

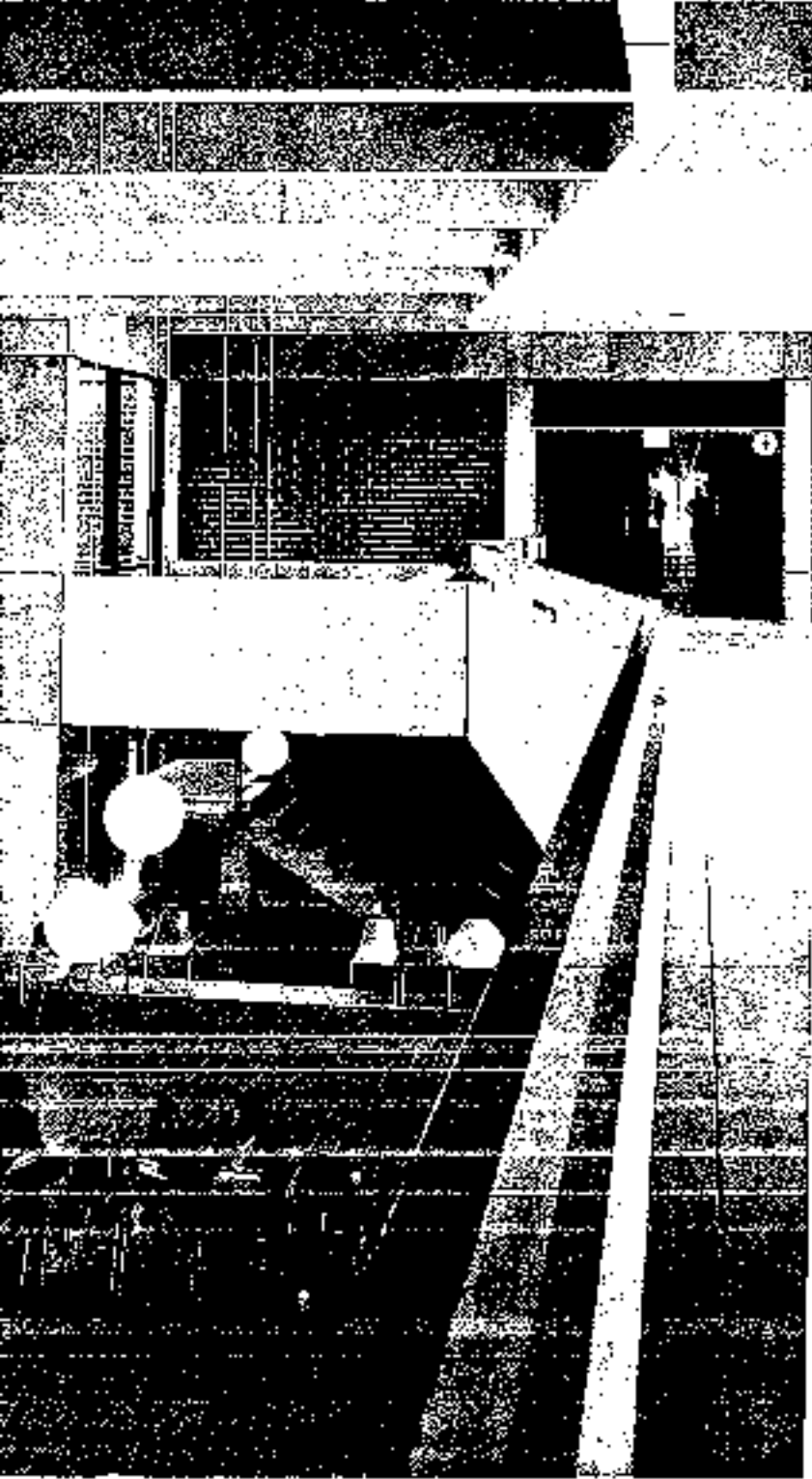
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kirkwood community college
1971-72 catalog



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



board of directors

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Kenneth K. Kupka, *Secretary*

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Assistant Superintendent

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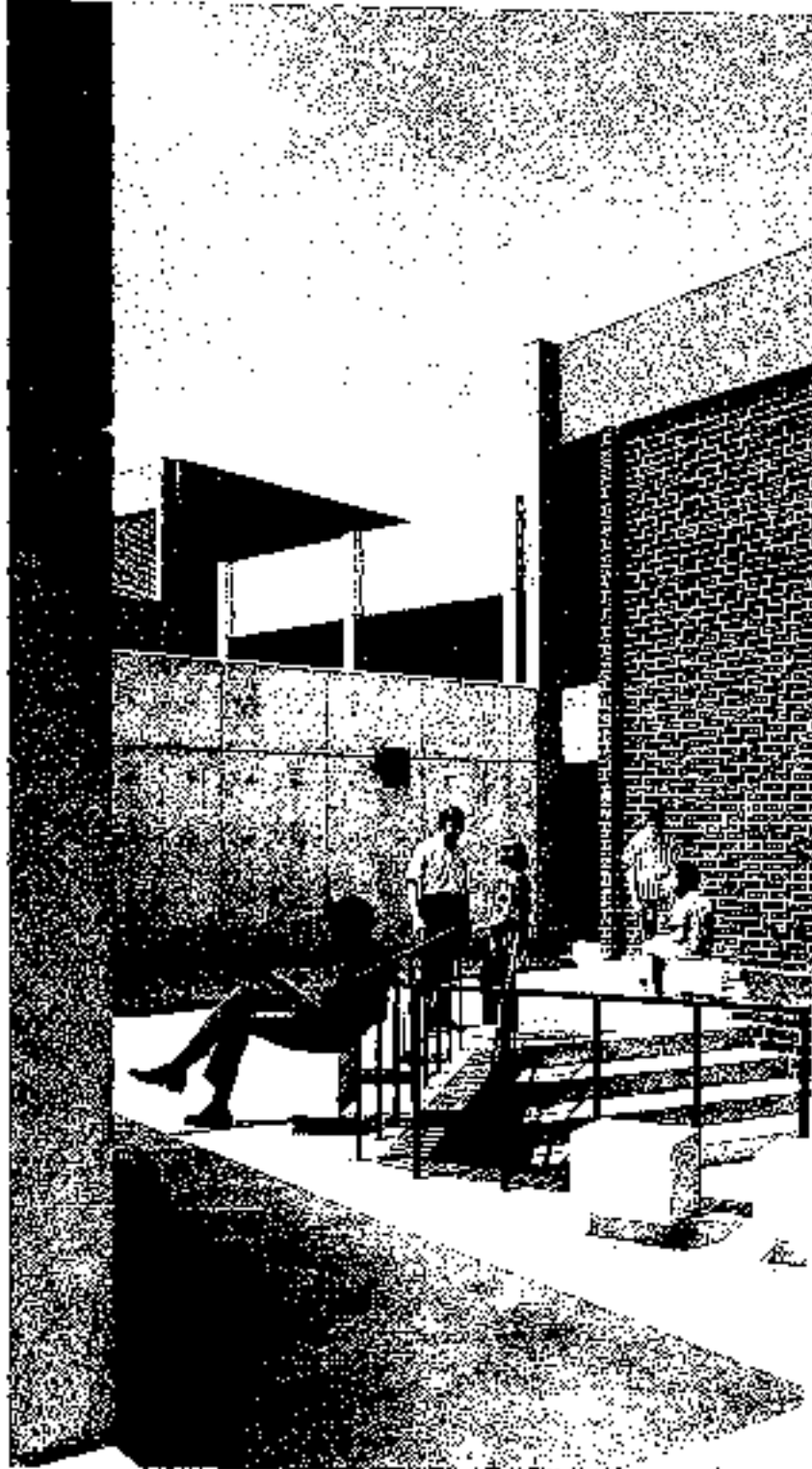
Associate Superintendent of Education

Hal W. Walter

Associate Superintendent of Development

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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 and the one who has completed college.

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 1971-72

SPRING QUARTER, 1971

March 1-2	Registration
March 3	Classes begin
March 8	Adult High School begins
March 9	Last day to register or add classes
April 5	General Adult classes begin
April 5-9	Adult High School vacation days
April 5-21	Easter Holiday
April 12	Classes resume, including Adult High School
April 20	Mid-term
May 11	Last day to drop individual classes without penalty
May 27	General Adult classes end
May 31	Memorial Day Holiday
June 1	Classes resume
June 2	Adult High School commencement
June 3	Last day of regular classes, including Adult High School
June 4	Instructor-Student Conferences End of quarter Final grades due by 4:00 p.m.
June 5	Commencement
June 9	Commencement, Adult High School

SUMMER QUARTER, 1971

June 7	Registration
June 8	Classes begin
June 14	Last day to register or add classes
July 5	Independence Day Holiday
July 6	Classes resume
July 16	Mid-term
August 9	Last day to drop individual classes without penalty

August 26 Last day of regular classes
 August 27 Instructor-Student Conferences
 End of quarter
 Final grades due by 4:00 p.m.
 August 28 Commencement

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

FALL QUARTER, 1971

Aug. 30 - Sept. 3 Registration
 Sept. 6 Labor Day Holiday
 Sept. 7 Classes begin
 Sept. 13 Last day to register or add classes
 Oct. 11 Columbus Day Holiday
 Oct. 12 Classes resume
 Oct. 20 Mid-term
 Oct. 25 Veterans Day Holiday
 Oct. 26 Classes resume
 Nov. 11 Last day to drop individual classes without penalty
 Nov. 24 Last day of regular classes
 Final grades due by 5:00 p.m.
 Nov. 25-26 Thanksgiving Day Holiday

WINTER QUARTER, 1971

Nov. 29-30 Registration
 Dec. 1 Classes begin
 Dec. 7 Last day to register or add classes
 Dec. 20-Jan. 2 Christmas Holiday
 Jan. 3 Classes resume
 Jan. 25 Mid-term
 Feb. 15 Last day to drop individual classes without penalty
 Feb. 21 Washington's Birthday Holiday
 March 4 Last day of regular classes
 March 4 End of quarter
 Final grades due by noon

SPRING QUARTER, 1972

March 6-7 Registration
 March 8 Classes begin
 March 15 Last day to register or add classes
 March 27-April 2 Easter Holiday
 April 3 Classes resume
 April 15 Mid-term
 May 16 Last day to drop individual classes without penalty
 May 29 Memorial Day Holiday
 May 30 Classes resume
 June 2 Last day of regular classes
 June 3 End of quarter
 Final grades due by noon
 Commencement

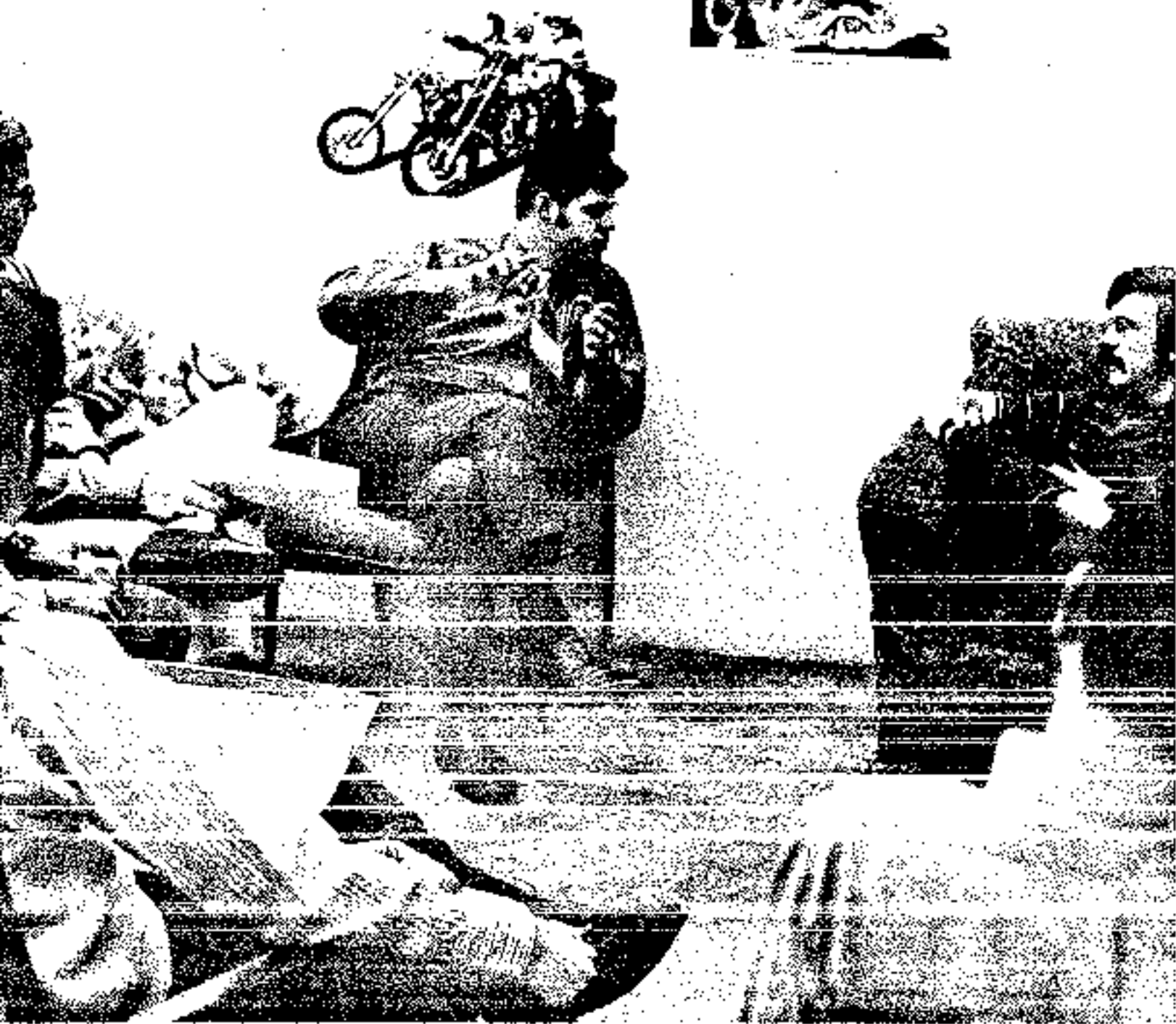
SUMMER QUARTER, 1972

June 5 Registration
 June 6 Classes begin
 June 12 Last day to register or add classes
 July 4 Independence Day Holiday
 July 5 Classes resume
 July 18 Mid-term
 August 9 Last day to drop individual classes without penalty
 August 25 Last day of regular classes
 August 26 End of quarter
 Final grades due by noon
 Commencement

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

FALL QUARTER, 1972 (tentative)

Aug. 29 - Sept. 1 Registration
 Sept. 4 Labor Day Holiday
 Sept. 5 Classes Begin
 Oct. 9 Columbus Day Holiday
 Oct. 23 Veterans Day Holiday
 Nov. 23 Thanksgiving Holiday
 Dec. 1 End of Quarter



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 7.9 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 goes back to 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 incoming 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 Adult Education Divisions were established in 1967. In 1970, a Community Services area was established and an evening college program was initiated.

