS011T FIRE BEHAVIOR II 3**

Involves a quantitative study of chemical and physical aspects of fuels, the combustion process and the products of combustion, as these aspects apply to causes, spread and the extinguishment of fire. A combination lecture, demonstration and class participation course designed to teach the facts necessary to understand fire behavior. (3/0)

***FS012T FIRE BEHAVIOR I 3**

Involves a qualitative study of chemical and physical aspects of fuels, the combustion process and the products of combustion as these aspects apply to causes, spread and the extinguishment of fire. A combination lecture, demonstration and class participation course designed to teach the basic facts necessary to understand fire behavior. The latter part of the course will include the principles of fire suppression. (3/0)

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

Studies the geography of population and principle ways of life with consideration of the capacity of the earth for future. Same as Human Geography.

GRAPHICS

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)

GR018U BLUEPRINT READING 2

Studies blueprints as related to mechanical equipment. This course is for marketing students needing a general overview of drawing interpretation. (2/0)

GR019U PLATEMAKING I 1

Presents an introduction to the kinds of lithographic plates, nomenclature and specific applications for each in the printing cycle. Exposure and development of plates is stressed.

GR020U PLATEMAKING II 3

Surveys the chemistry involved in preparing plates as related to problems encountered on the press, running life, additions, deletions, and proper application of preservatives. (0/60) Prereq: Platemaking I or consent of instructor.

GR021U PROCESS CAMERA I 2

Studies high contrast photography as it relates specifically to the lithographic process. Emphasis is placed on the production of line negatives and positives with an introduction to contact printing.

- GR022U PROCESS CAMERA II 4**
Presents advanced techniques of line, halftone, duotone and special effect film negatives and positives, including an introduction to the theory of color separation. Related darkroom operations and nomenclature. Prereq: Process Camera I or consent of Instructor.
- GR023U PROCESS CAMERA III 2**
Offers advanced theory and practical application of photographic sensitized materials applicable to the lithographic printing processes. Attention is given to special effects photographic techniques. (0/32) Prereq: Process Camera II or consent of instructor.
- GR024U STRIPPING I 2**
Covers simple stripping of negatives and positives to layout specifications for duplicator size presses.
- GR025U STRIPPING II 3**
Covers advanced stripping techniques, including multiple impositions, color register, and pin register systems. Introduction to step-and-repeat and multiple burn stripping applications. Prereq: Stripping I or consent of instructor.
- GR026U STRIPPING III 2**
Offers systematic application of advanced stripping techniques with intent for single and multiple color runs on duplicator and larger lithographic presses. (0/32) Prereq: Stripping II or consent of instructor.
- GR027U OFFSET PRESSWORK I 4**
Emphasizes the practical and technical aspects of offset printing including all machine parts and operations in the "make-ready" cycle related to duplicator size presses.
- GR028U OFFSET PRESSWORK II 7**
Emphasis is placed on tone control on the press as related to line and halftone reproduction. Fountain solutions and formulae related to inks, paper, plates, pH control and associated techniques are studied. Prereq: Offset Presswork I or consent of instructor.
- GR029U OFFSET PRESSWORK III 4**
Advanced study of theory and practical aspects relating to color reproduction and plating. Includes operation of presses larger than duplicator. Consideration is given to service adjustments, troubleshooting and maintenance of large and small presses. (0/96) Prereq: Offset Presswork II or consent of instructor.
- GR030U COPY PREPARATIONS III 8**
Studies advanced principles of preparing mechanicals for commercial offset, including newspaper, magazine and book publication techniques. Practical applications of high-speed phototypesetting systems. (0/180) Prereq: Copy Preparation II or consent of instructor.
- GR031U BINDERY OPERATIONS 1**
Offers practical application of the several binding operations including fastening and covering printed materials, folding, stitching, cutting, trimming, punching and other associated finished operations. (0/20)
- GR011U COPY PREPERATION I 7**
Presents an introduction to cold type composition. Basic elements of simple strike-on, paste-up, and overview of high-speed typesetting systems.
- GR012U COPY PREPERATION II 8**
Covers advanced elements of cold type composition, including photo-mechanical typesetting, preparaton of mechanicals with intent for color, photo-mechanical transfer techniques, and line and halftone considerations. Prereq: Cold Type Processes I 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 LAYOUT & DESIGN 4**
Studies two-dimensional design and its relationship to graphic reproduction in terms of balance, contrast, color, form and texture for specified communications. The application of theory of design to actual production work in a laboratory environment.
- GR009U TYPOGRAPHY 5**
Studies type faces as related to typographic design and layout. Historical evaluation of type is traced from the origins of the alphabet to the present. Working definitions and terminology, including the several ways in which type is composed.
- GR001V GRAPHIC SKILLS (1404) 2**
Develops basic drafting skills, both freehand and with layout instruments. (1/2)

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 of 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)

HY010T ASIAN CIVILIZATION — CHINA 4
Focuses on social structure, cultural tradition, economic and political development of China, from prehistorical to the contemporary era. (4/0) Prereq: sophomore

HY011T ASIAN CIVILIZATION — JAPAN 4
Focuses on structure, cultural tradition, economic and political development of Japan, from the prehistorical to the contemporary era. (4/0) Prereq: sophomore

HY012T ASIAN CIVILIZATION — INDIA 4
Focuses on social structure, cultural tradition, economic and political development of India, from the pre-historical to the contemporary era. (4/0) Prereq: sophomore

***HY014T AMERICAN INDIAN CIVILIZATION 4**
Surveys American Indian Civilization with emphasis on the impact of policies and practices of the U.S. Government on Indian life. (4/0)

HY016T EUROPE IN THE AGE OF MONARCHY 4
Presents and explores the social, economic, political and cultural basis of Europe and covers from the Renaissance to 1763. (4/0)

HY017T EUROPE IN THE AGE OF LIBERALISM 4
Continues the objectives of three quarter study and covers from the Enlightenment to the Revolution of 1848. (4/0)

HY018T EUROPE IN THE AGE OF TOTALITARISM 4
Continues the objectives of the three quarter study and covers from 1848 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 — JAPAN 4
Study will focus on structure, cultural tradition, economic and political development of Japan from the pre-historical to the contemporary era. Prereq: Open to sophomores or by consent of instructor. (4/0)

HY012T ASIAN CIVILIZATION — INDIA 4
Study will focus on social structure, cultural tradition, economic and political development of India from pre-historical to the contemporary era. 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)

HE001U INTRODUCTION TO FOOD SERVICE/HOSPITALITY CAREERS 1
Introduces students to careers in hospitality/food service industry, training requirements, and personal characteristics desirable for employment in the industry. Guidance is offered in developing individual career goals. (1/0)

HE005U FOOD PRODUCTION I 6
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. (0/12)

HE006U FOOD PRODUCTION II 6
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. (0/12) Prereq: Food Production I

HE007U FOOD PRODUCTION III 5
Offers field studies to complement employment experiences. Specialized projects such as catering, cake decorating, etc. enable the student to develop areas of specialty. (0/10) Prereq: Food Production I and II

HE008U MENU AND SERVICING FUNDAMENTALS 3
Applies basic nutrition principles and aesthetic values to menu planning. Directs study toward the various forms of commercial/institutional menus, and their relationships to food purchasing, costing, personnel, equipment and determining selling price, dependent upon the types of establishment. (3/0)

HE009U FOOD SERVICE SANITATION AND SAFETY 3
Studies the relationship and requirements of food, food handling and food preparation necessary to produce safe and sanitary foods including the study of food borne illnesses, pest control, commercial dishwashing, personal sanitation and grooming and local sanitation regulations. Identifies safe working practices, conditions, equipment safety, OSHA requirements and basic first aid procedures. (3/0)

HE010U NUTRITION AND FOOD COMPOSITION I 4
Studies the basic principles of nutrition in relations to feeding individuals of all ages. Emphasizes study of foods, their nutritional contributions, composition, characteristics and requirements in handling, preparation, service and storage. (4/0)

HE011U NUTRITION AND FOOD COMPOSITION II 4
Continues study of foods, their nutritional contribution, composition, characteristics and requirements in handling, preparation, service and storage. Emphasis is on red meats, poultry and fish. (4/0) Prereq: Nut/Food Comp. I

HE012U EQUIPMENT AND DESIGN 4
Studies types and capabilities of commercial/institutional food service equipment available. Studies floor plans of commercial/institutional kitchens in relation to menu needs, work flow, space, and personnel. Students design a commercial or institutional floor plan including equipment, specifications, approximate cost includes field trip studies of large quantity kitchens and equipment companies. (3/2)

HE013U GOURMET FOODS/CATERING 3
Studies specialty, regional, national, and "Gourmet" foods. Includes menu planning, preparation and service of above food types, and costing each type. Special emphasis is directed toward catering menus for various groups with study of menu needs and pricing, portion and cost controls, equipment and service. (0/6) Prereq: Food Prod III or permission of instructor

HE014U FOOD SERVICE COST CONTROL 3
Relates principles and methods of handling food supplies and equipment, portion controls, labor costs, overhead and depreciation, food sales and other business costs to formulating reports for effective management in commercial or institutional food establishments. (3/0) Prereq: Food Service Related Math.

HE015U PRODUCTION ANALYSIS 3

Directs the principles of effective and efficient work methods to actual work experiences as students learn the principles, observe work methods, analyze them for time/motions used and determine efficiency used or to be used by employing and analyzing new methods or procedures. (1/4)

HE016U QUANTITY FOOD PURCHASING 3

Studies the requirements for quantity food purchasing related to food specifications, specification writing, determining specifications according to various menu requirements. Includes study of inventories and relation of inventory records to purchasing. (3/0)

HE017U FOOD SERVICE INTERNSHIP I 6

Provides six week employment experiences to apply competencies learned in the classroom and laboratory, to gain additional quantity food production experience and to develop the ability to work with food service oriented people. Prereq: Successful completion of required classroom and laboratory courses.

HE018U FOOD SERVICE INTERNSHIP II 6

Provides six weeks of employment experiences to apply competencies learned in the classroom and laboratory, to gain additional mid-management experiences in working with food service personnel and quantity food preparation and service. Students must meet with instructor in seminars to experiences and problems identified during internship, to emphasize job-seeking skills and necessary interpersonal relationships with fellow employees, and to evaluate their personal objectives, goals, and accomplishments. Prereq: Successful completion of required classroom and laboratory courses

HE004U 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)

HE005U FOOD PRODUCTION I 6

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. (0/12)

HE006U FOOD PRODUCTION II 6

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)

HE007U FOOD PRODUCTION III 3

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. (0/20-12 for 6 weeks)

HUMANITIES

***HU001T HUMANITIES I: UTOPIA LIMITED 4**

Provides an artificial environment in which students can examine their philosophic assumptions. Participants will create political, social, and cultural systems by collectively extending their original conceptions into rational statements. This course will be team taught by three instructors representing three different disciplines. (4/0)

***HU002T HUMANITIES II; UTOPIA UNLIMITED 4**

Employs humanistic concepts to explore utopian possibilities in time and space Utopia Unlimited examines the products of Utopia Limited in contrast to theoretical utopias. Examples of humanist creativity in utopian and dystopian societies are used to examine concepts such as freedom and control, good and evil, truth and beauty. Students will evaluate their culture and its potential for humane productivity. (4/0) Prereq: Utopia Limited

INTERDISCIPLINARY STUDIES

*H-Czech ethnic h
Studies I JS00
II JS00
III JS00
IV JS00
may repeat
to 12 hrs*

***IS001T BIOLOGICAL AND CULTURAL MAN 4**

Considers and explores such questions as the origin and evolutionary history of the earth, life, man and culture. During the course of study, the student will engage in such diverse fields of study as physical and cultural anthropology, paleontology, geology, evolution, and genetics. (4/0)

***IS002T BIOSOCIAL ISSUES — TODAY AND TOMORROW 4**

Biosocial Issues will deal with many of the biological problems and issues facing present and future society. Topics of discussion will include human and medical genetics, genetic pollution, and genetic engineering; abortion; population growth and phenomena; aging, death and dying; etc. The course is interdisciplinary in scope and offered through a team teaching approach by a sociologist and a biologist. (4/0)

JOURNALISM

College Parallel

JO103T PHOTO JOURNALISM I 3

Offers a practicum in camera technique and control film processing and printing, news photography and creative photography. (3/0)

JO104T PHOTO JOURNALISM II 3

Covers advanced techniques in studio, newspaper, and magazine photography including darkroom techniques, field techniques and business techniques in setting up a studio or part-time practice. All students should have their own 35mm, 120mm, or 4x5 camera and access to a darkroom. (3/0) Prereq: Photo Journ. I

***JO105T NEWSWRITING AND REPORTING 3**

Involves an in depth study of objective news reporting and advocacy journalism as well as training in writing the news story, writing headlines, layout, using copy writing symbols, and studying legal implications of biased reporting. Open to any interested student. (3/0)

***JO106T PROMOTION AND PUBLIC RELATIONS 3**

Designed to teach students how to plan an effective promotion campaign by identifying target audiences, understanding the effect of mass communication media, and preparing materials for media campaigns. Students will be involved with actual campaign projects. (3/0)

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**

Deals with the procedural aspects of the Criminal Justice System; includes the limits on prosecution; proceedings prior to trial; rights and privileges of the defendant. Emphasis on the safeguards and protections of "due process" as they relate to procedures. (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 those laws are also considered.

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 & ECONOMICS 1-2

Presents principles of medical ethics, Hippocratic oath, medical assistant's obligations, medical licensing and revocation of license, legal relationship of physician and patient, professional liability, physician's public duties and liabilities, types of medical practices and medical practices act. (2/0)

LAW ENFORCEMENT**College Parallel****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.

LE005T CRIMINAL INVESTIGATION II 4

Deals with advanced methods of criminal investigation, utilizing special methods and techniques as it applies to felony and misdemeanor cases. (4/0)

***LE008T INDIVIDUAL DIRECTED STUDY IN CRIMINAL JUSTICE 1-3**

Offers the student an opportunity to examine in depth an aspect of Criminal Justice not covered in traditional classroom setting, and to proceed at his own pace under the guidance of the instructor. (0/3-9) Prereq: 60 hrs Credit

***LE009T INTRODUCTION TO CRIMINAL JUSTICE 4**
Surveys the various segments of the Criminal Justice System; explores the relationship between these independent segments of the system and the effect of this separation upon the justice process. Should be taken early in the student's program.

***LE010T TRAFFIC SAFETY AND ACCIDENT INVESTIGATION 3**
Examines the principles of traffic safety; accident prevention; accident scene control; investigate procedures; skidmark evaluation and speed calculation; accident reconstruction and cause analysis report writing and case presentation; enforcement action; follow up methods. (3/0)

***LE011T TRAFFIC REGULATION PROCEDURES 3**
Examines the development, purpose and organization of the vehicle code; supervision of traffic; selective enforcement procedures; chemical testing for intoxication; congestion control; traffic analysis and engineering; organization and planning; use of records and statistics. (3/0)

***LE012T HISTORY OF POLICE IN AMERICA 4**
Traces the development of the police officer, and the police organization, from the colonial period to modern times; investigates the problems encountered during various periods of development of the American police agencies. (4/0)

LE004T CRIMINAL INVESTIGATION I 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 PARK SYSTEMS LAW 3
Examines the laws of the state of Iowa, particularly those applicable to our park systems. Psychology of law enforcement is also discussed. (3/1)

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.)

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)

LS007T SCHOOL LIBRARY OPERATIONS 3
Covers library service to children and adolescents and those operations and routines which are common to school libraries. These latter include library instruction and orientation, story hours, construction of displays and bulletin boards, reserve work, technical services in the school library and direct cooperative projects with classroom teachers. Also included are circulation and shelving routines. (3/0) Prereq: IS002T or permission of instructor

LS008T INTRODUCTION TO USES OF THE LIBRARY I 1
Provides self-instruction in basic skills of library research. Students are allowed to proceed at their own pace, with guidance in the library by librarians. (1/0)

LS009T INTRODUCTION TO USES OF THE LIBRARY II 1
Continues work in library use and research skills begun in introduction to uses of the library I. Examines reference books in more detail and discusses classification systems used in various types of libraries. Self-instructional; taught in the library by librarians. (1/0) Prereq: Intro to Lib I

LS010T INTRODUCTION TO USES OF THE LIBRARY III 1
Final course in the sequence. In addition to more research projects there is discussion of library organization, book selection and purchasing and the newer educational media. Taught in the library by librarians. (1/0) Prereq: Intro Lib II

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 — FICTION** 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 library reading in the novel and short story. Prereq: Composition I. (4/0)
- LT102T INTRODUCTION TO LITERATURE — DRAMA** 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 — POETRY** 4
Develops skill in interpreting the elements of the formal structure of poetry and evaluates different theories of how poems gain meaning. The study develops a perceptive acquaintance with a large number and variety of the world's poetry. Prereq: 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)
- LT002T SCIENCE FICTION** 4
Includes the study of short stories and novels of the science fiction genre. Special emphasis is on Utopian and Fantasy Science Fiction. Authors studied include people like Herbert, Brunner, Vonnegut, Asimov, and Heinlein. (4/0) Prereq: Comp I
- LT104T AMERICAN LITERATURE** 4
Introduces major American verse and prose literature with a concentration on writers from 1820 — 1925. (4/0) Prereq: Comp I and Comp II
- LT209T LITERATURE OF TERROR** 4
Explores fear or horror in Literature from medieval times to the present. Beginning with the medieval folk tale and ending with 20th century psychological horror, this course will attempt to show how literature has dealt with the theme of fear throughout western history. This course will be concerned with horror fiction as a reflection of historical phenomena, but also as a work of art understandable in its own terms. (4/0) Prereq: Comp I
- *LT210T POPULAR LITERATURE** 4
Includes a survey of popular literature which covers such genres as the thriller, the romance, the detective, the western and science fiction. The course attempts to evaluate their effect on modern society and to give these types of literature their place on the literary scene. (4/0) Prereq: Comp. I
- 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.