Thus, in the college's short history, the foundation has been

established for expanded educational opportunities at vocational-technical education, college parallel and career-oriented programs, adult and continuing education, student services and community services.

RATIONALE AND PURPOSES

Merged Area Ten represents an emerging socio-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 spare-size industries, prosperous farms, a major state university and 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 responsibili-

ties, the college must remain a flexible and responsive institution, willing to depart from educational traditions, whenever necessary, in order to meet the interests of the people it services. Kirkwood Community College, therefore, is guided in this effort by the following purposes:

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

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 Foundations.

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.

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 the 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.

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.

FACILITIES

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

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

Twenty relocatable buildings are being used on a site adjacent to Linn Hall. These buildings, including classrooms, laboratories, a learning resource center, and student lounge, are being utilized primarily by the Arts and Sciences and Adult

Education Divisions.

The Agriculture Mechanics program is housed temporarily at 1207 Rockford Road S. W. Next door, the Rehabilitation Facility 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. An Adult Education center is also in operation in Iowa City.

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

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

LEARNING RESOURCE CENTER

The Learning Resource Center (LRC), the modern concept of the college library, is located on the transitional campus. Students have direct access to the book shelves. Currently, the center has 14,500 volumes and expects to have 16,000 by January of 1971. 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 200 periodicals covering many fields of interest. Periodicals do not circulate, but are readily available for use in the center. A binding file of periodicals is

kept in the card catalog. A copying machine is available for students wishing to copy material at a minimal charge.

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

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

The center is open at the following times:

Sunday	1:00 PM to 6:00 PM
Monday	8:00 AM to 6:30 PM
Tuesday - Thursday	8:00 AM to 8:45 PM
Friday	8:00 AM to 4:00 PM
Saturday	CLOSED

The Center is staffed by professional librarians who are assisted by student aides.

BOOKSTORE

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

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

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

Regular Bookstore hours are 9:00 a.m. to 4:00 p.m., Monday through Friday plus Tuesday and Wednesday evenings from 7:00 p.m. to 9:00 p.m. The Bookstore hours are extended to meet special campus events.



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 careers.

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.

DEVELOPMENTAL

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

areas as history, psychology, science, etc. As a result, they may encounter barriers in achieving the above goals.

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

In many respects, the programs offered in rehabilitation, basic adult education and 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.

COLLEGE AND UNIVERSITY EXTENSION

Extension courses are offered by the Arts and Sciences Division in cooperation with the Adult 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 Adult Education Division of the college.

VOCATIONAL-TECHNICAL

The college offers programs varying in length from several weeks to two years in the vocational-technical areas. Over 40 different programs in the areas of data processing, health, agriculture, home economics, business, and trade and industry

are being offered. Students may enroll in programs on a full-time or part-time basis during both day and evening hours. These programs provide students with salable 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.

SPECIFIC TRAINING PROGRAMS

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

Career Opportunities Program

The Career Opportunities program (COP) is a national priority activity under the Education Professions Development Act of 1967. It is directed entirely to the educational needs of persons of low income background including Vietnam veterans. The objective of the program is to attract capable persons to careers in education in a way that will improve both education and employment opportunities for the poor by establishing the enrollees on career ladders in education.

In the Cedar Rapids area the Career Opportunities program is administered by the Joint County School System. The 60 participants in the urban-rural work-study program work part-time in their home communities and neighborhoods as teacher aides while they attend part-time classes at Kirkwood working toward an Associate of Arts degree. Upon completing this degree they will transfer to an accredited four-year college to complete a degree in education.

Work Incentive Program

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

MOTA Programs

The primary purpose of the Manpower Development Training Program is to provide education and training for unemployed, underemployed or disadvantaged persons in various occupational fields. The college cooperates with the local employment service, cooperative Area Manpower System Committee and state MOTA personnel in development and operation of these programs.

REHABILITATION

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

A full complement of ancillary services and personnel are available, including counselors, psychologists, psychiatrists, physicians, social service, specialists, teachers, evaluators, and job placement experts. The curriculum provides a continuum of programs and services, ranging from adult basic education and high school completion to Vocational-Technical training and Arts and Sciences courses for handicapped students. The students are served on an individual program basis from 8 AM to 5 PM daily.

ADULT HIGH SCHOOL

The Adult High School is designed for adults who have not completed high school. It recognizes the characteristics of adults, including a much wider range in chronological and mental age than a normal high school and takes into

consideration the wide range of experiences encountered by most adults. It provides conditions which encourage all students to learn successfully at their own pace, according to their own areas of interest.

Each student receives personal and informal attention from the teacher, who is a co-worker in the learning process rather than an authority apart. Learning is evaluated only within the context of each student's abilities and goals - never in comparison with others nor by the time required to complete the course of study.

Correspondence Courses

The Adult Education Division of Kirkwood Community College offers correspondence studies using programmed instructional materials for those who wish to earn a high school diploma but are unable to attend classes. One quarter credit is given for each of the courses completed. A diploma can be earned from Kirkwood Community College or from the local school district. Students have one year to complete each course. (See listing of individual courses in the last section of this catalog.) Further information can be obtained from the Adult Education Correspondence Division.

ADULT BASIC EDUCATION

This area is intended to serve adults who have less than an eighth grade educational achievement, or who wish to review basic subject matter before entry into the adult high school. It can also be helpful to those seeking the Iowa High School Equivalency Certificate by taking the General Education Development Test (G.E.D.).

Individual Learning Lab

The Individual Learning Lab is designed to let the student work in the subject matter areas he chooses at his convenience. The lab maintains an open door policy from early morning until late in the evening on the following schedule: Monday through Friday, 8 a.m. to 5 p.m. and 6 p.m. to 10 p.m.; first Saturday of each month, 8 a.m. to noon.

Courses include Adult Basic Education, GED preparation and any of the Adult High School subject matter area.

The Individual Learning Lab Center is open the same times listed for GED Testing.

EVENING PROGRAMS

The evening program is offered in both arts and sciences and vocational-technical programs on the basis of need evidenced in the community. Students may enroll in vocational technical programs in agriculture, business, data processing and trade and industry. Arts and sciences courses are offered in social science, business, mathematics, science, English, art, music, foreign languages and speech. Adults may complete a two-year associate degree in the evening in approximately twice the length of time required in day programs.

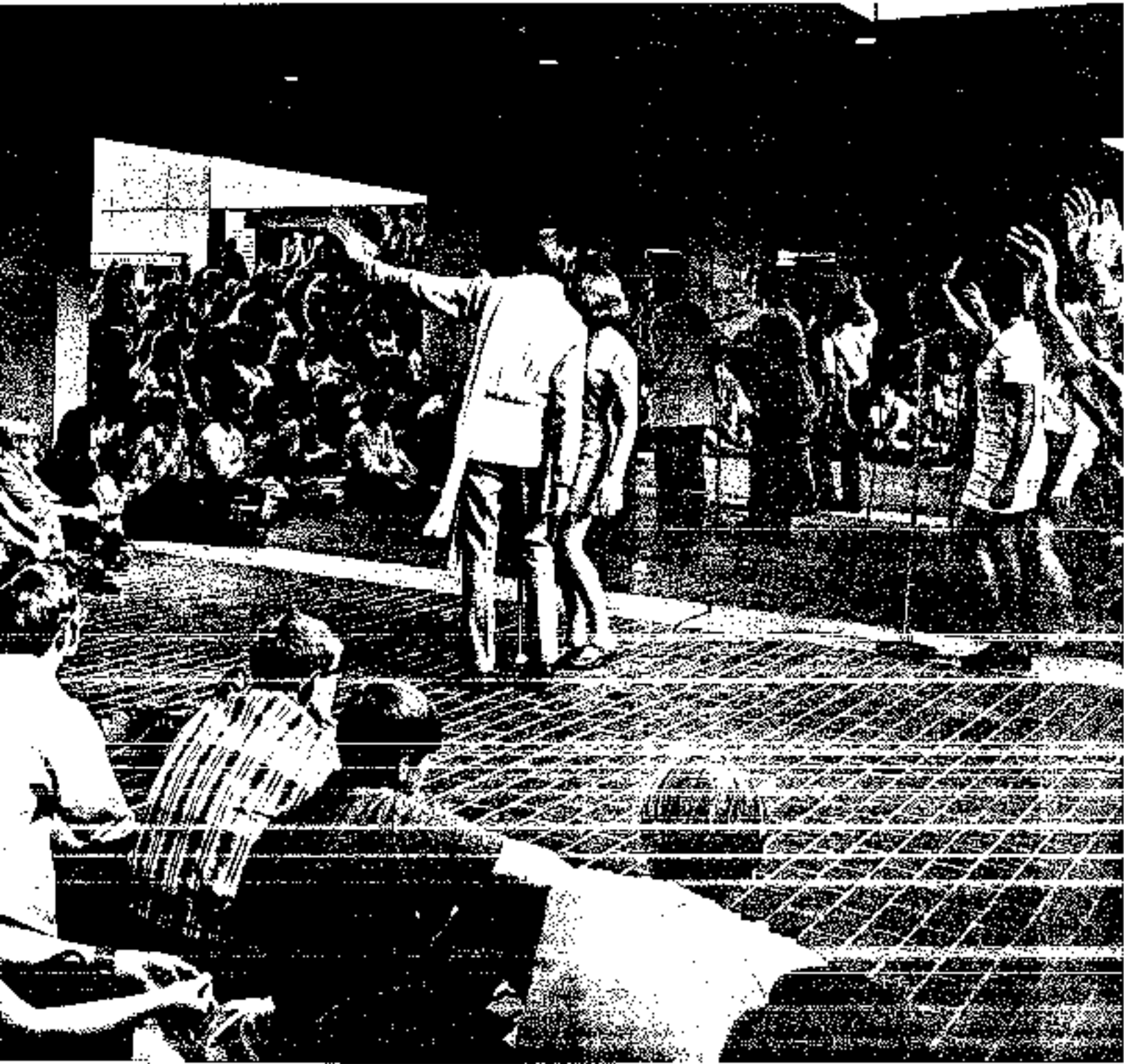
GENERAL ADULT EDUCATION

Class offerings in General Adult Education are as wide as the range of adult interests, including academic, vocational, recreational, and cultural pursuits. Need and interest of people determine the programs to be offered. There are over a hundred courses to choose from in recreational areas such as bridge and swimming, intellectual areas such as Russian, and practical areas such as typing or sewing. Classes in this area are offered in 40 school districts throughout the seven-county merged area in cooperation with local school boards. The classes are self supporting and offered as a community service in cooperation with local school districts.

COMMUNITY SERVICES

Many activities of a general or specific community interest are developed under this category. Examples include: The "Great Decisions" group-discussion series and related activities, sponsored in conjunction with the Foreign Policy Association; Area-wide Civil Defense Education courses conducted in association with the Department of Public Instruction; a workshop in "Confirmation Education" for a group of eastern Iowa ministers; a "Skilled Needs Survey" of the job level and manpower needs of area industries.

One-day workshops and seminars are provided in response to local needs. Home study and discussion courses are also an important feature. Future plans include such activities as film and lecture series, concerts, tours, seminars, conferences, and other items of community interest.



student services

ADMISSIONS AND RECORDS

The Office of Admissions and Records is located in Linn Hall, 6301 Bowling Street S.W. It is open from 8:00 to 12:30 and from 1:00 to 5:00, Monday through Friday. In addition, counselors are available Tuesday and Wednesday evenings and each Saturday morning from 9:00-12:00 to assist potential students. For admissions information, call the Office of Admissions, 398-5517.

Admission Policies

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

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

It is the policy of the college to consider the total individual in admission to the various programs. There are, therefore, no absolute admissions standards concerning performance on required admissions tests and past academic record. Each person possesses multiple potentials and, as an applicant, must be viewed in the broadest possible way in relation to admission to any and all of the college's programs.

Admission to programs is granted on an ongoing basis as applicants complete required admissions procedures. Applicants will, therefore, find it to their advantage to apply as soon as they have decided to seek admission to a program. Prospective students may apply at any time after the completion of their junior year in high school and gain an early admissions decision. Applications are accepted up to the day of registration in many college programs, however, if the college staff is to be of maximum assistance with pre-enrollment matters, an applicant should complete his application at least a month in advance of the expected entrance quarter.

Admission Requirements and Procedures

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

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

Vocational-Technical Division

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

1. An application for admission.

2. Submit a \$15.00 application fee with the application for admission. This fee is non-refundable and does not apply toward tuition or other fees.
3. Kirkwood Health Certificate completed by a licensed physician.
4. The results of the GATB (General Aptitude Test Battery). This test battery is given at Kirkwood on scheduled dates throughout the year. Information about test dates may be obtained from the Admissions Office. The test is also given by state offices of the United States Employment Service. High school counselors can also provide applicants with information about the GATB.
5. A high school transcript or GED test results or Equivalency Certificate. In the case of applicants still in high school at the time of applying, a final transcript must also be submitted following high school graduation. (See also "Admissions Policies," page 9, for those not possessing either a high school diploma or its equivalent.)
6. A personal interview is required in most programs in the vocational-technical division. Applicants will be notified about this on an individual basis after all other application materials are submitted.
7. Transcripts of any and all previous post-high school training undertaken.

Arts and Sciences Division

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

1. An application for admission.
2. A \$15.00 application fee with the application for admission. This fee is non-refundable and does not apply toward tuition or other fees.
3. A Kirkwood Health Certificate completed by a licensed physician.
4. The results of the ACT (American College Test). This must be an official score report received from ACT

Headquarters; score reports contained as part of a high school transcript cannot be accepted. Kirkwood's ACT code number is 1275. This test may be taken as a junior or senior in high school or following graduation.

5. Transfer students must also submit complete transcripts of any and all previous college work.

Foreign Students

Students from foreign countries who wish to be admitted to Kirkwood must submit:

1. Evidence of adequate financial resources.
2. Evidence of the ability to speak, read, write, and understand spoken English sufficiently well to profit from studies planned.
3. Character references from at least five educational and professional sources.

Adult Education Division

With the exception of Adult High School Completion, admission to adult education programs is varied and flexible. Individuals interested in admission to Adult Basic, General Adult Education, and Adult Part-time Vocational programs are advised to contact the Adult Education Division for information regarding admission.

Adult High School

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

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

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

Rehabilitation Facility

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 Rehabilitation Center, Social Welfare, Division of Rehabilitation Education and Service or the Admissions Office at Kirkwood Community College.



Tuition and Fees — Arts and Sciences and Vocational-Technical Divisions

Residents of Iowa (See "Residence Qualifications")

Full-time study*

\$125.00 per 12-week quarter.

Part-time study*

\$11.00 per credit hour.

Audit course work

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

Non-Iowa Residents (See "Residence Qualifications")

Full-time study*

\$187.50 per 12-week quarter.

Part-time study*

\$16.50 per credit hour.

Audit course work

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

*Definitions

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

"Part-time study" — less than 12 quarter hours of credit; "audit" courses are figured at the usual credit hours applicable.