MK014T EXPLORING WORLD TRADE 3
Provides students with an overview of the concepts of international trade. Students will acquire an awareness of the effects of monetary exchange, trade duties and restrictions, sociological problems and other areas of involvement in international trade. (3/0)

***MK013T BANK PUBLIC RELATIONS AND MARKETING 3**
Discusses the basis of public relations, both internal and external, and seeks simply to explain the why, the what, and some of the how of public relations and marketing. It is intended as an overview in terms of what everyone in banking should know about the essentials of bank public relations and marketing. (3/0)

***MK016T COUNSELOR SELLING 4**
Presents the technical aspects of salesmanship. It emphasizes the psychological aspects of customer assistance. The student should have had previous sales experience prior to enrolling in this course. (4/0) Prereq: Instructors consent

MK017T TECHNIQUES OF EXPORTING 3
Covers terminology, payment terms, financing, drafts, letters of credit, and United States and Foreign Government trade controls. The course is structured for the person who has no previous foreign trade experience. (3/0)

***MK019T HOME MORTGAGE LENDING 3**
Approaches the subject from the viewpoint of the mortgage loan officer who seeks to develop a sound mortgage portfolio. A picture of the mortgage market is presented first, then the acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan processing and servicing, and finally the obligations of the mortgage loan officer in overall portfolio management. (3/0)

MK020T SAVINGS/TIME DEPOSIT BANKING 3
Reflects recognition of the fact that a knowledge of the historical development of savings institutions and an awareness of the basic economic function of the savings and policies of these institutions. Different types of financial savings are reviewed in order to describe the system of financial flows of income to capital investment. (3/0)

MK021T FOREIGN TRADE DOCUMENTATION 3
Involves the student directly in the actual details of processing an export order from the time it is received until payment is received. It will cover export shipping, documents, packaging, traffic procedures and insurance. The course is structured for the person who has no previous foreign trade experience. (3/0)

MK006T PRINCIPLES OF INSURANCE 3
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)

Vocational-Technical

MK002U SALESMANSHIP 2-4
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) 4
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. (2/5)

MK004U AGRICULTURAL ECONOMICS 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. Economic principles are stressed. (2/2)

MK006U FASHION MERCHANDISING LABORATORY (0112) 1
 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) 5
 Includes the principles of fashion show production: planning, coordinating and directing the fashion show. (3/4)

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) 1
 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)

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 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)

MK026U PURCHASING 2
 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)

MK015U MARKETING STUDY TOUR 1-2
 Provides a short period of orientation (lectures, films, discussion, and study) prior to tour departure. Written report due after termination of the tour. Cities and itinerary will vary to include educational appointments with retail stores, manufacturing companies and showrooms, advertising agencies, national conventions, and market-week activities.

MK019U SMALL BUSINESS ORGANIZATION/MANAGEMENT 2
 Designed to examine the Fundamentals of organizing a small business. It covers such topics as Finance, demographics, promotion, market competition and site location and analysis. The student will be involved in a business simulation project. (2/0) Prereq: Instructors consent.

MK020U ADVERTISING AND SALES PROMOTION FOR RESULTS
 Concerned with the non-personal efforts used to increase sales volume. This course will present information in the arts of advertising and display. Special emphasis will be placed on the development of a total sales promotion campaign to maximize profits.

MK039U INTRODUCTION TO PURCHASING
 Designed for those persons who are employed in the purchasing field and have had no formal classroom instruction or those persons enrolled in marketing who want to expand their knowledge of the purchasing field. (2½/0)

MK041U FOOD STORE MERCHANDISING I
 Offers a basic look at the principles involved in retail food merchandising with practical examples and illustrations of how they maximize profits and customer satisfaction when properly applied. (3/0)

MK042U FOOD STORE MERCHANDISING II
 Offers a continuation of the principles involved in retail food merchandising with emphasis in advertising and promotions, display, profit planning and control, and government regulation and trends affecting merchandising. (3/0) Prereq: Food Store Mdse I

MK032U HOME FURNISHINGS I
 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
 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
 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
 Emphasizes instruction and practical experience in the areas of ad layout, design and construction for use with local advertising media. Includes relationship of display to the total promotional program and a study of elements of display, construction materials, merchandise selection and the actual display construction. Course meets only during summer quarter (10 weeks). (5/0)

MK002V FLORICULTURE SEMINAR
 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

MA018D BEGINNING ALGEBRA
 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.

MA014T INTERMEDIATE ALGEBRA
 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.

MA025T PRECALCULUS I
 Offers first of two courses designed to give the student a background in functions (polynomial and circular), algebra, and analytic geometry necessary for the study of calculus. Topics covered include functions (one to one, inverse, exponential, Logarithmic, linear, quadratic, polynomials, rational) irrational equations and the binomial theorem. (5/0) Prereq: Int. Alg or 2 yrs H.S. Alg. or consent of instructor.

MA028T PRECALCULUS II
 A continuation of Precalculus I. Topics covered: Functions (circular, trigonometric, inverse trigonometric), Trigonometric identities, trigonometric equations, coordinate systems, complex numbers, and analytic geometry. (5/0) Prereq: Precalculus I or Instructors consent

MA006T CALCULUS I (0758)
 Includes limits, derivative, differentiation, the differential, elementary applications of calculus and introduction to integration. (5/0) Prereq: Precalculus II.

MA007T CALCULUS II (0846)
 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)
 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 (1082) 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.

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.

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: Calculus I or instructor permission.

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.

***MA026T QUANTITATIVE METHODS I 5**
Designed primarily for the non-mathematics major who needs an introduction to mathematics, statistics, and the computer. Use of the computer in handling data essential to his/her discipline for immediate application is emphasized. (5/0) Prereq: Int. Alg. or instructor approval

***MA027T QUANTITATIVE METHODS II 4**
A continuation of Quantitative Methods I. Topics covered: Network models, properties of probability; conditional probability, Bayes' Theorem, Random variables, Binomial distribution, Expected values, Game theory, introduction to mathematics of Finance, also continuing the computer language. (4/0) Prereq: Quantitative Methods I

***MA029T QUANTITATIVE METHODS III 4**
A continuation of Quantitative Methods II. Topics Covered: Basic elements of Differential and Integral Calculus such as, derivatives, slopes of tangents, curvature, area under curves, evaluating integrals. Also, continuing the computer language. (4/0) Prereq: Quantitative Methods II

MA016T LINEAR ALGEBRA 5
Is a post-calculus course which includes a study of vector spaces, determinants, linear transformations and matrices, bilinear and multilinear forms, and polynomial rings. Prereq: Calculus II.

Vocational-Technical

MA001U AGRICULTURAL COMPUTATIONS 3
Emphasizes the relationship of elementary mathematical processes and its relationship to applied various agribusiness procedures, such as volumes, areas, torques, rations and formulations, capacities, etc. This course is cooperatively taught by technical instructors within the various programs in agriculture. (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
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)

MA010U METRIC SYSTEM 2
Designed to assist the student in being able to sell products that have been made by, or use, the metric system of measurement. The student is required to know the metric system and then be able to use it in a selling situation. (2/0)

MA017U RELATED FOOD SERVICE MATH 3
Studies recipe forms, standardization and quantity conversions, computing recipe costs. Includes work with port on controls, use of standard weights and measures recipe yields and production charts. (3/0) Prereq: Basic Math

MA023U DRAFTING — FRACTIONS 1
Includes add, subtract, multiply and divide of both common and decimals fractions. (0/12)

MA024U DRAFTING — PERCENT AND POWERS 1
Includes percent, ratio, powers and roots.

MA007U ENGINEERING COMPUTATIONS I (0224) 2
Covers performance with the slide rule including use of the C.D.C.I, 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)

MECHANICS**Vocational-Technical****MH001U BASIC HYDRAULICS (0574) 3**

Covers fundamental principles of hydraulics, including properties of fluid, flow, resistance and controls of fluid pressure. (2/2)

MH004U AGRICULTURAL MECHANIZATION 4

Includes discussion and application of ventilation systems, feed processing machinery, minor farmstead electricity, and heating units. (2/5)

MH009U SPECIAL PROJECTS — AG. MECHANIZATION 3, 4, Or 6

A self planned individual instruction course designed for the student to work in the area of ag. mechanics (3, 4, 6/0)

MH010U TRACTOR AND FARM EQ. MAINT. AND AD. I 2.5

Discusses use and maintenance of small gas engines and cooling systems. Fuel, lubrication, and use of testing devices. Transmission of power and ignition systems. (2.5/0)

MH011U TRACTOR AND FARM EQ. MAINT. AND AD II 2.5

Includes primary and secondary tillage equipment. Row crop planting and seeding equipment. Grain and Forage harvesting. (2.5/0)

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 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) 7

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. (2/10)

MH006U AGRICULTURAL EQUIPMENT PRINCIPLES II (0633) 7

Studies major reconditioning and servicing of agricultural and light industrial equipment. (2/10)

MH007U AGRICULTURAL EQUIPMENT PRINCIPLES III (0725) 7

Continues Agricultural Equipment Principles I and II. (2/10)