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

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

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

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

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.

Rehabilitation Facility

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

Tuition and Fees – Adult Education Division

Adult Basic Education (ABE)

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

High School Equivalency Certificates (GED)

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

Adult High School

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

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

General Adult Education

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

Senior Citizens Privilege

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

Correspondence Courses (High School)

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

University Extension

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

Arts and Sciences Extension Classes

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

Fees – Community Services and Special Projects

Community Services and Special Projects

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

Refund of Tuition

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

<i>Time of withdrawal</i>	<i>Percentage of refund</i>
Before the end of	
the first class week of the quarter	90
the second class week of the quarter	60
the third class week of the quarter	40
the fourth class week of the quarter	20

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

Students who must withdraw for reasons of personal health, as certified by a physician, or because of induction, but not enlistment, into the armed services, will receive a full refund.

The time of withdrawal has no bearing on this refund provision.

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

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

Residence Qualifications

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

Review Committee

The decision of the Registrar's Office on the residence of a student for admission, fee, and tuition purposes may be appealed to a review committee. The finding of the Review Committee shall be final.

For further information on residence classifications, contact the Registrar's Office.

FINANCIAL AID

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

The student and his family are expected to make a maximum effort to meet college expenses. If it is determined that a family cannot meet the full costs for a year, assistance will be provided to the greatest extent possible from the various aid sources available.

Educational Opportunity Grants

Educational Opportunity Grants are available for students with "exceptional financial need" who would otherwise be unable to continue their education. Grants are made possible by the Higher Education Act of 1965. In addition to financial

need, a student must also show academic or creative promise, and be enrolled in a full-time program at Kirkwood. Educational Opportunity Grants cannot exceed one-half the student's total "need," and must be matched by the student with a loan, campus employment, or other institutional Aid.

National Defense Student Loans

National Defense 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. If a borrower becomes a full-time teacher, as much as half of the loan may be forgiven at the rate of ten percent for each year of said type of employment.

College Work-Study Program

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

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

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

Law Enforcement Assistance

This program was recently 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 he 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 grants 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 workload 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.

Students may apply for a maximum of \$7,500 per academic year. The total outstanding principal balance may not exceed \$7,500 at any time. Full-time students attending school 12 months a year are eligible to apply for an additional sum up to a maximum of \$7,000 with the submission of a separate application and under the condition that the \$1,500 maximum loan amount for a 9-month academic year is not exceeded. Repayments start 10 months after completion of the program at 7% interest. The U.S. Government will pay the interest for those students whose gross family income is under \$15,000 while they are in school.

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

Current courses for the Arts and Sciences Division as well as some 42 Vocational-Technical programs are approved for Veterans Benefits. Generally, these veterans who have been released from Active Duty under honorable conditions and who have served 181 days or more of continuous active duty after January 31, 1955 are eligible.

For further information see the Student Handbook or contact the Office of Veterans Affairs, Room 123A, Lind Hall.

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. A full-time counselor is available to assist students.

Short Term Loans

The Kiwanis Club of Marion and St. Paul's Methodist Church and Peoples Church, both of Cedar Rapids, have provided funds for short-term loans available to full-time students of Kirkwood Community College. Loans are granted interest free to qualified students with repayments to start in 30 days and be completed within 90 days.

Foundation Aid

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

Application Procedures

In order to receive assistance through any of the programs

administered through Kirkwood Community College, a student should complete the following steps:

1. Obtain the proper forms from the Office of Financial Aids, Kirkwood Community College, Loan Hall, 6303 Bowling Street S.W., Cedar Rapids, Iowa, 52406.
2. Return the completed Kirkwood Aid Application 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 12751). 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 Defense Student Loans must be received by June 1 at the Financial Aids Office, in 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, Room 123, Loan Hall, 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 service, 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 counselor seeks to help students make decisions and plan for their future. Upon application to the college, each student has an opportunity for an individual conference with a member of the counseling staff to consider his high school background, appropriate test results, interests, aptitudes and goals. He is assisted in selecting an appropriate curriculum and in determining his course of study.



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

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

Counselors are available and present in each of the divisions of the college. Students in all programs have access to counseling services, including those students enrolled in evening classes. In addition to providing services to enrolled students, counseling is available to potential applicants to the college during the normal business hours, evenings and Saturday mornings.

STUDENT HOUSING

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

A publication, the Off-Campus Housing Policies and Guidelines Brochure, available in the Student Affairs Office, will give further information.

SUPPLEMENTARY SERVICES

Student Accident and Health Insurance

Students are encouraged to secure accident and health insurance. Student insurance is available at the time of registration and at other times may be purchased through the

Student Affairs Office. An enrollment limitation date is governed by the insurance company.

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.

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 can 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 and vending machines are provided on the main campus.

CO-CURRICULAR ACTIVITIES

Student Congress

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

activity program depends upon the representatives of the student body. The purpose of the student congress shall be:

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

College Senate

The College Senate projects broad college policy and guidelines for implementation regarding issues of college wide importance and concern. The Senate is based on the belief in shared responsibility in decision making, and thus represents the highest level of participation within the total college. It is composed of the Superintendent ex-officio and 23 voting members including 15 professional staff members, 3 administrative representatives and 5 students, one of whom is the President of the Student Congress.

Student Publications

STUDENT NEWSPAPER

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

COLLEGE MAGAZINE

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

STUDENT-STAFF DIRECTORY

The Student-Staff Directory is a cooperative venture of the Student Congress, the Office of Student Affairs and the Community Relations Office. The Directory is printed after final registration in the fall. It includes a complete list of student and staff names, addresses and phone numbers.

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.

ACTIVITY CALENDAR

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

ACTIVITIES BULLETIN

The activities bulletin is published every Friday by the Student Affairs Office. It contains specific information on upcoming events. All information must be submitted to the Student Affairs Office by 1:00 p.m. each Thursday in order to be included in the weekly publication.

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.

Athletics

INTRAMURALS

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

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

INTERCOLLEGIATE

Kirkwood launched an intercollegiate athletic program in the Spring of 1969, fielding teams at baseball and golf. Basketball was added to the program in the 1969-70 school year. The

Kirkwood Eagles compete with teams from community and junior colleges in Iowa and bordering states as well as freshmen and junior varsity teams of 4 year institutions.

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

Social and Special Events

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

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





academic information and regulations

CLASSIFICATION OF STUDENTS

- Freshman:** A student who has completed fewer than 42 quarter hours of credit.
- Sophomore:** A student who has completed 42 or more quarter hours of credit and less than 90 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 quarter hours of credit in any quarter without the approval of their advisor and the Director of Arts and Sciences.

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

Vocational-Technical Division

A student in the Vocational-Technical Division normally enrolls for the number of credit hours required in each program of studies. Refer to the section on vocational-technical programs of study in the latter part of this catalog for information concerning credits and/or course load. Part-time course work may be undertaken in some programs. Students with an interest in attending part-time in the vocational-technical division are advised to contact the Office of Admissions and Records for details.

UNIT OF CREDIT

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

GRADING SYSTEM

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

- A -- superior
- B -- above average
- C -- average
- D -- below average

- F -- failing
- FW -- failure assigned as a result of non-compliance with college drop policy
- W -- withdrawal
- N -- audit
- NV -- audit not completed responsibly
- P -- passing mark in a pass-fail course
- R -- credit granted by virtue of prior education, occupational experience, or examination
- I -- incomplete (computed in mark-point average as an "F")
- X -- original mark removed because of a repeat of the course

The effect of each mark in terms of credit and mark-point-average are charted below.

Grades A, B, C, D, F and I are included in computing the mark-point-average.

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

"P" and "R" marks carry credit toward graduation only by authorization of the division director and/or department head.

REPEATING COURSES

Students who achieve a personally unsatisfactory mark in a course may, according to procedures described below, repeat the course in an attempt for a better grade and have the original mark removed from their record. In such cases, the original mark for the course is changed to "X".

Students wishing to take advantage of this policy must file a notification with the Office of Admissions and Records within three weeks following their registration for the repeat of the course. 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 Admissions and Records no later than three weeks following their registration for the repeat of the course. Failure to do so within this time limit will result in both the original as well as whatever repeat mark is earned becoming a permanent part of the student's records.
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 take cause 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.
5. The only marks that may be converted to "X" under this policy are the regular quality marks of the college: A, B, C, D, or F. All other marks that might be earned cannot be converted to "X" by reason of a repeat of the course under this policy.

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 of repeating for a better grade 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 their situation should discuss it with a member of the counseling staff.

Drop Policy

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

All "drops" must be "approved" by a counselor and the instructor of the course dropped and returned by the student to the Office of Admissions and Records before 5:00 p.m. of the last designated drop day for the session.

Withdrawal Policy

A student may withdraw, that is, cancel his entire registration at any time up to the final exam period of a session. Students officially withdrawing through the Office of Admissions and Records will be assigned by instructors a "W" for all courses for which they registered. In all cases of withdrawal, except in cases of physical or circumstantial impossibility, a student must secure the "approval" of a counselor and, circumstances permitting, the "approval" of each instructor. In cases of tragedy (death, disability, etc.), the Office of Admissions and Records 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 an "FW" mark for all courses for the quarter. This will be regarded as an "F" and computed in grade point average and will remain part of the student's academic record. Students who present "good cause" for failure to comply with withdrawal policy may make an appeal through the Registrar. A faculty committee may be convened to consider a deserving appeal and is empowered to convert "FW" to "W."



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"). This mark is computed in the mark-point-average as though it were an "F." It is, therefore, to the advantage of the student to make-up the incomplete course work at the earliest possible time and receive a regular quality mark. 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 college administration imposes no limit on the length of time permitted a student to make-up an "incomplete," but leaves this determination entirely to the instructor or the appropriate department head.

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. Where the student does not do this, the instructor may assign the mark of "NI" indicating that the student did not accomplish a responsible audit of the course.

ADDING CLASSES

Students may add courses only during the first week of classes. Students wishing to do so should complete a "Change in Registration" form, available from a member of the counseling staff, or the Office of Admissions and Records.

CHANGE OF MAJORS

Vocational-technical students who change their major or arts and sciences students who change to a major in the

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

As a prerequisite to taking advantage of this policy, students must complete certain forms in the Office of Admissions and Records. 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 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.

DEFICIENCY NOTICES

At the conclusion of the sixth week of each quarter, students who are doing unsatisfactory work are notified by the college. Such notices are mailed to the student's home address. Upon receipt of such notices the student should contact all instructors involved and arrange to see a counselor if appropriate.

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.

RE-ADMISSION

Students who have been suspended for academic reasons may petition to the Office of Admissions and Records for readmission. 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 examina-

tion times a student may be excused and re-scheduled by his instructor. In cases where such illness or emergency may extend more than a few days, the procedure for incomplete course work should be followed.

STUDENT CONDUCT AND DISCIPLINE

Enrollment at Kirkwood carries with it obligations in regard to conduct, not only inside but outside the classrooms, and students are expected to conduct themselves in such a manner as to be a credit both to themselves and the college. They are responsible for adherence to the laws governing the community as well as to rules and regulations of the college and its officials.

Whenever a student or group of students fail to observe either the general standards of conduct as above stated or any



specific ones which may be adopted by the proper authorities, they shall be liable to disciplinary action by the college.

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

GRADUATION REQUIREMENTS

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

Arts and Sciences Division

Incoming Transfer of Credit

The Arts and Sciences Division will accept the credits given to a student who had 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 even though the student himself may have been involved in non-degree work at that institution. In order to receive the Associate degrees granted by Arts and Sciences faculty the student must also fulfill the requirements for those degrees as are listed in this catalog.

In the case of fulfilling the Associate of Arts or Sciences core requirements the Arts and Sciences departments concerned will determine whether credits earned toward an Associate of Applied Sciences degree apply toward any of these requirements. The departments involved will also determine whether prerequisites for course sequences have been fulfilled by the student's prior work.

When a transfer student's credits are accepted toward the Associate degrees at Kirkwood, the College cannot guarantee how other colleges will treat these same credits.

General Requirements for the Associate in Arts or Science Degrees:

1. Earn a minimum of 90 quarter hours of credit.
2. Earn the last 24 credit hours in residence at Kirkwood in a degree program for which the degree is sought.
3. Maintain a minimum cumulative grade point average of 1.80.
4. Complete satisfactorily eight quarter hours in composition and three quarter hours in speech.

Additional Requirements for the Associate in Arts Degree:

1. Complete General Requirements indicated above.

2. Complete group requirements as follows: 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 |

¹Definition of group requirements include: Group I Humanities: Introduction to Literature, Masterpieces of the World Literature, Introduction to Theater, Art Appreciation, Music Appreciation, French, Spanish, German, History of Western Civilization.² U.S. History.²

Group II Social Sciences: History of Western Civilization.² U.S. History.² American Public Education, Political Science, Sociology, Economics, Psychology, Human Geography.²

Group III Math-Science: Mathematics (Intermediate Algebra or Higher), Biology, Zoology, Microbiology, Anatomy and Physiology, Chemistry, Physical Science, Physics.

²May be included in either Group I or Group II, but not in both.

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:

1. Earn a minimum of the last 24 credit hours or no less than two quarters of resident course work at Kirkwood Community College in the program for which the degree is sought;
2. 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 1.60. Practical nursing students must maintain an average of 2.0.

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 2 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 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 15th 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 not less than 45 with no part score of less than 40 on the General Education Development (G.E.D.) Test. The test is administered through the Iowa City Adult Education Center, at the Anawana Reformatory, and daily on the Kirkwood main campus.

A regular high school diploma issued by Kirkwood Community College is awarded and a permanent transcript file is maintained by the college. Local school districts may issue an adult high school diploma if they choose. Conditions for granting the local adult high school diploma will be specified by the local Board of Education.

Information is available through the Kirkwood Community College Adult Education Division.

Graduation Application

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

A student will be considered a prospective candidate for graduation only upon completing the "graduation application" form and filing it with the Student Personnel Services Office.

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

While a student may complete his requirements for graduation during any quarter, commencement exercises will be held only in May and August. Students completing requirements in November or March are encouraged to participate in the May commencement exercises.

High School Commencement Exercises are scheduled every six months.

Graduation and Academic Honors

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

Requests for Transcripts

A transcript of work taken at Kirkwood is issued upon written request by the student to the Office of Admissions and Records. Forms for this purpose are available in that office. The first transcript request is issued free of charge; a fee of \$1.00 is required for each additional copy.

Waiver of Regulations

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

Student Responsibility for Catalog Information

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

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



programs of study

ARTS AND SCIENCES PROGRAMS

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

College Parallel-Transfer

Students wishing to transfer can elect an emphasis in any of the following: liberal arts, business, pre-dentistry, pre-medicine, pre-veterinary medicine, pre-nursing, pre-pharmacy, pre-computer science, pre-engineering, pre-law, or pre-teacher education. Individuals uncertain of their ultimate goals may prefer to elect a general education emphasis. As a guide for students, courses recommended for each emphasis are listed below. However, students should check the college or university to which they plan to transfer for specific requirements, as these requirements may vary somewhat among institutions.

Liberal Arts Language Requirements

Foreign language requirements differ at 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.

General Education (Associate of Arts)

<i>First Year</i>		<i>Second Year</i>	
Composition I, II	8	Literature	12
Speech I	3	Social Sciences	12
Mathematics	5	Electives*	21
Science	12		
History or Foreign Language	12		
Electives*	4		

Liberal Arts (Associate of Arts)

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

Business (Associate of Arts)

<i>First Year</i>		<i>Second Year</i>	
Composition I, II	8	Literature	12
Speech I	3	Principles of Accounting I, II, III	9
Mathematics	5	Introduction to Business	4
Science	8-12	Fundamentals of Statistics	4
History or Fine Arts	9-12	Electives*	26
Principles of Economics I, II, III	9		

Pre-Chiropractic (Associate of Science)

<i>First Year</i>		<i>Second Year</i>	
Composition I, II	8	Organic Chemistry I, II, III	12
Speech I	3	Physical Science	4
General & Inorganic Chemistry I, II, III	12	Psychology	8
General Biology I, II, III	12	Social Sciences	12
Mathematics	5	Literature	8
Electives*	4	Electives*	3

Pre-Dentistry, Pre-Medicine, Pre-Veterinary Medicine (Associate of Science)

<i>First Year</i>		<i>Second Year</i>	
Composition I, II	8	Organic Chemistry I, II, III	12
Speech I	3	General Physics I, II, III	12
General Biology I, II, III	12	Literature	8
General & Inorganic Chemistry I, II, III	12	Social Sciences	8
Mathematics	10	Electives*	3

Pre-Nursing (Associate of Science)

Kirkwood Community College and the College of Nursing at the University of Iowa are working together to establish a program wherein students wishing to major in nursing can take the first two years of the four year baccalaureate degree program at Kirkwood. At the present time, the first year may be taken at Kirkwood, the second year should become available with the fall term of 1972. Students wishing to complete the baccalaureate degree nursing program at the University of Iowa are advised to take the following courses at Kirkwood Community College.

<i>First Year</i>		
Composition I, II	8	
Speech I	3	
Mathematics (no elective)	5	
General & Inorganic Chemistry I, II	8	
Organic & Bio-Chemistry	8	
Sociology I	4	
General Psychology	4	
History or Fine Arts	12	

Pre-Pharmacy

<i>First Year</i>		Students wishing to take a second year at Kirkwood should contact the cataloging office for further information.
Composition I, II	8	
General Physics (or Biology I, II, III)	12	
General & Inorganic Chemistry I, II, III	12	
Mathematics	10	

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>First Year</i>	
Composition I, II	8
Speech I	3
Calculus I, II, III	13
Physics or Chemistry	12
Engineering Graphics I, II	6
Engineering Problems	2

Pre-Computer Science (Associate of Science)

<i>First Year</i>		<i>Second Year</i>	
Composition I, II	8	Speech I	3
Calculus I, II, III	13	Differential Equations	5
General Physics I, II, III	12	Science	17
Social Sciences	6	Engineering Graphics I	5
Computer Organization and Programming I	4	Computer Organization and Programming II	5
		Humanities	8
		Electives*	17

*Electives may be selected from science, mathematics, humanities, history, the social sciences and business. Courses within each of these areas are listed below. The choice of electives will depend on intended major in a baccalaureate degree program.

Math/Science

Biological sciences, chemistry, mathematics, physics.

Humanities

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 above. 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.

Pre-Teacher Education

Students wishing to prepare themselves for teaching should devote most of their course work during the first two years of college to a general education or liberal arts type curricula identified on preceding pages. Included in the program should be the following.

3698	American Public Education	4
3589	General Psychology	4
3024	Psychology of Child Development	4

Elementary education majors should also include:

0073	Children's Literature	4
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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.

Art, history, foreign languages, literature, music, theater.

History-Social Sciences

Economics, geography, history, law/law enforcement, political science, psychology, sociology.

Business

Accounting, business law, marketing, office education.

Law Enforcement
(Associate of Arts)

The Law Enforcement program is designed for persons wishing to prepare for a career in law enforcement and for persons already engaged in law enforcement who wish to upgrade their present skills and secure advancement in their professional careers. The program is offered in cooperation with the University of Iowa and consists of six twelve-week quarters. Five of the six quarters are provided by Kirkwood Community College; the sixth quarter is taken during the summer session between the freshman and sophomore years at the University of Iowa.

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

First Year

FALL		SUMMER (University of Iowa)			
0537-1	Composition I	4	Criminal Investigation	4.5	
	Mathematics	3	Patrol Procedures	4.5	
0815	Sociology I	4	Traffic Control	4.5	
0523-1	Introduction to Law Enforcement	2	LS2R	Criminology	4.5
	Electives*	2-3			
WINTER		Second Year FALL			
9631-1	Composition II	4	Humanities	4	
	Physical Sciences	4	American Federal Government	4	
0903	Sociology II	4	0082-2	Criminal Evidence	4
0830-1	Criminal Law I	4	0234	Defensive Tactics	1
			Electives*	3	
SPRING		WINTER			
0358	Speech I	3	Humanities	4	
0689	General Psychology	4	State & Local Government	4	
0920-1	Criminal Law II	4	0131-2	Adm. of Justice	4
	Electives*	2-3	0552-2	First Aid	2
			Electives*	2-3	

Library Services

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.

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 audio-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.

First Year

FALL		Second Year FALL			
0537-1	Composition I	4	0435-2	Literature	4
0261	Typing I	3	0146	Records Management	3
0520	Introduction to Business	3	0224	Office Machines	3
0618-1	Introduction to Uses of the Library	3	0925-2	Library Procedure	3
	Electives*	4			
WINTER		WINTER			
0631-1	Composition II	4	0524-2	Language	2
0263	Typing II	3	0687-1	Introduction to Data Processing	3
0731	Business I	3	0091-2	Library Literature	3
0647	Principles of Accounting I	3	Electives*	4	
0891-3	Technical Processes	2			
	Electives*	4			
SPRING		SPRING			
0358	Speech I	3	0153-2	American Federal Government	4
0456	Typing III	3	0827	Art Appreciation	4
0850	General Psychology	4	1107-3	Instruction in Educational Media	3
0241-1	Library Routine	2	Electives*	4	
	Electives*	4			

Teacher Associate

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

The teacher associate, like his colleagues in other areas, works with the more highly trained teacher in helping students learn. He may relieve the teacher of many important duties which do not require the level of skill and training which persons with bachelor's and masters 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. It is divided into two major levels. Level I is for the elementary grades and Level II is subdivided into three areas of emphasis: English languages, social sciences and mathematics. Successful completion of the program requires a minimum cumulative grade point average of 1.80 and a total ninety quarter hours of credit. An associate degree in arts and sciences is awarded upon completion of the program.

General Requirements for the Associate Degree

Courses	Credit
English Composition I, II	2
Speech I	1
Humanities, e.g., literature, history, art, music, theater, foreign languages	8
Social sciences or history	8
Math. and/or science	8

Specific Requirements for Teacher Associates - Levels I and II

Course	Credits
0598 American Public Education	4
0689 General Psychology	4
0029 Psychology of Child Development	4
1341 Educational Psychology	4
1327 Practicum for Teacher Associates	4
0064 Effective Study and Reading	2
0628-1 Introduction to Uses of a Library	2
1067 Instruction in Educational Media	2
0977 Typing I	1



Recommended for Level I

Courses	Credits
0035-2 Children's Literature	4
0827 Art Appreciation	3
0696 Music Appreciation	3
Additional electives (including additional courses in art and music)	13

Recommended for Level II (English-Language)

Courses	Credits
Enough for grade	17 - 21
Additional electives, e.g., literature, art, music, theater	11 - 15

Recommended for Level II (Social Sciences)

Courses	Credits
Social science sequence, e.g., political science, sociology, economics, geography, law enforcement, history	8
Additional electives, e.g., literature, art, music, theater, history, social sciences, mathematics	15

Recommended for Level II (Math-Science)

Courses	Credits
Math and science (in addition to A.A. requirements)	25

Developmental

A developmental program is available for students who are in need of additional study before they embark on a full-fledged college parallel or occupational program. This program helps students to: (1) develop learning skills necessary for success in more advanced educational programs, and (2) extend their understanding and awareness of themselves and their physical and social environments. Opportunities are provided to increase skills in reading, writing, speaking, studying and mathematics. Through study in the social and biological sciences, students are provided with opportunities to become better informed about themselves and their environments, especially at the community level. Specific developmental courses are identified in the course description section of the catalog.



ARTS AND SCIENCES COURSE INDEX

The following serves as an index of all courses offered in the Arts and Sciences Division, along with the appropriate numbers for each course. Students should refer to the Program of Study section to learn the year in which courses should be taken.

*Will not be offered before 1991

ACCOUNTING

0647	Principles of Accounting I
0731	Principles of Accounting II
0851	Principles of Accounting III
0778	Intermediate Accounting I
0329	Intermediate Accounting II
0826	Elementary Cost Accounting I
0115	Elementary Cost Accounting II
0426-2	Income Tax Accounting

ADMINISTRATION AND MANAGEMENT

0570	Introduction to Business
0413	Principles of Finance

ART

0827	Art Appreciation
0915	Art History I
0078	Art History II
0174	Art History III
0517	Fundamentals of Drawing I
0409	Fundamentals of Drawing II
0580	Fundamentals of Drawing III
0496	Fundamentals of Design I
0590	Fundamentals of Design II
1262	Fundamentals of Design III
0518	Fundamentals of Painting I
0110	Fundamentals of Painting II
1205	Fundamentals of Painting III
0600	Fundamentals of Ceramics I
0501	Fundamentals of Ceramics II
1201	Fundamentals of Ceramics III
1075	*Fundamentals of Photography I
1708	*Fundamentals of Photography II
1710	*Fundamentals of Photography III
1066	Fundamentals of Prints and Composition I
1204	Fundamentals of Prints and Composition II

1209	Fundamentals of Poetry and Composition III
1073	*Fundamentals of Lettering
1070	*Fundamentals of Sculpture I
1205	*Fundamentals of Sculpture II
1206	*Fundamentals of Sculpture III
1071	Fundamentals of Lettering
0819	Fundamentals of Painting I
0810	Fundamentals of Painting II
1203	Fundamentals of Painting III

BIOLOGICAL SCIENCES

0798	General Biology I
0794	General Biology II
0582	General Biology III
1050	*General Botany I
0741	*General Botany II
0882	Human Anatomy and Physiology I
0844	Human Anatomy and Physiology II
1255	*Human Anatomy and Physiology III
1301	*General Zoology
1320	*Survey of Vertebrates
1514	*Microbiology I
	*Microbiology II

CHEMISTRY

0059	Survey of Chemistry I
0418	Survey of Chemistry II
0239	Survey of Chemistry III
0709	General and Inorganic Chemistry I
0794	General and Inorganic Chemistry II
0838	General and Inorganic Chemistry III
0564-2	Organic Chemistry I
0457	Organic Chemistry II
0551	Organic Chemistry III
0593	*Quantitative Analysis

COMMUNICATION

0595	Review English 10/11/12
0645	Reading Laboratory
0664	Effective Reading and Study
0266	Writing Laboratory
0555	Composition IA
0444	Composition IB
0517	Composition I
0631	Composition II
1211	Introduction to Journalism
1512	Journalism Lab
0796	Intermediate Composition
1216	Critical Reading

DATA PROCESSING

0682	Introduction to Data Processing
0906	Introduction to Concepts & Programming
0556	Business Application of Data Processing
0593	Introduction to Computer Organization & Programming
0066	Computer Organization & Programming I
0164	Computer Organization & Programming II
0252	Computer Programming

DRAMA

0151	Introduction to the Theater
1436	Theater Workshop

ECONOMICS

0751	Economics I
0862	Economics II
0029	Economics III
0544	The American Economy
1277	Business Economics I
1779	Business Economics II
1501	Independent Study in the Social Sciences

FOREIGN LANGUAGES

0767	Elementary French I
0859	Elementary French II
0027	Elementary French III
0142	Intermediate French I
0252	Intermediate French II
0352	Intermediate French III
0675	Elementary Spanish I
0768	Elementary Spanish II
0860	Elementary Spanish III
0053	Intermediate Spanish I
0144	Intermediate Spanish II
0253	Intermediate Spanish III
0578	*Elementary German I
0676	*Elementary German II
0769	*Elementary German III
1315	French Civ I
1417	French Civ II
1421	French Civ III
1511	*Hispanic Civ I
1405	*Hispanic Civ II
1509	*Hispanic Civ III

GEOGRAPHY

0452 Physical Geography
 0493 Human Geography

GRAPHICS

0806 Engineering Graphics I
 0896 Engineering Graphics II

HISTORY

0215 Western Civilization I
 0091 Western Civilization II
 0176 Western Civilization III
 0211 United States History I
 0593 United States History II
 0191 United States History III
 1515 Black History
 1591 Independent Study in the Social Sciences

LAW/LAW ENFORCEMENT/Corrections

0597 Business Law I
 0694 Business Law II
 0515 Introduction to Law Enforcement
 0836 Criminal Law I
 0920 Criminal Law II
 0833 Criminal Evidence
 0131 Administration of Justice
 1525 Introduction to Corrections
 1512 Probation, Parole and Pardons
 1516 Correctional Services in the Community
 1513 Principles of Correctional Management and Supervision

LIBRARY SERVICES

0518 Introduction to the Uses of the Library
 0741 Library Routes
 0801 Technical Processes
 0925 Library Procedures
 0991 Library Literature
 1067 Instruction in Educational Media

LITERATURE

0722 American Arts I
 0482 Introduction to Literature I
 0524 Introduction to Literature II
 0619 Introduction to Literature III
 0662 Masterpieces of World Literature I
 0787 Masterpieces of World Literature II
 0843 Masterpieces of World Literature III
 0875 Children's Literature

MARKETING

0957 Principles of Marketing
 0928 Principles of Retailing
 0925 Principles of Selling

MATHEMATICS

0969 Engineering Problems
 1424 Intermediate Algebra IA
 1428 Intermediate Algebra IB
 0512 College Algebra
 0647 Trigonometry
 0706 Analytic Geometry
 0753 Calculus I
 0846 Calculus II
 0912 Calculus III
 0182 Differential Equations
 0674 Fundamentals of Statistics
 0443 Modern College Mathematics

MUSIC

0646 Music Appreciation
 0961 Fundamentals and Harmony I
 0873 Fundamentals and Harmony II
 0906 Fundamentals and Harmony III
 3105 Ear Training & Sight Singing I
 0904 Ear Training & Sight Singing II
 0936 Ear Training & Sight Singing III
 0408 Advanced Harmony, Ear Training I
 3102 Advanced Harmony, Ear Training &
 0385 Advanced Harmony, Ear Training III
 0927 Applied Music Vocal I
 3624 Applied Music Vocal II
 0384 Applied Music Vocal III
 1077 Applied Music Vocal IV