MH008U DIESEL DIAGNOSIS AND OVERHAUL (1090)

Offers instruction in the diagnosis and overhaul of diesel power units with emphasis on speed and accuracy of work. (2/12)

MH013U BASIC & APPLIED GAS ENGINES 8

Covers small gasoline engines and their application to the agricultural equipment industry. (4/8)

MH014U GAS ENGINES DIAGNOSIS & OVERHAUL (1085 & 0342) 8
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. (1/14)

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. (2/2)

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.) (2/9)

Vocational-Technical

MS002U EMERGENCY CARE (OPA./ORT.) 4

Introduces students to the organization and function of the emergency room, develops basic skills in resuscitatory methods, triage and primary patient evaluation and management. Emphasis is placed on understanding the body response to injury and disease and methods of treating specific traumatic, medical and surgical emergencies. Fundamentals of first aid are incorporated throughout the course. (3/2)

MS003U INTRODUCTION TO HEALTH CARE AND PERSONNEL RELATIONS (OPA/ORT) (1366) 2

Offers an overview of the Medical Care System, medical specialties and allied health fields. Offers insight into the hospital organization and the inter-relationship of its personnel in meeting the needs of the clientele. Stresses the fundamentals of patient care, safety and comfort; and includes basic nursing procedures, medical terminology, metrology, medical ethics and legal responsibilities. (2/1)

MS004U ORTHOPAEDIC CONDITIONS I (OPA) (0464)

Provides an investigation of specific orthopaedic disorders and diseases, their etiology, physical findings, accepted methods of treatment and prognosis. Lecture-discussion subjects are organized into etiology or anatomical regions and include a review of the surgical anatomy involved. (4/0)

MS005U ORTHOPAEDIC CONDITIONS II (0464) 4

Continues Orthopaedic Conditions I. (4/0)

MS006U OPERATING ROOM TECHNIQUES (ORT/OPA) 3

Provides the basic principles and skills necessary to assist with surgical procedures in the operating room. Includes surgical aseptic techniques, patient preparation and positioning, instrumentation and equipment management. Selected operative procedures and the related anatomy are studied. (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) 6

Allows the students to interact with patients in the hospital emergency room. Emphasis is placed on safe methods of transferring and transporting patients, obtaining initial histories and assisting with the care and treatment of traumatic injuries. Instructing patients for home care and x-ray reading are practiced. (0/12)

MS009U SUPERVISED LABORATORY EXPERIENCE II (OPA) (0692) 7

Allows the student to observe the patient who is being seen on an outpatient basis. The patient has a musculoskeletal condition usually 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 is practiced. (0/15)

MS001U HEALTH TECHNICIAN 18

Prepares for out patient care in medical facilities by assisting physicians with: recording patient history; assessing the patients problem and urgency; obtaining basic physical findings emotional status and laboratory data; providing emergency care and/or referring patient and records to the appropriate care area. This course is one quarter in length. (20/10)

MS025U INTRODUCTION TO HEALTH CARE (RT) 4

Designed to introduce the student to the fundamentals of health care by examining the scope of modern health care, the psychologic aspects and socio-economic factors of illness and the history and development of hospitals. Medical ethics and medical terminology will be discussed. (4/0)

MS029U OPERATING ROOM TECHNIQUES II (ORT) 3

Continuation of Operating Room Techniques I with emphasis on specific surgical procedures and instrumentation; relevant anatomy and physiology stressed. (2/2) Prereq: ORT I

MS030U APPLIED PHARMACOLOGY 1

Study of drugs, anesthetic agents and solutions administered to the surgical patient, their composition, administration and effects. (2/0)

MS031U SUPERVISED CLINICAL PRACTICUM I (ORT) 6

The practical application of didactic skills offered in Operating Room Techniques I and II. Students assigned to operating rooms within affiliating hospitals, under direct supervision of a faculty member, initially scrubbing or circulating for minor surgery, progressing to major procedures as indicated by proficiency levels. (0/18)

MS032U INDEPENDENT STUDY (RT) 3

An independent study in an area of special interest to the student. (3/0)

MS033U SUPERVISED LABORATORY EXPERIENCE V 13

Offers intensive learning experience in comprehensive patient care areas. (2/22) Prereq: I-IV

MS034U FIRST AID AND SAFETY 4
Studies red cross emergency first aid procedures and OSHA requirements for a horticulture business. (2/4)

MS028U FIRST AID
Includes basic principles of first aid and emergency care. (1/0)

MS029U OPERATING ROOM TECHNIQUES II 4
Continuation of Operating Room Techniques I with emphasis on specific minor and major surgical procedures and instrumentation; relevant anatomy and physiology stressed. (3/2) Prereq: Operating Room Techniques I

MS030U APPLIED PHARMACOLOGY 2
Studies drugs, anesthetic agents and solutions administered to the surgical patient, their composition, administration and effects. (2/0)

MS031U SUPERVISED CLINICAL PRACTICUM I 5
The practical application of didactic skills offered in Operating Room Techniques I and II. Students assigned to operating room within affiliating hospitals, under direct supervision of a faculty member, initially scrubbing or circulating for minor surgery, progressing to major procedures as indicated by proficiency levels. (0/18)

MS032U INDEPENDENT STUDY (RT) 3
An independent study in an area of special interest to the student. (3/0)

MS033U SUPERVISED LABORATORY EXPERIENCE V 13
Offers intensive learning experience in comprehensive patient care areas. (2/22) Prereq: I-IV

MS014V SUPERVISED CLINICAL PRACTICUM II/Sem. 8
Assign students to operating rooms within affiliating hospitals, under direct supervision of a faculty member, initially scrubbing or circulating for minor surgery, progressing to major procedures as indicated by proficiency levels. Experience in emergency room will be included. (0/22) Prereq:

MS015V OPERATING ROOM TECHNIQUES III (ORT) 3
Continuation of Operating Room Techniques II; to include obstetrical procedures. (2/2) Prereq: ORT I and II

MS016V OPERATING ROOM TECHNIQUES IV 3
Continuation of Operating Room Techniques III; to include thoracic, neuro and cardiovascular surgery. (3/0) Prereq: ORT I, II, and III

MS017V SUPERVISED CLINICAL PRACTICUM III/Seminar (ORT) 10
Continuation of Supervised Clinical Practicum II, applicable to Operating Room Techniques III and IV. Summation of total didactic offerings in practical setting; to include observation of/or second scrubbing of thoracic, neuro and cardiovascular surgery. (0/30) Prereq: Supv. Clin. Prac. I and II

MS018V INTEGRATED PRACTICUM 2
Introduces the student to the clinical experience in Central Supply preparing and sterilizing surgical instruments and supplies. (076)

MS019V INTEGRATED BASIC SCIENCE I 8
Anatomy and Physiology and Microbiology will be taught by the Arts and Science Division with full college transfer credit. Common Diseases and Conditions will be an orientation to diseases common to each system. Terminology in basic structure of medical words including prefixes, suffixes, roots, and combining forms and plurals. Emphasis on building professional vocabulary used in the medical field (6/5)

MS020V INTEGRATED BASIC SCIENCE II 4
Continuation of Integrated and Basic Science I (2/4) Prereq: Int. Basic Sc. I

MS021V INTEGRATED BASIC SCIENCE III 2
Continuation of Integrated Basic Sciences I and II. (1/2) Prereq: Int. Bas. Sc. I and II

MS022V MEDICAL PROCEDURES I 6
Introduction to medical assisting: orientation to the physician's office and the role of the medical assistant; housekeeping, sterilization procedures; T.P.R. and B.P. procedures; histories and preparing patients for examinations; telephone and scheduling procedures; inventory and storage x-ray techniques; collection of specimens, smears, etc., as well as electrocardiogram. (4/5)

MS023V MEDICAL PROCEDURES II 7
Continuation of Medical Procedures I with concentration on the study of hematology, drugs, and solutions. (5/5) Prereq: Med. Proc. I

MS024V MEDICAL PROCEDURES III 4
Continuation of Medical Procedures II. Lab procedures and pharmacology; basic Prereq: Med. Proc. I and II.

MS025V MEDICAL PROCEDURES IV 3
Specialty (Psychiatry) and Health Services management/current trends. (3/9) Prereq: Med. Proc. I, II, and III

MS010U SUPERVISED LABORATORY EXPERIENCE III (OPA) (0783)	9	Provides practical experience in the orthopaedic operating room, based on knowledge acquired in Operating Room Techniques I class. Rotation divided into six weeks of "OR1" and six weeks of "OR2". In OR1 the student performs the duties of an Operating Room Technician and in OR2 the student performs the duties of a surgical assistant. Students are required to develop surgical case studies during both rotations. (0/18)
MS011U SUPERVISED CLINICAL EXPERIENCE IV (OPA) (1544)	12	Offers an intensified, comprehensive clinical practicum in St. Paul, Minnesota. Emphasis is placed on increasing skills in assisting with the immediate care and treatment of patients with traumatic injuries. Also offers the student an opportunity to assist a number of Orthopaedists with a variety of procedures in the hospital and office environment, based on pre-determined program objectives. (0/30)
MS012U SUPERVISED CLINICAL EXPERIENCE V — AND SEMINAR (OPA)		Involves a three-month assignment in a private orthopaedic office or clinic. Under the direction of the orthopaedist(s), guided by pre-determined learning objectives, the student participates as an OPA. Includes assisting with office procedures and emergencies, accompanying the orthopaedist on hospital rounds and assisting in surgery. (0/30)
MS013U PRINCIPLES OF IMMOBILIZATION II	3	Continues Principles of Immobilization I. (2/3)
MS014U FUNDAMENTALS OF INHALATION THERAPY I (RT)	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 orthopaedic patient. The student is also given instruction in types and choice of crutch gaits as well as teaching crutch walking. Indication for maintenance of braces and prosthetics are included.
MS017U FUNDAMENTALS OF RESPIRATORY THERAPY II (RT)	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 RESPIRATORY THERAPY III (I.T.)	7	Studies assisted and controlled ventilation and respiratory care for surgical, obstetric, pediatric and trauma cases. (2/10)
MS019U SUPERVISED LABORATORY EXPERIENCE I (RT)	2	Offers learning experience by observation of techniques and performing simple procedures under the direction of a trained inhalation therapist. (2/2)
MS020U SUPERVISED LABORATORY EXPERIENCE II (RT)	6	Assigns student to acute patient care areas — intensive care, respiratory care and coronary care units in hospitals where he/she is exposed to acute respiratory care techniques in inhalation therapy. (0/12)
MS021U SUPERVISED LABORATORY EXPERIENCE III (RT)	8	Offers maximum interaction between student, physician, patient and nursing personnel which enables the student to exercise some initiatives and judgements. (0/16)
MS022U SUPERVISED LABORATORY EXPERIENCE IV (RT)	12	Continuation of Supervised Lab. III. (1/22)
MS023U RESPIRATORY THERAPY TECHNIQUES I (RT)	3	Studies the application of oxygen therapy modalities and positive pressure apparatus and maintenance and sterilization of specific devices; techniques in airway management and resuscitation. (2/2)
MS024U RESPIRATORY THERAPY TECHNIQUES II	4	Develops skills in chest physio-therapy, postural drainage and pulmonary rehabilitation. Exposure to special interest areas like bronchial brush biopsy, fibre-optic bronchoscopy, cardio-pulmonary by-pass and preparation of sputa for cytology are offered. (3/2)
MS001U DISEASES OF MAN (0088)	3	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. (3/0)
MS008V SUPERVISED CLINICAL EXPERIENCE M.A. I (0681)	5	Offers experience in private doctors' offices, clinics, industry or wherever medical treatment is given under supervision of doctors and registered nurses and school instructors. (0/14)

MS009V SUPERVISED CLINICAL EXPERIENCE M.A. II (0772) 12
Continues Supervised Clinical Experience M.A. I (0/30)

MS028U FIRST AID (0957) 0-5-1
Includes basic principles of first aid and emergency care. (1/0)

METALS AND MANUFACTURING

Vocational-Technical

MM001U MANUFACTURING PROCESSES I (0013) 3
Covers ferrous metals and materials, machining and cutting tools, layout tools, gaging and inspection, measuring, hand tools, sawing and turning lathes. (1/5)

MM002U MANUFACTURING PROCESSES II (0108) 3
Develops skills in turret and automatic lathes, screw threads, drilling, milling, grinding and finishes, shaper and planer, and numerical control machines. (1/5)

MM001V MACHINIST LABORATORY I (0763) 8-10
Studies heat treatment of various metals and other basic metallurgical procedures; instruction in the proper care and use of measuring and layout tools; development of skills in following machines; drill press, engine lathe, turret lathe, horizontal and vertical milling machines, grinders, shaper, tracer lathe, numerically controlled machines and other types of production machine tools. (0/16-20)

MM002V MACHINIST LABORATORY II (0944) 8-12
Continues Machinist Laboratory I. (0/16-24)

MM003V MACHINIST LABORATORY 8-13
Continues Machinist Laboratory II. (0/16-26)

MM004U VFC WELDING I 2.5
Included are Arc welding machines, equipment and arc welding procedures. (2.5/0)

MM005U VFC WELDING II 2.5
Covers gas welding equipment, cutting procedures and metal work. (2.5/0)

MM010V WELDING FOR AUTOMOTIVE MECHANICS 2
Covers the set up and operation of a Metallic Arc and Oxy-Acetylene Welding Equipment. Welding techniques used for welding in the flat position with Arc Welding, Gas Welding and Brazing are also included. Welding safety is stressed.

MM012V WELDING SPECIAL PROJECTS .5 to 5
An individualized course for those needing specific welding training other than the regular courses, or practice for various weld tests. Also for those needing review or upgrading of methods and skills. (0/12 to 120)

MM052V BENCH WORK — ENGINE LATHE I 4
Introduces measuring tools, lay out, saws, filing, drill press and engine lathe work. The work on lathe covers tool grinding, speeds and feeds as well as turning. (0/8)

MM053V ENGINE LATHE II 4
A continuation of Engine Lathe I covering tapers, thread cutting, face plate and chuck work. Also included is sine bar, dial indicator and other precision gauge work. (0/8) Prereq: Engine Lathe I

MM054V MILLING I 4
Covers basic set ups on the vertical and horizontal milling machines. Also included is work with the shaper and planer. (0/8) Prereq: Eng. Lathe I.

MM055V MILLING II 4
A continuation of milling machine operations including indexing, gear cutting and torary table milling. Also covered in this course is the metal cutting band saw, (0/8) Prereq: Milling I

MM056V GRINDING AND HEAT TREAT 4
Covers the operation and set up of surface cylindrical and tool grinders. Also including basic heat treatment and metallurgy. (9/8) Prereq: Eng. Lathe I

MM057V N.C. OPERATION AND PROGRAMMING 4
Includes the set up and operation of a 2 axis tape machine and the programming and tape punching. (0/8) Prereq: Eng. Lathe I

MM058V TURRET LATHE 4
Includes the basic set ups and operation of a turret lathe.

MM004V MACHINIST LABORATORY IV (0948) 3
Continues Machinist Laboratory III (In the evening program only). (0/16)

MM005V MACHINIST RELATED I (0943) 4-10
Offers instruction in applied mathematics for machinist, blue print reading, machine technology, metallurgy, heat treating, and safety. (4-10/0)

MM006V MACHINIST RELATED II (0945) 4-6
Continues Machinist Related I. (4-6/0)

MM007V MACHINIST RELATED III (0947) 4
Continues Machinist Related II. (4/0)

MM008V MACHINIST RELATED IV (0949) 4
Continues Machinist Related III (in the evening program only.) (4/0)

MM009V PRODUCTION MACHINERY (1388) 2
Covers classroom study and shop practice on the use of metal forming machinery, and maintenance of welding equipment. (0/56-4 weeks)

MM011V INTRODUCTION TO ARC WELDING 1
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)

MM017V SEMI-AUTOMATIC WELDING (1372) 3
Studies the set up and operation of the semi-automatic welding process, using both hard wire and flux core wire. (2 weeks) (6/54)

MM019V HELIARC WELDING (1368) 5
Covers all position welding techniques on ferrous and non-ferrous materials, using the heliarc welding process. (4 weeks) (6/108)

MM020V SPECIAL ARC WELDING TECHNIQUES (1380) 3
Studies arc welding methods used on cast iron, stainless, hard surfacing and all position weld techniques used on light gauge metal. (6/54)

MM022V WELDING INSPECTION (1392) 2
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)

MM023V STUDENT PROJECT (1396) 2
Provides for preparation of an original project by the student in the areas of fabrication, inspection or welding process. (4 weeks) (0/56)

MM024V WELDING TECHNOLOGY (1400) 4
Studies welding processes and power sources including welding metallurgy, strength of materials, design of weldments, cost of welding and production methods. (60/0)

MM025V WEAVING THE ELECTRODE .5
Covers the welding techniques used to make beads of weld any width. Three basic weave patterns are taught. (0/12) Prereq: Introduction to Arc Welding.

MM026V INTRODUCTION TO JOINT WELDING 1
Studies in detail fillet welds in the flat position using single and multiple pass techniques. Includes an introduction to welding metallurgy. (4/24)

MM027V POWDERED IRON WELD METHODS 1
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)

MM028V FLAME CUTTING 1
Develops the skills needed in oxy-acetylene flame cutting, including set-up, operation, and maintenance of equipment. Oxy-acetylene safety is stressed. (6/12)

MM029V BUTT JOINTS — FLAT 1
Introduces the basic methods of preparing and welding butt joints in the flat position, with and without backing strips. Also includes the use of the A.W.S. welding symbols. (6/24)

MM030V HORIZONTAL WELD TECHNIQUES 1
Introduces horizontal welding techniques and methods used to make various types of joints in the horizontal position. (0.24)

MM031V VERTICAL WELDING TECHNIQUES 1
Introduces vertical welding techniques and methods 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)

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.