0902	Adapted Music (Instrumental Bass, Strings (Orchestra), woodwinds, percussion, piano, organ)
1329	Applied Music Keyboard I
1332	Applied Music Keyboard II
1325	Applied Music Keyboard III
1332	Applied Music Keyboard IV
0215	Ensemble
0076	Chorus
0109	Jazz
1076	Conducting
1349	Fundamentals of Music
1068	Choral Techniques
1071	Instrumental Techniques

OFFICE EDUCATION

0171	College Shorthand I
0362	College Shorthand II
0546	College Shorthand III
0914	College Shorthand Transcription
0172	College Shorthand V
0077	College Typing I
0174	College Typing II
0263	College Typing III
0724	Office Machines
0146	Records Management
0435	Secretarial Procedures

PHILOSOPHY/RELIGION

1526	Introduction to Philosophy
1511	Introduction to Religion

PHYSICS/ASTRONOMY

1324	Physical Science (Astronomy)
0022	Physical Sciences (Physics)
0169	College Physics I
0260	College Physics II
0360	College Physics III
0625	General Physics I
0513	General Physics II
0630	General Physics III

POLITICAL SCIENCE

0064	American Society: Community Politics
0353	American Federal Government
0143	State & Local Government I
0359	World Politics
1501	Independent Study in the Social Sciences

PSYCHOLOGY AND EDUCATION

0589	General Psychology
0074	Psychology of Child Development
0695	American Public Education
1317	Practicum for Teacher Associate
1345	Psychology of Adjustment
1501	Independent Study in the Social Sciences
1541	Educational Psychology and Measurement

SAFETY

0552-2	First Aid
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SCIENCE

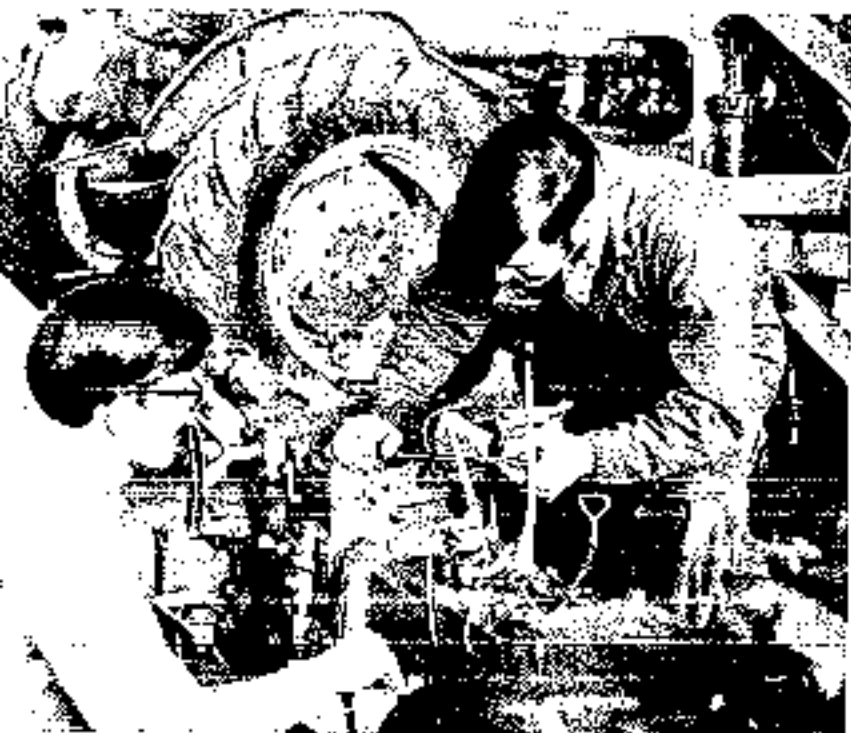
1308	Integrated Science I
1312	Integrated Science II

SOCIOLOGY

0813	American Society: Community Organization
0903	American Society: Community Problems
0187	American Society: Minority Group Relations
0165	Introduction to Sociology
0254	Social Problems
0435	Marriage and The Family
1528	Criminology
1101	Introduction to Cultural Anthropology
1501	Independent Study in the Social Sciences

SPEECH

0358	Speech I
0421	Speech II



Agriculture

AGRICULTURE MECHANICS

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

During the first year of the program, students receive instruction in basic core competencies and are qualified as set-up specialists. They may continue a second year and concentrate in one of two other specialist options: Mechanics or Part, Repair Sales and Service. Both programs lead, upon completion of seven quarters, to an Associate in Applied Science degree.

First Year — (Core Competency) Set-Up (Assembly and Handling) Specialist

		Credits	Class Hours
<i>First Quarter</i>			
0023	Basic Mathematics I (Math)	3	36
0540	Agricultural Equipment Principles I (Planting) (Mech.)	6	156
0511	Applied Electricity I (Elect.)	4	72
1084	Gas Engines I (Mech.)	3	72
3041	Agriculture Survey (Ag.)	2	74
1061	Seminar (Ag.)		
<i>Second Quarter</i>			
1294	Technical Agriculture Mathematics (Math)	3	36
0633	Agricultural Equipment Principles II (Planting) (Mech.)	6	156
3634	Applied Electricity II (Elect.)	4	72
0480	Reconditioning and Repair (Mech.)	5	96
1061	Seminar (Ag.)		
<i>Third Quarter</i>			
0637	Communication Skills (Comm.)	3	36
0800	Careless Agriculture (Ag.)	1	72
0725	Agricultural Equipment Principles III (Harvesting) (Mech.)	6	156
1258	Special Projects (Ag.)	4	60
0302	Psychology of Human Relations (Psych.)	3	36
1061	Seminar (Ag.)		

Fourth Quarter

1379	Business Practices (Admin.)	3	10
0285	Customer Interpretation (Mktg.)	3	10
0127	Employment Experience (Ag.)	10	250
0258	Special Project (Ag.)	2	20
1061	Seminar (Ag.)		

Second Year – Mechanics (Specialist)**First Quarter**

0674	Basic Hydraulics (Mech.)	3	60
1085	Gasoline Diagnosis and Overhaul (Mech.)	6	120
0904	Power Transfer Systems I (Mech.)	3	60
0942	Engines & Systems (Mech.)	6	120
1061	Seminar (Ag.)		

Second Quarter

0672	Applied Hydraulics (Mech.)	3	60
0965	Power Transfer Systems II (Mech.)	3	60
1090	Diesel Diagnosis and Overhaul (Mech.)	6	180
1091	Employment Business Functions (Admin.)	4	60
1061	Seminar (Ag.)		

Third Quarter

0959	Power Transfer Systems III (Mech.)	3	60
1097	Unit Diagnosis and Overhaul (Mech.)	3	180
0778	Advanced Hydraulics (Mech.)	3	60
0890	Technical Agriculture II (Ag.)	3	60
1061	Seminar (Ag.)		

Parts Room Sales and Service (Specialist)**First Quarter**

0674	Basic Hydraulics (Mech.)	3	60
1085	Gasoline Diagnosis and Overhaul (Mech.)	6	120
0904	Power Transfer Systems (Mech.)	3	60
0942	Engines and Systems (Mech.)	6	120
1061	Seminar (Ag.)		

Second Quarter

1090	Diesel Diagnosis and Overhaul (Mech.)	3	180
1091	Employment Business Functions (Admin.)	4	60
0647	Principles of Accounting I (Acctg.)	3	60
1061	Seminar (Ag.)		
0782	Fundamentals of Salesmanship (Mktg.)		

Third Quarter

1097	Unit Diagnosis and Overhaul (Mech.)	3	180
0759	Communication Skills II (Comm.)	3	36
0890	Technical Agriculture II (Ag.)	3	60
1099	Inventory Control (Admin.)	4	84
1061	Seminar (Ag.)		

ORNAMENTAL HORTICULTURE

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

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

First Year – (Core Competencies)

		Credit	Clock Hours
0841	Agriculture Survey (Ag.)	2	36
1086	Soil Properties (Ag.)	3	48
0770	Plant Propagation Practices I (Ag.)	3	72
1085	Plant Materials I (Ag.)	4	96
0923	Basic Mathematics I (Mgt.)	2	36
1097	Landscape Drawing (Ag.)	3	72
1061	Seminar (Ag.)		

Second Quarter

0825	Bookkeeping (Acctg.)	2	36
0861	Plant Propagation Practices II (Ag.)	3	72
0981	Small Engines and Equipment (Mech.)	3	72
1094	Landscape Design I (Ag.)	3	72
0937	Communication Skills I (Comm.)	3	36
1095	Plant Materials II (Ag.)	4	72
1061	Seminar (Ag.)		

Third Quarter

0122	Employment Experience (Ag.)	6	300
1096	Entomology (Biol.)	3	36
0782	Fundamentals of Salesmanship I (Mktg.)	2	24
1097	Landscape Construction (Ag.)	2	48
0302	Psychology of Human Relations (Psych.)	3	36
1098	Plant Materials III (Ag.)	3	48
1061	Seminar (Ag.)		

Fourth Quarter

Employment Experience for second year students (Ag.)

Second Year – Landscape-Nursery-Garden Center**First Quarter**

0647	Principles of Accounting I (Acctg.)	3	36
0719	Communication Skills (Comm.)	3	48
1099	Soil and Water Mechanics (Ag.)	3	84
1100	Herbaceous Plant Materials (Ag.)	3	72
1110	Landscape Design II (Ag.)	3	84
0592	Supervisory Development (Admin.)	3	36
1061	Seminar (Ag.)		

Second Quarter

0028	Plant Propagation Practices III (Ag.)	4	96
0724	Office Machines (Off. Ed.)	3	36
1111	Anatomy of Seed Plants (Biol.)	1	36
1103	State and Local Government (Pol. Sci.)	2	24
1105	Plant and Insect Chemicals (Ag.)	3	72
0591	Fundamentals of Retailing (Mktg.)	3	36
1061	Seminar (Ag.)	1	36

Third Quarter

0258	Special Project (Ag.)	3	54
0574	Basic Horticulture (M.S.)	3	48
1057	Business Organization and Management (Admin.)	3	36
1112	Container Growing of Nursery Stock (Ag.)	3	54
0132	Employment Experience (Ag.)	6	100
1061	Seminar (Ag.)		

Lawn and Turf**First Quarter**

0647	Principles of Accounting I (Acctg.)	3	36
0719	Communication Skills II (Comm.)	3	48
1099	Soil and Water Mechanics (Mech.)	3	84
1100	Turfgrass Varieties (Ag.)	3	72
1101	Grounds Maintenance (Ag.)	3	84
0592	Supervisory Development (Admin.)	3	36

Second Quarter

1102	Horticultural Equipment I (Ag.)	3	60
0724	Office Machines (Off. Ed.)	3	36
1103	State and Local Government (Pol. Sci.)	2	24
1104	Turfgrass Management (Ag.)	3	72
0028	Plant Propagation Practices III (Ag.)	4	96
1105	Plant and Insect Chemicals (Ag.)	3	72

Third Quarter

1118	Elem. Forest Surveying (Ag.)	3	36
1119	Park and Recreational Management (Ag.)	3	54
1057	Business Organization and Management (Admin.)	3	36
0258	Special Project (Ag.)	3	54
0596	Employment Experience II (Ag.)	6	100

Park-Recreation-Natural Resources**First Quarter**

0647	Principles of Accounting I (Acctg.)	3	36
0719	Communication Skills II (Comm.)	3	48
1099	Soil and Water Mechanics (Ag.)	3	84
1113	Soil Conservation (Ag.)	3	72
1101	Grounds Maintenance (Ag.)	3	84
0592	Supervisory Development (Admin.)	3	36
1061	Seminar (Ag.)		

Second Quarter

1114	Park and Recreational Development (Ag.)	3	60
1103	State and Local Government (Pol. Sci.)	2	24
1115	Applied Natural Resources (Ag.)	3	60
1116	Applied Entomology (Biol.)	3	60
1117	Field Production of Nursery Stock (Ag.)	3	60
0028	Plant Propagation Practices III (Ag.)	4	96

Third Quarter

1118	Elem. Forest Surveying (Ag.)	3	36
1119	Park and Recreational Management (Ag.)	3	54
1057	Business Organization and Management (Admin.)	3	36
0258	Special Project (Ag.)	3	34
0596	Employment Experience II (Ag.)	6	100



PRODUCTION AGRICULTURE

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

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

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

First Year

First Quarter

	<i>Credit</i>	<i>Clock Hours</i>
1123 Soil Science (Ag.)	3	48
0831 Agriculture Survey (Ag.)	1	24
0023 Basic Mathematics (Math)	2	24
1001 Seminar (Ag.)	1	12
0911 Special Projects I (Ag.)	2	24
0122 Employment Experience I (Ag.)	7	180

Second Quarter

1268 Livestock Nutrition (Ag.)	3	60
1571 Soil Fertility (Ag.)	3	60
0035 Enterprise Analysis (Admin.)	3	72
0449 Ag. Marketing (Mktg.)	2	48
1061 Seminar (Ag.)	2	24
0912 Special Projects II (Ag.)	3	48
0817 Legal Rights and Liabilities (Acctg.)	3	48

Third Quarter

0827 Communication Skills I (Comm.)	3	36
0838 Agriculture Economics I	3	36
0759 Farm Management (Admin.)	3	60
1266 Field Crop Production (Ag.)	2	36
0919 Special Projects II (Ag.)	1	12
0802 Employment Experience II (Ag.)	7	180

Fourth Quarter

1528 Farm Machinery (Mech.)	7	144
1529 Farm Construction (Ag.)	3	60
1525 Applied Livestock Husbandry (Ag.)	4	72
1524 Applied Crop Production (Ag.)	3	60

Second Year

Fifth Quarter

0701 Communication Skills II (Comm.)	3	36
1292 Rural Sociology (Soc.)	2	24
1526 Crop Production Analysis (Ag.)	1	12
0129 Agricultural Analysis (Ag.)	1	24
1529 Advanced Farm Lab (Ag.)	5	84
0004 Employment Experience III (Ag.)	7	180

Sixth Quarter

1530 Ag. Finance (Admin.)	2	24
1294 Agriculture Mathematics (Comm.)	2	36
1531 Advanced Enterprise Analysis (Admin.)	3	72
1061 Seminar (Ag.)	2	24
1532 Advanced Farm Lab II (Ag.)	4	108
0134 Ag. Tax Accounting (Acctg.)	2	48

Seventh Quarter

1505 Pests and Pesticides (Ag.)	2	36
1517 Superintend. Development (Pers.)	2	36
1516 Advanced Farm Lab III (Ag.)	6	90
1102 State and Local Government (Pub. Adm.)	1	24
0004 Employment Experience IV (Ag.)	7	180

Eighth Quarter

0562 Farm Mach. Operation (Ag.)	7	156
1534 Livestock Planning and Mechanization (Ag.)	2	48
1535 Advanced Farm Mgt. (Admin.)	1	24
1100 Advanced Farm Lab IV (Ag.)	5	84
1581 Ag. Product Marketing II	2	48

AGRIBUSINESS

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

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

First Year

First Quarter

1798	Agricultural Equipment Management (Admin.)	4	56
1427	Soil Science (Ag.)	1	48
1765	Livestock Production (Ag.)	3	48
0041	Agricultural Science (Ag.)	2	48
0925	Principles of Selling (Mktg.)	3	60
0025	Basic Mathematics (Math)	3	48
1061	Seminar (Ag.)	1	12

Second Quarter

1268	Fertilizer Nutrition (Ag.)	3	60
1511	Soil Fertility (Ag.)	3	60
0005	Enterprise Analysis (Admin.)	3	72
0419	Agricultural Marketing (Mktg.)	4	48
1508	Principles of Accounting (Acctg.)	3	48
0302	Psychology of Human Relations (Psych.)	3	48
1061	Seminar (Ag.)	2	24

Third Quarter

0038	Ag. Economics I (Ag.)	3	36
0759	Farm Management (Admin.)	3	60
1505	Store Skills (Mktg.)	3	48
0627	Communication Skills I (Comm.)	3	36
0137	Employment Experiences (Ag.)	7	120

Fourth Quarter

1266	Field Crop Production (Ag.)	7	70
1269	Ag. Equipment Operation (Math.)	5	144
1501	Ag. Chemicals (Ag.)	5	36
0724	Office Machines (Office Ed.)	2	36
1283	Merchandising Techniques (Mktg.)	3	48

(NOTE: Students can graduate.)