MU001D MUSIC (DU) 2
Develops working knowledge of fundamentals of music. (2/0)

* **MU019T BEGINNING PIANO** 2
Designed to teach beginning piano in a group situation. The basic music skills and vocabulary are taught and developed into the techniques needed to perform music. Simple, familiar folk and popular songs are learned to develop these basic skills and technique. The course is also designed to help the student overcome self-consciousness while playing the piano and to stimulate ensemble playing in order to perfect the basic skills and to learn from one another. (0/4)

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
Designed to teach, in a group situation, the basic skills of singing to beginning students. Various concepts of voice will be presented, concerning these skills which include over-coming self-consciousness, breath control, tone production, interpretation, and performing musical exercises and a varied repertoire will be learned so that the student may apply concepts and techniques to simple songs. The course also encourages the beginner to understand that singing is a natural activity and not just a high brow activity. (0/4)

MU008T APPLIED MUSIC: VOCAL II (0823) 1
A continuation of Vocal I. (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)
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. (1/0)

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 UNL Prereq: Conduction (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)

NS012U ADVANCED PLACEMENT SEMINAR 1
The focus of the seminar is to help the student in gaining an understanding of the role of expectation of the graduate Associate Degree Nurse. To aid the student in developing skills in problem solving self-directed learning, communication and self-evaluation abilities. (1/0)

NS013U NORMAL NUTRITION 2
Designed to provide the foundation of knowledge of normal nutrition necessary to application of nutritional therapy in the nursing care of patient with special nutritional needs. (2/0)

NS016V NURSING IV PN 13
Studies advanced med-surg. Emphasis on nursing care of these patients, including orthopaedic. Special emphasis on First Aid and Disaster Nursing. (2/16)

NS017V PN NURS. SEMINAR 2
Deals with the legal and ethical implications and responsibilities of the licensed practical nurse. Consideration is given to the rights and privileges of the patient. General legal and ethical principles are related to specific nursing care situations. (2/0) Prereq: Nurs. I, II, and III. *(PUCR LPN Sem)*

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 or PN)

NS005U NURSING III (ADN) (1330) 11
Focuses on physical and mental changes occurring during pregnancy and birth process. The study of the needs of ill children in relation to the well child is emphasized. Identification of community health agencies and services through study and visitation. (2/12) Prereq: Nursing I, II.

NS006U NURSING IV (ADN) (1334) 10
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) Prereq: Nursing I, II, III.

NS007U NURSING V (ADN) (1338) 12
Focuses on the systematic application and analysis of care given to, for and with the hospitalized person with common recurring health problems: cardiovascular, endocrine, gastro-intestinal, genitourinary, hematology, musculoskeletal, neurological, neuromuscular, respiratory. The patient undergoing surgery is also studied. 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) 12

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. (5/16)

NS010U NURSING VIII (ADN) (1318) 16

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. The team leading method of patient care is studied in relation to managerial skills. Disaster nursing is also included. 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)

NS021V SEMINAR (PN) 2

Focuses on personal and vocational relationships in Nursing. Studies organizations, ethical and legal responsibilities. (2/0)

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. (3/2)

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. (3/2)

OE003T COLLEGE SHORTHAND III (0546) 4

Emphasizes increased rates of dictation and development of introductory transcription skills. Prereq: Shorthand II or instructor's approval. (3/2)

OE004T COLLEGE SHORTHAND TRANSCRIPTION (0914) 3

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. (2/2)

OE014T ALPHABETIC KEYBOARD .5

Consists of learning the alphabet keys on an electric typewriter using the touch method. Skill goal is 15 words a minute. (.0/1)

OE015T NUMBER KEYS AND SKILL DRIVES .5

Includes learning the number keys on an electric typewriter using the touch method. Also covers typing of messages and enumerations and centering lines horizontally and vertically. Skill goal is 20 words a minute. (.0/1)

OE016T CORRESPONDENCE I & SKILL DRIVES .5

Includes learning to type blocked letters in personal and business arrangements and formal display. Also includes learning symbol keys. Skill goal is 23 words a minute. (.0/1)

OE017T TABULATIONS I & MANUSCRIPTS I .5

Consists of learning to type simple tables, short manuscripts, outlines, and bibliographies. Also includes learning symbol keys. Skill goal is 25 words a minute. (.0/1)

OE018T CORRESPONDENCE II & SKILL DRIVES .5

Consists of learning to type postal cards, envelopes, and blocked letters with special features. Skill goal is 30 words a minute. (.0/1)

OE019T BUSINESS FORMS I & MANUSCRIPTS II .5

Includes learning to type memos, invoices, telegrams, formal unbound manuscripts, and footnotes. Also involves making carbon copies and erasing. Skill goal is 35 words a minute. (.0/1)

OE020T CORRESPONDENCE III & SKILL DRIVES .5

Includes learning to type semiblocked letters in business display and formal display. Skill goal is 35 words a minute. (.0/1)

OE021T TABULATIONS II & MANUSCRIPTS III .5

Includes learning to type rules and boxed tables, news releases, magazine articles, and bound and unbound book manuscripts. Skill goal is 37 words a minute. (.0/1)

OE022T CORRESPONDENCE IV & SKILL DRIVES .5
Consists of learning to type semi-blocked, full-blocked, "Simplified", square-blocked, indented, doublespace indented, hanging-indented, and display blocked letters. Also involves making carbon copies and typing envelopes. Skill goal is 39 words a minute. (.0/1)

OE023T BUSINESS FORMS II & MANUSCRIPTS IV .5
Includes learning to type business forms and payroll forms. Also includes learning to type menus, itineraries, committee reports, display reports, personal data resumes, and job applications. Skill goal is 41 words a minute. (.0/1)

OE024T CORRESPONDENCE V & SKILL DRIVES .5
Consists of learning to type two-page letters and two-page memos. Also involves tailoring letters to different size stationeries. Skill goal is 43 words a minute. (.0/1)

OE025T TABULATIONS III & MANUSCRIPTS V .5
Includes learning to type finance tables and legal papers. Skill goal is 45 words a minute. (.0/1)

OE027T CORRESPONDENCE VI AND SKILL DRIVES .5
Includes letter review, letter copies and order letters. Also includes learning military correspondence. Skill goal is 47 words a minute.

OE028T BUSINESS FORMS III AND MANUSCRIPTS VI .5
Includes typing mailing forms, record forms and ruled forms. Reviews report typing, proofreading and revision marks. Skill goal is 49 words a minute.

OE029T CORRESPONDENCE VII AND SKILL DRIVES .5
Includes review of postal cards, memos and telegrams. Also includes typing from script and from unarranged, dictated material. Skill goal is 50 words a minute.

OE030T TABULATIONS IV / MANUSCRIPTS VII .5
Includes review and typing of ruled tables. Also includes estimating word count, line justifying and artistic typing. Skill goal is 52 words a minute.

OE031T SECRETARIAL PROJECTS I / SKILL DRIVES .5
Includes instruction on the use of various correctional devices, the choice of typing ribbons and the variety of type styles. Students begin office-style projects. Skill goal is 54 words a minute.

OE032T SECRETARIAL PROJECTS II / SKILL DRIVES .5
Includes instructions on assembling materials for mailing and continues the office-style projects. Skill goal is 55 words a minute.

OE033T CAREER PROJECT I AND SKILL DRIVES .5
Provides an opportunity to apply advanced typewriting skills to a realistic job situation. Includes typing of letters, tables, manuscripts and forms used in a selected government office. Skill goal is 56 words a minute.

OE034T CAREER PROJECT II AND SKILL DRIVES .5
Provides an opportunity to apply advanced typewriting skills to a realistic job situation. Includes typing of letters, tables, manuscripts and forms used in a selected real estate office. Skill goal is 58 words a minute.

OE035T CAREER PROJECT III AND SKILL DRIVES .5
Provides an opportunity to apply advanced typewriting skills to a realistic job situation. Includes typing of letters, tables, manuscripts and forms used in a selected travel office. Skill goal is 60 words a minute.

OE036T CAREER PROJECT IV AND SKILL DRIVES .5
Provides an opportunity to apply advanced typewriting skills to a realistic job situation. Includes typing of letters, tables, manuscripts and forms used in a selected financial office. Skill goal is 62 words a minute.

OE037T CAREER PROJECT V AND SKILL DRIVES .5
Provides an opportunity to apply advanced typewriting skills to a realistic job situation. Includes typing of letters, tables, manuscripts and forms used in a selected educational office. Skill goal is 63 words a minute.

OE038T SPEED, ACCURACY & PRODUCTION BUILDING .5
Consists of drills and exercises in improving typing speed, accuracy, and production. Skill goal is 65 words a minute.

OE039T INDIVIDUALLY PRESCRIBED INSTRUCTION .5
Includes selected lessons prescribed by the instructor enabling in-depth study of an area. Approval of instructor.

OE040T CURRENT OFFICE ISSUES .5
Explores current issues in the secretarial field in order to develop an awareness of the recent legislation and research that have implications for the secretarial legislation and research that have implications for the secretarial worker. Topics for discussion could include recent changes in the recruiting, hiring, and promoting processes; opportunities for inservice training; (or) other current news events that affect the secretary. (2/0)

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. (1/4)

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. (1/4)

OE009T OFFICE MACHINES (0724) 3
Includes operation and application of adding and calculating machines. (2/2)

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. (2/2)

Vocational-Technical

OE014V INSURANCE TERMINOLOGY 2
Emphasis will be on the correct spelling and application of terms used in the insurance field. (2/0)

OE025V OFFICE EDUCATION SEMINAR 1
Correlated with the students' program of studies and business internship experiences. Time assigned by program. (1/0)

OE026V BUSINESS SKILLS 2
Introduces techniques and provides lab experiences in operating duplicating and copying machines, typewriters, and adding and calculating machines. Brief units are also included on basic telephone, filing, and letter writing procedures. (1/1)

OE028V INSURANCE TYPEWRITING 3
Introduces the forms, policies, and letters common to most insurance offices. The typing of numbers will be stressed, and accuracy will be a major objective.

OE029V INSURANCE OFFICE PROCEDURES 3
Designed as a finishing course in specialized insurance secretarial training combining previously learned typing, shorthand, and general office skills. Through lecture, discussions, simulation, and other activities students will become familiar with typical insurance office procedures applicable in various areas of insurance work. (2/1) Prereq: Ins. Terminology & Insurance Typing.

OE030V RECEPTIONIST SEMINAR 1
Provides instruction in the area of greeting callers making appointments, doing introductions, and other related receptionist responsibilities. (1/0)

OE031V BUSINESS SKILLS I 4
Covers written as well as oral communications; banking, billing, and collections; all insurance programs (health, accident, and government programs); typing of medical letters and reports; and use of dictaphone and other office equipment. Basic knowledge of investments. (2/4) Prereq: Typing.

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 patterns of interaction which will better prepare them to perform day-to-day operations, to develop self-confidence, and to cultivate the personal traits and the human relations skills that are necessary for success in office occupations. Prereq: Typing II. (1/4)

OE003U INSURANCE MACHINE TRANSCRIPTION 3
Designed to concentrate on the letters, memos, and reports used in insurance offices. Both accuracy and increased transcription rate will be stressed, and actual letters will be used. (2/1) Prereq: Insurance terminology and proficiency in machine transcription.

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 operating of adding and calculating machines. (3/2)

OE005U OFFICE EDUCATION LABORATORY (0216) 1-4

Offers individual help in any office education subject. Including both remedial and enrichment instruction. Time arranged. (0/2-8)

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

Develops procedures necessary to assist the orthopaedic surgeon and realted personnel with the care of patients in the office environment. Includes communications procedures, inventory management, ordering orthopaedic shoes and adjustments, and applied pharmacology. (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, 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. (2/1)

OE005V LEGAL TYPING (0879) 3

Provides instruction in typing of information on printed legal forms and in completion of legal instruments and documents common to this jurisdiction. Prereq: College Typing III. (2/2)

OE006V LEGAL TERMINOLOGY (0322) 3

Provides instruction in the correct definitions, spelling, and application of approximately 400 terms commonly used 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. (3/1) Basic Anatomy & Physiology.

OE010V MEDICAL SECRETARIAL MACHINE TRANSCRIPTION (1415) 3

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, Basic Anatomy & Physiology, and Transcribing Machine. (0/4)

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 or specialized hospital department. Prereq: College Typing II or approval of instructor. (3/1)

OE012V MEDICAL SECRETARIAL TYPING (0956) 3

Concentrates 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. (2/2)

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. (1/2)

OE016V OFFICE CAREERS 1-2

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. (1-2/1-2)

PERSONAL DEVELOPMENT

College Parallel

PD005T HUMAN POTENTIAL LAB 2
Is designed to allow student 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)

PD001D ACADEMIC IMPROVEMENT AREA 1
Measures the students current reading and math skills. Materials are arranged to meet the student at his current level and to progress to the extent possible in the allotted time considering the student's needs. (20 clock hours equals 1 credit hour.) Students who have spent 20 clock hours in the AIA course may continue to develop their reading and math skills by registering for an additional 20 hours

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, organizations, and functions of religion are systematically examined. (4/0)

PHYSICS/ASTRONOMY

College Parallel

PH007T ASTRONOMY 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, 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. Neutron stars, black holes and quasars are studied in detail. Laboratories and video-taped observations are incorporated. (3/2)

***PH008T 21st CENTURY INTRODUCTORY PHYSICS (0073)** 4
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 coursework employing the discovery method through experimentation (students design their own individual experiments with the help of instructional aids.) (3/2)

PH001T COLLEGE PHYSICS I (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 requiring 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) 5

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)

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)

***PH011T MEDICAL PHYSICS 4**

Designed for students enrolled in Respiratory Therapy. The course deals with the gas laws, states of matter, fluid dynamics, hydrostatics, equilibrium simple machines as they apply to respiratory therapy and applied radioactivity. Not suggested for A/S students. (3/1)

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

Content includes study of weights and measurements, charts, proportions, chemical and physical properties, and reactions relating to the mixing, gelation, and solidification of dental materials, including the laws of physics as they relate to the dental laboratory fabrication. (3/0)

PH005U TECHNICAL CHEMISTRY AND PHYSICS II (0711) 3

Advanced study and application of principles contained in Technical Chemistry and Physics I. (3/0)

PH006U TECHNICAL PHYSICS III (0803) 2

Study of forces, stresses, and support relating to anatomical structures, dental materials or designs; principles of splinting and broken stress; and color or optical illusions created in restorations; applicable to the construction of crowns, and fixed or removable partial dentures. (3/0)

PH001V MECHANISMS 4

Studies the theory of mechanics and machines. Included are topics in forces and their effects, balance, equilibrium, gravitation, motion and mechanical movements. Also covered are simple machines, mechanical power transmission, friction and lubrication, and pressure. (3/2)

PH002U INTRODUCTION TO PHYSICS 4

Provides an introduction to applied physics. Previous math and science background is not required for the course. Course content includes an overview of the basic properties of solids, liquids, and gases; the metric system and other types of measurement; mechanics and machines; magnetism and electricity; heat and energy; light; sound; electronics; and nuclear energy. (4/0)

POLITICAL SCIENCE

College Parallel

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

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)

PY020T PSYCHOLOGY OF GROWTH AND DEVELOPMENT: CONCEPTION TO SENESCENCE 4

Examines the process of human development with special emphasis on the formative years — birth to adolescence. Topics range from socialization and personality development to identity crisis and death. Prereq: Gen Psy.

PY021T INTRODUCTION TO PERSONALITY & SOCIAL PSYCHOLOGY 4

Involves three central areas of concern. The first deals with the various theories of personality and personality development (Freud, Miller and Pollard, Lewis, and Kelly) and how these relate to human behavior. The second deals primarily with the method and core topics (aggression, conformity, attitude formation and change) within the domain of social psychology. Finally, in a synthesis of these two approaches, the interrelations between social and personality processes are emphasized. (4/0)
Prereq: PY002T

***PY022T PSYCHOLOGY OF HUMAN RELATIONS 3**

The course provides both a theoretical and a practical approach to the study of human interaction. Lectures will emphasize the various theories underlying such topics as sensitivity training, non-verbal communication, group dynamics and interpersonal perception. In addition, discussion will be used to demonstrate, wherever possible, the disparate forms of human communication and interaction. Texts and readings will present an overarching framework for studying the above phenomena. (3/0)

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)

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 Holt, 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)

RECREATION

***RE001T INTRODUCTION TO RECREATION 2**

Introduces students to the fields of modern recreation. The students will be involved in practical aspects of working with specific community recreation programs and will have the opportunity to involve himself in planning, supervising, and evaluating new and ongoing recreation program under the direction of the instructor. (0/4)

SOCIOLOGY

College Parallel

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 insights relative to human behavior in a comparative perspective. Includes selected aspects of both physical and cultural anthropology. (4/0)

***SO013T SOCIOLOGY OF POVERTY 4**

Focuses on structured social inequality and its consequences on the life changes of the poverty group in the United States. The course is problem oriented and examines the possibilities of redistribution of income, status, etc., as a means of reducing the size of the poverty group and ameliorating the effects of poverty on society as a whole. (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)

Vocational-Technical

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)

SOCIAL SCIENCES

***SS001T SOCIAL SCIENCE I — FUTURE COLLEGE 4**
 Social Science component of a 12-hour interdisciplinary project. (4/0)

***SS002T SOCIAL SCIENCE II — FUTURE COLLEGE 4**

Continuation of Social Sciences I — Future College (4/0) Prereq: Social Science I

***SS003T SOCIAL SCIENCE III — FUTURE COLLEGE**
 Offers the third quarter of interdisciplinary non-traditional study. (4/0)

SOCIAL WELFARE

***SW001T INTRODUCTION TO SOCIAL WELFARE 3**
 Designed to provide the student with an overview of social welfare. The historical development of social welfare services will be traced in terms of social change and changing attitudes toward social problems. Present procedures, philosophy and problems of social welfare will be discussed and selected social service areas will be described. (3/0)

***SW002T COMMUNITY AGENCIES 3**
 Designed to provide the student with an overview of social welfare in terms of specific services provided by both public and voluntary agencies in the community. By direct contact with representatives of community agencies the student is exposed to roles of human services personnel (particularly professional social workers), funding, and present problems and procedures of these agencies. (3/0) Prereq: Intro to Social Welfare

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.