Second Year Options: Agribusiness Service

Fifth Quarter

1268	Grain, Grazing and Handling (Ag.)	3	60
1292	Rural Sociology (Soc.)	2	24
1293	Agribusiness Management (Ag.)	4	60
0114	Communication Skills II (Comm.)	3	36
0132	Employment Experiences (Ag.)	7	120

Sixth Quarter

1214	Food Prescriptions (Ag.)	5	70
1276	Animal Health Products (Ag.)	2	48
1281	Advanced Agricultural Marketing (Mktg.)	3	48
0257	Applied Business Law (Law)	3	36
0104	Ag. Tax Accounting (Acctg.)	2	48
1294	Agricultural Mathematics (Math.)	2	36
1061	Seminar (Ag.)	2	24

Fourth Quarter

1284	Herbicides (Ag.)	3	48
1434	Weed Science (Ag.)	2	48
1353	Feed and Fertilizer Service (Ag.)	3	72
1403	Agribusiness Sales (Ag.)	3	60
0142	Supervisory Development (Psych.)	4	72
1103	State and Local Government (Pol. Sci.)	2	36
0268	Oral Communications (Comm.)	2	36

Second Year Options: Agribusiness Sales

Fifth Quarter

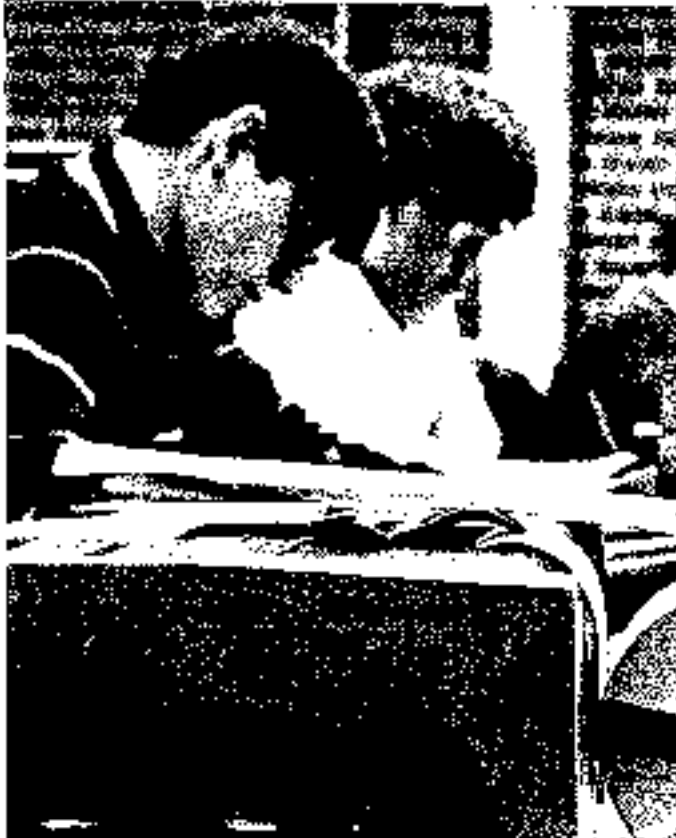
1293	Agribusiness Management (Ag.)	4	60
1261	Advertising Techniques (Mktg.)	3	60
1292	Rural Sociology (Soc.)	2	36
0719	Communication Skills II (Comm.)	3	36
0122	Employment Experience (Ag.)	7	180

Sixth Quarter

1519	Livestock Husbandry (Ag.)	2	48
1276	Animal Health Products (Ag.)	2	48
1281	Advanced Agricultural Marketing (Mktg.)	1	48
1290	Business Law (Law)	3	36
0104	Ag. Tax Accounting (Acctg.)	2	48
1352	Feed and Fertilizer Service (Ag.)	3	72
1294	Agricultural Mathematics (Math.)	2	36
0061	Seminar (Ag.)	2	36

Seventh Quarter

1284	Herbicides (Ag.)	3	48
1434	Weed Science (Ag.)	2	48
1527	Management Accounting (Acctg.)	3	72
1503	Agribusiness Sales (Ag.)	3	60
0142	Supervisory Development (Psych.)	4	72
1103	State and Local Government (Pol. Sci.)	2	36
0268	Oral Communications (Comm.)	2	36



Business

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 curriculum, 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 acumen. Admission of students to the Accountant-Specialist curriculum will be based primarily on the interest of the student.

An associate degree in applied science will be awarded upon completion of the following required courses:

		<i>Credits</i>	<i>Clock Hours</i>
0627	Principles of Accounting I (Acctg.)	3	36
0753	Principles of Accounting II (Acctg.)	3	36
0831	Principles of Accounting III (Acctg.)	3	36
0228	Intermediate Accounting I (Acctg.)	4	48
0329	Intermediate Accounting II (Acctg.)	4	48
0026	Elementary Cost Accounting I (Acctg.)	4	48
0116	Elementary Cost Accounting II (Acctg.)	4	48
0426	Income Tax (Acctg.)	3	36
0536	Accounting Procedures (Acctg.)	4	48
0710	Accounting Laboratory (Acctg.)	12	316
0596	Business Internship (Admin.)	12	480
0724	Office Machines (Off. Ed.)	2	36
0320	Introduction to Business Admin.	4	48
0597	Business Law I (Law)	3	36
0604	Business Law II (Law)	3	36
0413	Principles of Finance (Admin.)	3	36
0687	Introduction to Data Processing (Data Pr.)	3	36
0506	Business Application of Data Processing (Data Pr.)	3	36
*1277	Principles of Business Economics I	3	36
*1278	Principles of Business Economics II	3	36
0827	Communications Skills I (Comm.)	3	36
0807	Composition I (Comm.)	4	48
0919	Communications Skill II (Comm.)	3	36
0832	Composition II (Comm.)	4	48
0558	Speech I (Speech)	3	36
0025	Basic Mathematics I (Math)	3	36
0424	Intermediate Algebra (Math)	4	64
0674	Fundamentals of Statistics (Math)	3	64

*The student may elect to enroll in the college parallel Economics, The requirement then would be Economics I, Economics II, and Economics III.

JUNIOR ACCOUNTING

The one-year program is designed to prepare students for entry level positions in the accounting field. Includes fundamental knowledge of accounting, and an understanding of basic concepts, definitions and terminology. Group instruction, individual instruction, laboratory practice, and simulated work experience are included.

A diploma will be awarded upon completion of the following required courses:

		<i>Credits</i>	<i>Clock Hours</i>
0158	Accounting Fundamentals I (Acctg.)	5	60
0580	Accounting Fundamentals II (Acctg.)	5	60

0683	Accounting Fundamentals III (Acctg.)	5	60
0710	Accounting Lab (Acctg.)	15	505
0724	Office Machines (Off. Ed.)	2	36
0907	College Typing I (Off. Ed.)	3	60
0977	Income Tax Procedures (Acctg.)	3	36
0506	Business Internship (Admin.)	12	480
0932	Elements of Data Processing I (Data Pr.)	3	48
1415	Elements of Data Processing II (Data Pr.)	3	48
0257	Applied Business Law (Law)	3	36
0544	American Economy (Econ.)	3	36
0807	Communications Skills I (Comm.)	3	36
0719	Communications Skills II (Comm.)	3	36
0025	Basic Mathematics I (Math)	3	36
0002	Personal Development I (Pers. Dev.)	3	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 includes business internship which provides the student actual work experience in retail firms throughout Iowa.

An associate degree in applied science will be awarded upon completion of the following required courses:

		<i>Credits</i>	<i>Clock Hours</i>
0923	Principles of Buying (Mktg.)	4	48
0520	Introduction to Business (Admin.)	4	48
0842	Merchandise Math (Math)	3	30
0926	Principles of Buying (Mktg.)	4	48
0771	Buying (Mktg.)	3	36
1411	Principles of Display (Mktg.)	2	24
0087	Principles of Marketing (Mktg.)	4	48
0304	Principles of Advertising (Mktg.)	4	48
0593	Supervisory Development (Admin.)	3	30
0919	Credit Procedures (Admin.)	3	30
0597	Business Law I (Law)	3	36
0687	Introduction to Data Processing (Data Pr.)	3	36

0700	Retail Management I (Admin.)	3	60
2500	Retail Accounting I (Acctg.)	4	48
0596	Business Internship I (Admin.)	24	960
0569	Principles of Fashion Merchandising (Mktg.)	3	36
0112	Fashion Merchandising Laboratory (Mktg.)	6	120
0295	Fashion Buying (Admin.)	3	60
0588	Fashion History I (Home Ec.)	3	30
0572	Fashion Show Production (Mktg.)	3	36
0299	Fashion Design I (Home Ec.)	4	48
0597	Textiles I (Home Ec.)	3	30
0595	Textiles Laboratory I (Home Ec.)	2	24
0529	Principles of Fashion Merchandising (Mktg.)	2	24
0458	Speech I (Speech)	3	36
0002	Psychology of Human Relations I (Psych.)	3	36
1607	Personal Development I (Pers. Dev.)	2	24
0702	Personal Development II (Pers. Dev.)	3	24
0925	Basic Mathematics I (Math)	3	36
0517/	Composition I as		
0637	Communication Skills I (Comm.)	4-3	48-36
0631/	Composition II as		
0719	Communication Skills II (Comm.)	4-3	48-36



FLORICULTURE

The Floriculture program is a specialized training program designed to prepare people for careers in the floral industry. This program provides the student with classroom and laboratory instruction at 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 flower 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 flower business.

During the two business internship periods, each student has the opportunity to apply what he has learned to an actual job situation. While completing this phase of the program, each student works full time and is paid the prevailing wage in the community where he is assigned. The student is supervised and directed by both the employer and the coordinator during this phase of the program.

A diploma will be awarded upon completion of the following required courses:

		<i>Credits</i>	<i>Clock Hours</i>
0854	Basic Floral Designing I (Art)	4	90
0921	Basic Floral Designing II (Art)	2	52
0113	Basic Floral Designing III (Art)	2	53
0595	Business Internship I (Admin.)	32	480
0402	Commercial Flower Forcing Greenhouse I (Agri.)	3	48
0489	Commercial Flower Forcing Greenhouse II (Agri.)	3	36
0581	Commercial Flower Forcing Greenhouse III (Agri.)	3	28
1096	Plant Entomology (Biol.)	3	14
1282	Plant Pathology (Biol.)	1	14
1421	Plant Structure and Growth (Biol.)	2	12
1425	Reproduction of Plants (Biol.)	1	12
0501	Retail Flower Shop Operation I (Admin.)	4	72
0598	Retail Flower Shop Operation II (Admin.)	3	48
0699	Retail Flower Shop Operation III (Admin.)	3	48
1417	Soils and Fertility (Agri.)	3	12
0828	Bookkeeping I (Acctg.)	3	36
0925	Basic Mathematics I (Math)	3	36
0637	Communication Skills I (Comm.)	3	36

0719	Communication Skills II (Comm.)	3	36
0602	Personal Development I (Pers. Dev.)	1	12
0702	Psychology of Human Relations I (Psych.)	3	36
0782	Fundamentals of Salesmanship (Mktg.)	3	36

FOOD STORE MARKETING

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

Students enrolled in the Food Store Marketing program will receive a combination of general education, business education, and technical study related to food store marketing. The program includes business internship which provides the student with actual work experience in retail or wholesale food outlets.

An associate degree in applied science will be awarded upon completion of the following required courses:

		Credit	Clock Hours
0436	Introduction to Food Store Marketing (Mktg.)	4	48
0749	Food Store Marketing Laboratory (Mktg.)	16	180
0526	Business Internship (Admin.)	24	360
0159	Food Store Planning and Layout (Mktg.)	3	30
1524	Checkout Management (Admin.)	2	24
0025	Stock Control (Admin.)	3	30
1402	Product Merchandising (Mktg.)	3	33
0246	Food Store Management (Admin.)	5	60
0922	Principles of Selling (Mktg.)	4	48
0320	Introduction to Statistics (Admin.)	4	48
0926	Principles of Marketing (Mktg.)	4	48
0597	Business Law I (Law)	3	36
0987	Principles of Marketing (Mktg.)	4	48
0504	Principles of Advertising (Mktg.)	4	48
0647	Principles of Accounting I (Acctg.)	3	36
0592	Supervisory Development (Admin.)	3	30
0544	Management Accounting (Acctg.)	4	48
0627	Composition I or Communication Skills I (Comm.)	4	48
0502	Psychology of Human Relations I (Psych.)	3	30
0833	Basic Mathematics (Math)	3	30
0641	Composition II or Communication Skills II (Comm.)	4	48
0719	Communication Skills II (Comm.)	4	48
0358	Speech I (Speech)	3	36
0771	Economics I or	4	48

1277	Principles of Business Economics I (Econ.)	3	36
0362	Economics II or	3	36
1273	Principles of Business Economics II	3	36
0687	Introduction to Data Processing (Data Pr.)	3	36

RETAIL MARKETING

The Retail Marketing program is designed to prepare students for careers in the retailing industry. This program stresses an understanding of business procedures and the knowledge of retailing principles and procedures.

Students will receive a combination of general education, business education, and technical retail study. The program includes business internship which provides the student with actual work experience in retail firms. Students are given the opportunity to specialize in specific areas of retailing.