ADULT AND CONTINUING EDUCATION

ADULT BASIC EDUCATION

Specialized instruction for persons whose basic academic skills are less than eighth grade level. This includes the Right to Read literacy program as well as group learning situations. These programs are held in conjunction with high school completion classes throughout the seven county area or at the Learning Centers in Cedar Rapids, Iowa City, & Washington. No charge is made for this program.

HIGH SCHOOL COMPLETION

Course work designed to aid persons who want to pass the General Educational Development Test (G.E.D.), or earn credit toward earning a high school diploma. Classes are scheduled at a variety of times throughout the seven county area. 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.

HIGH SCHOOL CORRESPONDENCE COURSES

Correspondence courses have been developed to provide educational opportunities for those unable to participate in a regularly prescribed program or who need additional work.

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 Community 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.

These classes along with many others are offered through the Community Education Division each quarter. Details regarding specific class offerings are available through the division and are published in local newspapers.

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 Keypunch

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
Stimnastics 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
Geneology
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

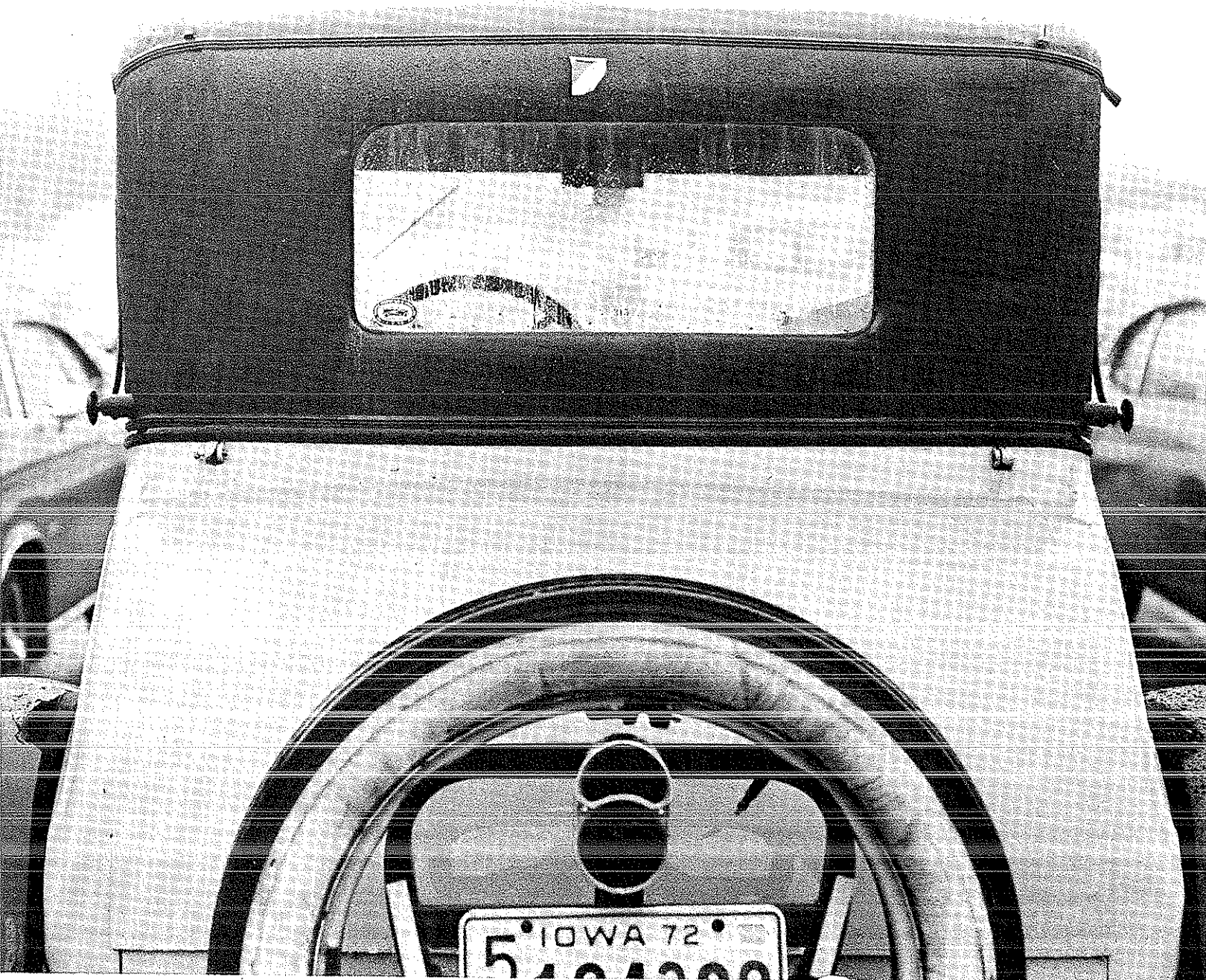
WELDING

Arc Welding

Oxy-Acetylene

Advanced Welding





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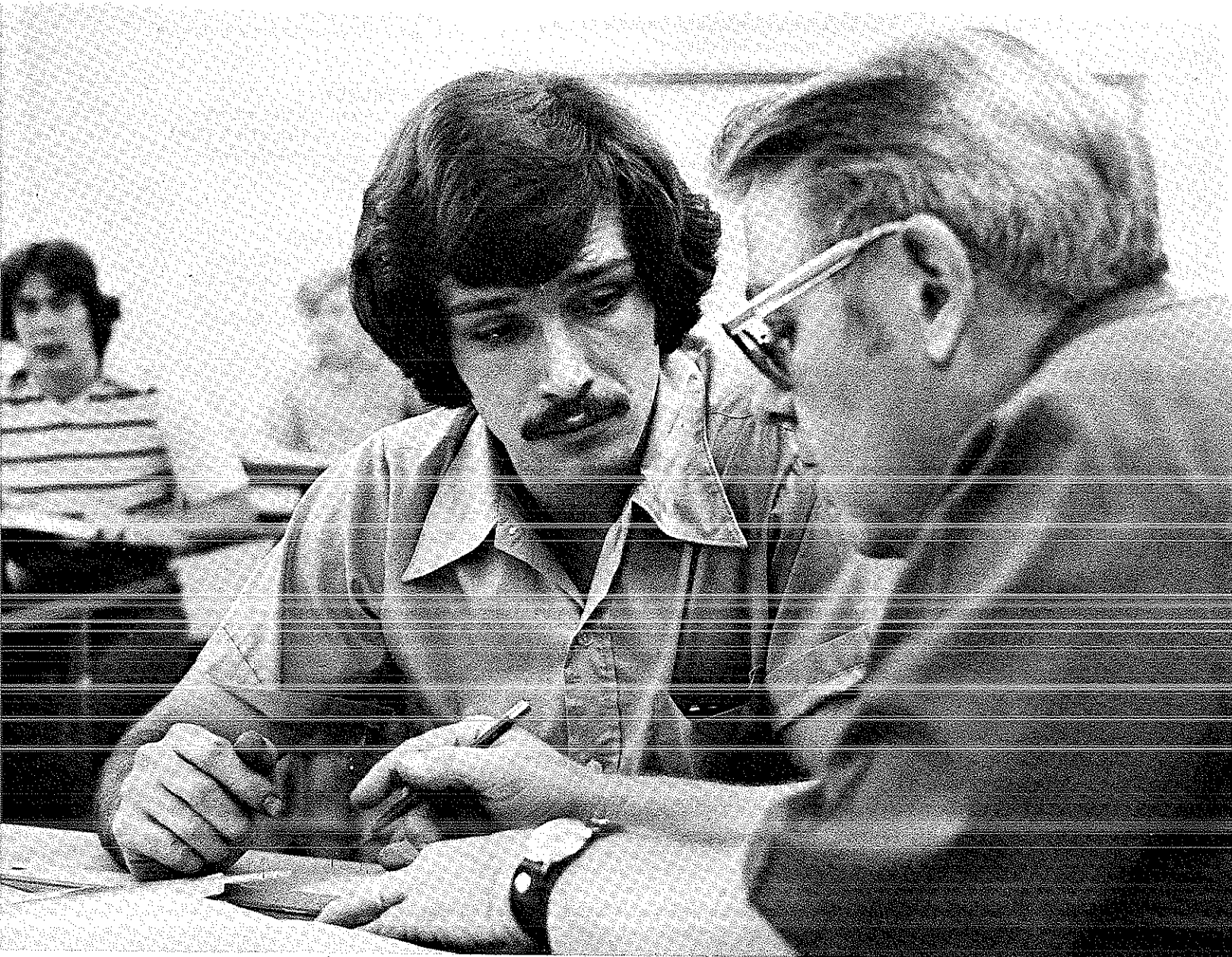
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