An associate degree in applied science will be awarded upon completion of the following required courses:

		Credit	Clock Hours
0920	Principles of Selling (Mktg.)	4	48
0926	Principles of Retailing (Mktg.)	4	48
0087	Principles of Marketing (Mktg.)	4	48
0504	Principles of Advertising (Mktg.)	4	48
1411	Principles of Display (Mktg.)	2	24
0939	Retail Marketing (Internship) (Mktg.)	16	180
0757	Trends in Retailing (Mktg.)	3	30
1199	Merchandising (Mktg.)	3	30
0520	Introduction to Business (Admin.)	4	48
0592	Supervisory Development (Admin.)	3	30
0929	Credit Procedures (Admin.)	3	30
0700	Retail Management (Admin.)	3	60
0506	Business Internship (Admin.)	24	360
0627	Communication Skills I or Composition I (Comm.)	3-4	36-48
0719	Communication Skills II or Composition II (Comm.)	3-4	36-48
0623	Basic Mathematics I (Math)	3	36
0854	Merchandise Mathematics (Math)	3	30
0702	Psychology of Human Relations I (Psych.)	3	30
0771	Economics I or	4	48
1277	Principles of Business Economics I (Econ.)	3	36
0362	Economics II or	3	36
1273	Principles of Business Economics II (Econ.)	3	36
0358	Speech I (Speech)	3	36
0647	Principles of Accounting I (Acctg.)	3	36
0844	Management Accounting (Acctg.)	4	48
0597	Business Law I (Law)	3	36
0687	Introduction to Data Processing (Data Pr.)	3	36

ADMINISTRATIVE SECRETARY

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

An associate degree in applied science will be awarded upon completion of the following required courses:

		Credit	Clock Hours
0175	College Typing I (Off. Ed.)	3	60
0173	College Typing II (Off. Ed.)	3	60
0262	College Typing III (Off. Ed.)	3	60
0361	College Typing IV (Off. Ed.)	3	60
0171	College Shorthand I (Off. Ed.)	4	60
0362	College Shorthand II (Off. Ed.)	4	60
0546	College Shorthand III (Off. Ed.)	4	60
0914	College Shorthand Transcription (Off. Ed.)	4	48
0216	Office Education Laboratory (Off. Ed.)	15	336
1083	Office Procedures I (Off. Ed.)	2	120
0433	Secretarial Procedures II (Off. Ed.)	4	48
0724	Office Machines (Off. Ed.)		
1395	or Office Calculating Procedures	2-1	36-60
0146	Records Management (Off. Ed.)	3	36
0818	Office Management (Admin.)	2	36
1647	Principles of Accounting I (Acctg.)		
0252	or Office Accounting	3-4	36-48
0733	Principles of Accounting II (Acctg.)		
	as elective	3	36
0520	Introduction to Business (Admin.)	4	48
0602	Personal Development I (Pers. Dev.)	2	24
0498	Business Writing (Comm.)	3	36
0597	Business Law I (Law)	3	36
0657	Introduction to Data Processing (Data Proc.)	3	36
1696	Business Internship (Admin.)	12	480
0577	Composition I (Comm.)		
0627	or Communications Skills I	4-3	48-36
0631	Composition II (Comm.)		
0719	or Communications Skills II	4-3	48-36
0258	Speech I (Speech)	3	36
0589	General Psychology (Psych.) or		
	Psychology of Adjustment (Psych.)	4	48
0771	Economics I (Econ.)		
1277	or Principles of Business Economics I	3	36
	Electives ¹	8	96

¹Electives must include a minimum of eight hours from at least two of the following areas: math, science, social science and business.

CLERICAL-RECEPTIONIST

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

A diploma will be awarded upon completion of the following required courses:

		Credit	Clock Hours
0177	College Typing I (Off. Ed.)	3	60
0713	College Typing II (Off. Ed.)	3	60
0267	College Typing III (Off. Ed.)	3	60
1395	Office Calculating Procedures (Off. Ed.)	4	60
1083	Office Procedures I (Off. Ed.)	2	120
1383	Office Procedures II (Off. Ed.)	3	60
0253	Office Accounting		
0528	Bookkeeping (Acctg.)	4	48
0146	Records Management (Off. Ed.)	3	36
0216	Office Education Lab (Off. Ed.)	6	132
0596	Business Internship (Admin.)	6	240
0520	Introduction to Business (Admin.)	4	48
0952	Elements of Data Processing I (Data Pr.)	3	48
0766	Introductory Key-punching (Data Pr.)	2	36
0627	Communications Skills I (Comm.)	3	36
0719	Communications Skills II (Comm.)	3	36

LEGAL SECRETARY

The Legal Secretary program provides the specialized training necessary for work in a law office, a bank, or in a similar field. In addition to advanced training in basic office skills, the student receives intensified technical course work in the legal secretarial area. This course work is designed to be flexible and to relate to the individual student's interests, abilities, and occupational objective. The program is four quarters in length. A diploma will be awarded upon completion of the following courses:

		Credit	Clock Hours
0177	College Typing I (Off. Ed.)	3	60
0713	College Typing II (Off. Ed.)	3	60
0267	College Typing III (Off. Ed.)	3	60
0879	Legal Typing (Off. Ed.)	2	36
0171	College Shorthand I (Off. Ed.)	4	60

0361	College Shorthand II (Off. Ed.)	4	60
0546	College Shorthand III (Off. Ed.)	4	60
0914	College Shorthand Transcription (Off. Ed.)	4	48
0790	Legal Dictation (Off. Ed.)	2	36
1431	Legal Machine Transcription (Off. Ed.)	2	36
0122	Legal Terminology (Off. Ed.)	2	36
0503	Law Office Procedures (Off. Ed.)	2	36
0597	Business Law I (Law)	2	36
0694	Business Law II (Law)	2	36
0927	Income Tax Procedures (Acctg.)	2	36
1395	Office Calculating Procedures (Off. Ed.)	4	60
0528	Bookkeeping (Acctg.)		
	or		
0253	Office Accounting (Acctg.)	4	48
1083	Office Procedures I (Off. Ed.)	7	120
0146	Records Management (Off. Ed.)	2	36
0629	Communication Skills I (Comm.)	2	36
0719	Communication Skills II (Comm.)	2	36
0607	Personal Development I (Pers. Dev.)	2	24
0307	Psychology of Human Relations I (Psych.)	2	36
0216	Office Education Lab (Off. Ed.)	6	240
0596	Business Internship (Admin.)	6	240

1387	Medical Secretarial Terminology and Body Structure I (Off. Ed.)	4	48
0329	Medical Law (Law)	1	12
0093	Medical Secretarial Office Procedures (Off. Ed.)	4	48
1433	Medical Secretarial Machine Transcription (Off. Ed.)	2	24
1393	Office Calculating Procedures (Off. Ed.)	4	60
0932	Elements of Data Processing I (Data Proc.)	2	24
02537	Office Accounting or Bookkeeping (Acctg.)	4	48
0578			
1083	Office Procedures I (Off. Ed.)	7	120
0146	Records Management (Off. Ed.)	2	36
0520	Introduction to Business (Admin.)	1	12
0302	Psychology of Human Relations (Psych.)	2	36
0216	Office Education Lab (Off. Ed.)	6	240
0627	Communication Skills I (Comm.)	2	36
0719	Communication Skills II (Comm.)	2	36
0596	Business Internship (Admin.)	6	240

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

MEDICAL SECRETARY

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

Students receive advanced training in basic office skills along with intensified technical course work in the medical secretarial area. Students may substitute electives for shorthand if they desire. If students enter with advanced skills, it is possible for them to complete the program in less than four quarters. After successfully completing the four-quarter program, a diploma will be awarded.

		Credit	Clock Hours
0077	College Typing I (Off. Ed.)	2	60
0173	College Typing II (Off. Ed.)	2	60
0262	College Typing III (Off. Ed.)	2	60
0956	Medical Secretarial Typing (Off. Ed.)	4	48
0171	College Shorthand I (Off. Ed.)	4	60
0361	College Shorthand II (Off. Ed.)	4	60
0546	College Shorthand III (Off. Ed.)	4	60
0713	Medical Secretarial Dictation (Off. Ed.)	4	48
1407	Medical Secretarial Terminology and Body Structure I (Off. Ed.)	4	48

GENERAL SECRETARY

Students planning a secretarial career in any of dozens of businesses from advertising agencies, banks, and travel bureaus to government agencies and educational institutions will find Kirkwood's General Secretary Program suited to them.

Three or four quarters in length, it incorporates classroom activities and on-the-job experience in developing the skills, knowledges, work habits, and confidence a good secretary needs.

After basic requirements have been met (at the end of three or four quarters depending upon the entry skills and the rate of progression of the student), the student will be fully prepared for a secretarial position and will receive a diploma.

		Credit	Clock Hours
0077	College Typing I (Off. Ed.)	2	60
0173	College Typing II (Off. Ed.)	2	60
0262	College Typing III (Off. Ed.)	2	60
0364	College Typing IV (Off. Ed.)	2	48
0171	College Shorthand I (Off. Ed.)	4	60
0361	College Shorthand II (Off. Ed.)	4	60
0546	College Shorthand III (Off. Ed.)	4	60

0914	Shorthand Transcription (Off. Ed.)	4	48
0528	Bookkeeping (Acctg.)	4	48
0253	or Office Accounting (Acctg.)	4	48
1083	Office Procedures I (Off. Ed.)	3	120
1383	Office Procedures II (Off. Ed.)	3	60
0677	Communication Skills I (Comm.)	1	36
0719	Communication Skills II (Comm.)	3	36
0943	Elements of Data Processing I (Data Pr.)	3	48
0520	Introduction to Business (Admin.)	4	48
1195	Office Calculating Procedures (Off. Ed.)	4	60
0612	Personal Development I (Pers. Dev.)	2	24
0302	Psychology of Human Relations I (Psych.)	3	36
0196	Records Management (Off. Ed.)	3	36
0216	Office Education Lab (Off. Ed.)		
	3-quarter student	6	144
	4-quarter student	9	204
0596	Business Internship (Admin.)	6	240

Data Processing

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 students' knowledge of business systems. The training in programming is aimed at providing applied technical knowledge so that the student can step directly in to the occupation of programming. New students can start training each of the four quarters. Dates of training change frequently to keep pace with the industry.

First Year

<i>First Quarter</i>		<i>Credits</i>	<i>Hours</i>
0815	Self-Service Aids for Programmers (Data Pr.)	1	12
0601	Punched Card Data Processing (Data Pr.)	2	36
0606	Intro to Computers and Programming (Data Pr.)	3	36
0518	Intro to S/360 (Data Pr.)	3	36
0315	Computer S/360 Assembly Language Programming I (Data Pr.)	3	36
0665	Card-Punch Logic Programs I (Data Pr.)	2	48
0430	Flowcharting Techniques (Data Pr.)	2	24
	Open Lab	-	720

Second Quarter

0107	Computer S/360 Assembly Language Programming II (Data Pr.)	3	36
0549	Card Tape Disk Process II (Data Pr.)	2	48
0240	Computer S/360 Disk Operating System Coding (Data Pr.)	3	52
0462	Program Analysis (Data Pr.)	2	36
0353	Documentation I (Data Pr.)	2	24
0152	Computer Operating Techniques (Data Pr.)	3	36
0208	Related Equipment I (Data Pr.)	1	24
	Open Lab	-	720



Third Quarter

0149	Intro to S/360 COBOL Programming (Data Pr.)	3	84
0412	Business Orgn. and Mgt. (Admin.)	1	36
1251	Computer S/360 Disk Operating System Advanced Coding (Data Pr.)	5	84
	Electives	4	36
	Open Lab	-	240

Fourth Quarter

0314	Intro to Systems (Data Pr.)	3	36
0751	Accounting Survey I (Acctg.)	3	36
1253	Advanced S/360 COBOL Programming (Data Pr.)	4	72
0853	Math III (Math)	4	48
	Electives	3	36
	Open Lab	-	228

Second Year**Fifth Quarter**

0623	S/360 DOS Communications Coding (Data Pr.)	3	48
1252	COBOL Projects (Data Pr.)	2	48
0677	On the Job or Assigned Projects	2	48
0627	Communication Skills I (Comm.)	1	36
0740	Programming Systems (Data Pr.)	2	24
	Electives	5	60
	Open Lab	-	264

Sixth Quarter

0894	Intro Report Program Generator (Data Pr.)	2	36
0615	Intro S/360 FORTRAN Programming (Data Pr.)	3	48
1804	Installation Management I (Data Pr.)	3	36
0674	Statistics (Stat.)	3	36
	Electives	6	72
	Open Lab	-	228

Seventh Quarter

0497	Numerical Analysis (Data Pr.)	3	36
0525	On the Job Systems Projects (Data Pr.)	3	36
0881	Payroll/Personnel Systems (Data Pr.)	3	36
0957	Accounting Systems (Data Pr.)	1	36
0760	Material Control Systems (Data Pr.)	1	36
	Electives	2	24
	Open Lab	-	204

Eighth Quarter

0715	Intro to Operations Research (Data Pr.)	1	36
0177	Production Control Systems (Data Pr.)	1	36
0264	Project Management Systems (Data Pr.)	1	36
0071	Applied Systems I (Data Pr.)	1	36
	Electives	5	60
	Open Lab	-	204

GENERAL DATA PROCESSING

Supporting Services trains for a cluster of closely related occupations in data processing. A one month unit out of this curriculum would train for entry as a trainee in keypunching. A student completing two quarters would be trained to work as a magnetic tape librarian, work scheduler, records auditor, documentation specialist, or operations assistant. There is considerable overlap between courses in General Data Processing and courses in Programmer/Programmer-Analyst. Students can transfer between programs with a minimum loss of credits.

		Credit	Clock Hours
First Quarter			
0966	Introductory Keypunch (Data Pr.)	3	60
0097	Keypunch Lab (Data Pr.)	3	60
0603	Punched Card Data Processing (Data Pr.)	2	36
0906	Intro to Computers and Programming (Data Pr.)	3	36
0528	Intro to S/360 (Data Pr.)	3	36
0721	Office Machines (Off. Ed.)	2	48
	Open Lab		

Second Quarter

0245	Computer S/360 Assembly Language Programming I (Data Pr.)	3	36
0665	Card-Tape-Disc Projects I (Data Pr.)	2	48
1430	Flowcharting Techniques (Data Pr.)	2	24
0146	Records Management (Off. Ed.)	3	36
0535	Documentation I (Data Pr.)	1	24
0552	Computer Operating Techniques (Data Pr.)	2	36
0788	Related Equipment I (Data Pr.)	1	24
	Open Lab		



Health Occupations

ASSOCIATE DEGREE NURSING

The Associate Degree Nursing program is two years (2.7 academic years) in length and consists of eight 12-week quarters. The graduates of the nursing program are eligible for the associate degree in Applied Science and eligible to write the licensed registered nurse examinations.

Upon completion of the program, the graduates will be capable of functioning as staff nurses. Care of patients involves identifying the basic physical, psycho-social and rehabilitative requirements of patients and providing ways to meet those needs in a variety of settings. This is done through observations and assessment of the patients, activating nursing care measures, implementing the medical care plan, informal health teaching, and participating as a member of the nursing and health team. Students in the ADN program take special nursing courses each quarter, along with selected Arts and Sciences courses.

First Year

<i>First Quarter</i>		Credits	Clock Hours
1302	Nursing RN I (Nurs.)	5.5	156
0882-2	Anatomy & Physiology I (Biol.)	4	60
0165	Introduction to Sociology (Soc.)	4	48
1346	Metiology RN I (Nurs.)	1	12
<i>Second Quarter</i>			
1354	Anatomy & Physiology (Biol.)	4	60
0358	Speech I (Sp.)	3	36
1326	Nursing RN II (Nurs.)	9	204
<i>Third Quarter</i>			
1358	Integrated Science I (Sci.)	4	60
0024	Psychology of Child Development (Psych.)	4	48
1398	Nursing RN III (Nurs.)	9	204
<i>Fourth Quarter</i>			
0254	Social Problems (Soc.)	4	48
0024	Psychology Growth & Development (Psych.)	4	48
1394	Nursing RN IV (Nurs.)	1	12

Second Year

<i>First Quarter</i>		Credits	Clock Hours
1362	Integrated Science II (Sci.)	4	60
0557	Comp I (Comm.)	3	36
1338	Nursing RN V (Nurs.)	11	256
<i>Second Quarter</i>			
	Elective	4	48
0651	Comp II (Comm.)	3	36
1342	Nursing RN VI (Nurs.)	11	256
<i>Third Quarter</i>			
0389	Psychology II (Psych.)	4	48
1306	Changing Patterns of Death Care and Nursing RN (Nurs.)	2	24
1310	Nursing RN VII (Nurs.)	12	312
<i>Fourth Quarter</i>			
	Elective	4	48
1114	Summar Nursing RN IX (Nurs.)	7	84
1318	Nursing RN VIII (Nurs.)	17	312

DENTAL ASSISTANT

The Dental Assistant Education Program prepares the student for successful employment in private dental offices, group practice, dental services and clinics and hospitals and public health installations.

The objective of the program is to prepare the student to directly assist the dentist in the treatment of patients, manage a smoothly functioning business office, and perform the basic laboratory procedures in a dental office.

The total program is a one year duration consisting of four 12-week quarters. Upon successful completion the student receives a diploma.

<i>First Quarter</i>		<i>Credit</i>	<i>Clock Hours</i>
0136	Dental Materials (Dental)	3	72
0170	Principles of Dental Assisting I (Dental)	4	96
0550	Pre-Clinical Science I (Dental)	3	60
0089	Orientalism (Dental)	2	36
0792	Dental Laboratory Assisting I (Dental)	4	84
0602	Personal Development (Phys.)	1	24
<i>Second Quarter</i>			
0568	Principles of Dental Assisting II (Dental)	6	96
0614	Pre-Clinical Science II (Dental)	3	36
0883	Dental Laboratory Assisting II (Dental)	2	36
0212	Clinical (Dental College) I (Dental)	6	156
0627	Communication Skills I (cc)	3	36
0537	Composition I (English)	6	or 48
<i>Third Quarter</i>			
0731	Pre-Clinical Science III (Dental)	2	36
0225	Dental Office Management I (Admin.)	3	36
0245	Dental Bookkeeping I (Acct.)	4	48
0307	Clinical II (Dental College) (Dental)	4	180
0957	First Aid (Safety)	1	12
0719	Communication Skills II (cc)	3	36
0358	Speech I (Communication)	3	36
0819	Dental Typing (OIT, Ed.)	2	36
<i>Fourth Quarter</i>			
0907	Psychology of Human Relations I (Psych.)	3	36
0947	Dental Bookkeeping II (Acct.)	3	36
0324	Dental Office Management II (Admin.)	2	36
0397	Clinical: Private Practice) (II) (Dental)	3	228
0137	Dental Assisting Seminar (Dental)	3	36



DENTAL LABORATORY TECHNICIAN

The Dental Laboratory Technician program is two years in length, consisting of eight consecutive twelve-week quarters.

Dental Laboratory Technicians will be qualified for employment in commercial dental laboratories, Veterans Administration, University laboratories, private dental offices, and some may choose to operate their own commercial laboratories. They box, pour and articulate models, set up, wax up, invest and process full dentures, cast trays, crowns, bridges, partials, acrylic and porcelain jackets, porcelain on metal and construct many other special appliances.

Upon successful completion of the program students receive an Associate of Applied Science degree.

First Year

<i>First Quarter</i>		<i>Credit</i>	<i>Clock Hours</i>
0605	Dental Terminology (Dental)	2.5	36
0705	Dental Materials (Dental)	3	48
0793	Dental Equipment (Dental)	4	84
0646	Oral Anatomy (Anat.)	3	48
1027	Dental Anatomy (Dental)	2.5	60
0514	Technical Chemistry and Physics I (Physics)	3	60
1503	Projects Lab I D.L.T. (Dental)	.	24

Second Quarter

0711	Technical Chemistry and Physics II (Physics)	3	48
0907	Denture Techniques I (Dental)	6.5	114
0185	Accidentals and Articulations (Dental)	5.5	99
0293	Case Study and Crown (Dental)	5	90
1307	Projects Lab II (D.L.T. Dental)	-	30

Third Quarter

0579	Clinical Experience I D.L.T. (Dental)	10	360
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Fourth Quarter

0303	Technical Physics III (Physics)	3	24
0370	Crown and Bridge (Dental)	10	180
0385	Partial Denture Techniques I (Dental)	4	96
1311	Projects Lab III D.L.T. (Dental)	-	24
1327	Dental Anatomy (Dental)	2.5	60

Second Year

Fifth Quarter

		Credits	Clock Hours
0774	Acrylic Jacket Crowns and Veneers (Dental)	5.5	96
0476	Partial Denture Techniques II (Dental)	5	90
0067	Denture Techniques (Dental)	6	102
0507	Psychology (Psych.)	2.5	36
1315	Projects Lab IV D.L.T. (Dental)	-	36

Sixth Quarter

0917	Precision Alloy Amort Rests (Dental)	6	108
0010	Cos. Metal Base Dentures (Dental)	3	60
0158	Porcelain on Metal (Dental)	4	120
0627	Communication Skills I (Comm.)	2	24
0375	Laboratory Management (Dental)	2.5	36

Seventh Quarter

0245	Porcelain Jacket Crown (Dental)	6.5	120
0426	Denture Techniques and Articulation (Dental)	5	120
0448	Special Partial Techniques (Dental)	4	72
1391	Sales Psychology and Human Relations (Psych.)	3	72
1325	Projects Lab V D.L.T. (Dental)	-	12

Eighth Quarter

0679	Clinical Experience II D.L.T. (Dental)	12	360
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*This algebra will be put on by specialists in each field.

ENVIRONMENTAL HEALTH ASSISTANT

*What became 2-year AA degree and
1970-1975 per Day
and Ev.*

Kirkwood Community College offers a one year Environmental Health Assistant program consisting of four twelve-week quarters. The course provides for laboratory, classroom and practical teaching experiences. Upon successful completion students receive a diploma.

The Environmental Health Assistant aids sanitary engineers, sanitarians, physicians, and veterinarians in service related to collecting data, inspecting, and evaluating facilities concerned with public health. He assists professional personnel at surveillance of the following: water supply, processing, distributing and serving of foods, sewage disposal facilities and plants, building construction and maintenance, air pollution, radiation hazards, and recreational establishments and areas, including swimming pools.

The Environmental Health Assistant must be capable of observing, recording and reporting in addition to being skilled in using and maintaining instruments and equipment related to detection, sterilization and disinfection. Further, he is expected to conduct selected chemical and bacterial analyses and prepare and preserve cultures from various environmental media.

Employers of Environmental Health Assistant include the following: county, city, state and federal health department, state departments of agriculture, housing and urban renewal agencies, schools, milk and food processors, food service and restaurant establishments, motels and hotels, detergent and sanitizer manufacturers, municipal water departments and public health laboratories.

		Credits	Clock Hours
First Quarter			
0596	Introduction to Public Health (Pub.)	2	48
0257	First Aid (Safety)	0	24
0086	Diseases of Man (Med.)	4	60
0244	Housing Inspection (Poll.)	3	60
0586	Water Sanitation (Poll.)	3	72
0023	Basic Math (Math)	1	36
1378	Projects Lab and Field (Poll.)	0	12
0302	Psychology of Human Relations I (Psych.)	4	96
Second Quarter			
1324	Community Improvement (Poll.)	3	48
0677	Communication Skills I (Comm.)	3	36

0678	Food Sanitation (Poll.)	1	72
0691	Sewage Sanitation (Poll.)	4	72
0696	Milk Sanitation (Poll.)	1	72
1378	Projects Lab and Field (Poll.)	0	24
0638	Vaccines (Poll.)	1	36

Third Quarter

0619	Communication Skills II (Comm.)	4	36
0690	Psychology of Human Relations II (Psych.)	4	48
1381	Instrumental Sanitation (Poll.)	3	48
1386	Occupational Health and Industrial Safety (Poll.)	3	60
1390	Recreational Sanitation (Poll.)	2	48
0146	Refuse Sanitation (Poll.)	4	72
1378	Projects Lab and Field (Poll.)	0	48

Fourth Quarter

0667	Supervised Field Studies (Poll.)	16	144
0699	Seminar E.H.	2	24

MEDICAL ASSISTANT

The Medical Assistant program is a one-year course comprised of four twelve-week quarters, and leading, upon successful completion, to a diploma. The course content emphasizes business courses, English, biological sciences, medical psychology, medical law, medical laboratory procedures and personal development.

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

<i>First Quarter</i>		<i>Credit</i>	<i>Clock Hours</i>
0642	Medical Laboratory Procedures I (Medical)	1	12
0620	Medical Office Practice I (Off. Ed.)	4	36
0526	Medical Terminology I (Medical)	2	48
0623	Body Structure and Function I (Anat.)	2	48
0574	Bookkeeping (Acctg.)	2	48
0601	Personal Development (Pers. Dev.)	1	24
0688	Diseases of Man (Medical)	4	60
0640	Psychology of Human Relations I (Psych.)	4	48

Second Quarter

0651	Communication Comp. I (Comm.)	3	36
0657	Medical Bookkeeping (Acctg.)	4	48
0810	Medical Office Practice II (Off. Ed.)	2	24
	Medical Laboratory Procedures II (Medical)	2	84
0622	Medical Terminology II (Medical)	2	48
0817	Body Structure and Function II (Anat.)	2	36
0621	Medical Typing (Off. Ed.)	1	36
0358	Insurance Laboratory (Admin.)	2	36

Third Quarter

0719	Speech Comp. II (Comm.)	1	36
0957	First Aid - Safety	1/2	24
0715	Medical Terminology III (Medical)	2	24
0647	Medical Office Management (Admin.)	1/2	12
1376	Pharmacology (Medical)	1/2	24
0300	Psychology of Human Relations II (Psych.)	2	48
0525	Seminar I - Medical	1/2	12
0661	Supervised Clinical Experience I M.A. (Medical)	6	180

Fourth Quarter

0528	Seminar II (Medical)	1	12
0722	Supervised Clinical Experience II M.A. (Medical)	16	156
0539	Medical Legal Law (Law)	1	12

OCCUPATIONAL THERAPY ASSISTANT PROGRAM

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

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

The program is approved by the American Occupational Therapy Association; students who successfully complete this program are eligible to become Certified Occupational Therapy Assistants and members of the American Occupational Therapy Association.

<i>First Quarter</i>		<i>Credits</i>	<i>Clock Hours</i>
0723	Body Structure and Function (Biol.)	4	48
0210	Psychology for Occupational Therapy		
0502	Psychology of Human Relations	4	60
0581	Orientation to Occupational Therapy (Ther.)	2	36
0957	First Aid (Safety)	1	24
1049	Project Lab (Ther.)	1	12
0344	Media and Skills I (Ther.)	3	120
1080	Introduction to Medical Science (Med.)	4	60

Second Quarter

0627	Communication Skills I (Comm.)	3	36
0659	Function and Dysfunction (Ther.)	5	72
0007	Normal Growth and Development (Biol.)	3	60
0143	Interpersonal Relations (Psych.)	3	68
1047	Project Lab O.L.A. (Ther.)	1	24
0137	Media and Skills II (Ther.)	3	120

Third Quarter

1048	Medical Communication (Comm.)	3	36
0918	Management of Phys. Dis., Uln. Care, (Ther.)	4	60
0825	Management of Psychological Cpn. Cond. (Ther.)	4	60
0274	Principles and Practice of Rehabilitation (Ther.)	5	72
1047	Project Lab (Ther.)	1	12
0400	Clinical Experience O.L.A. I,		
0487	II, or		
1221	III (Ther.)	3	150

(This clinical period extends one week into the summer quarter.)

Fourth Quarter

0100	Clinical Experience O.L.A. I,		
0487	II, or		
1221	III (Ther.)	3	150
0100	Clinical Experience O.L.A. I,		
0487	II, or		
1221	III (Ther.)	3	150
0482	Neurology	2	60

ORTHOPAEDIC ASSISTANT

The Orthopaedic Assistant program is a two-year course consisting of six consecutive twelve-week quarters. Theory and practice will be integrated and concurrent during the program. Classroom and laboratory activities are provided by Kirkwood Community College, while practical experience is obtained in selected hospital situations.

The orthopaedic assistant, usually a man, is trained to work with the orthopaedic surgeon in the emergency room, cast room, operating room and other hospital areas, as well as in clinics and private offices. His duties, which are performed under medical direction, include preparing and maintaining the surgical equipment of the orthopaedic department, assisting the orthopaedic surgeon, making and applying plaster limbs or body casts, setting up traction and suspension equipment on wards

Kirkwood Community College grants an Associate of Applied Science degree to students who successfully complete this course.

<i>First Quarter</i>		<i>Credits</i>	<i>Clock Hours</i>
0882-2	Human Anatomy and Physiology I (Biol.)	4	60
1306	Introductory to Health Care and Personal Relations (Med.)	3	60
3085	Emergency Care (Med.)	3	60
0100	Plaster Casting Techniques (Med.) (General Education-1)	4	96
		4	48

Second Quarter

0882-2	Human Anatomy and Physiology II (Biol.)	4	60
0464	Orthopaedic Conditions I (Med.)	4	68
1080	Introduction to Medical Science (Med.)	4	60
0489	Supervised Clinical Experience O.L.A. I (Med.) (General Education-2)	4	48
		4	48

Third Quarter

1338	Integrated Science I (Sci.)	4	60
0464	Orthopaedic Conditions II (Med.)	4	48
0213	Operating Room Techniques (Med.)	3	60
0594	Supervised Clinical Experience O.L.A. II (Med.) (General Education-3)	6	216
	(Optional)	3	48

Fourth Quarter

1081	Introduction to Physical Therapy, Orthotics and Prosthetics (Ther.)	4	60
1081	Traction Techniques (Med.)	3	60
0594	Supervised Clinical Experience O.L.A. III (Med.) (General Education-4)	6	216
		4	48

Fifth Quarter

1307	Integrated Science II (Sci.)	4	60
1083	Office Procedures (Off. P.E.)	2	36
0594	Supervised Clinical Experience O.L.A. IV (Med.) (General Education-5)	6	216
		4	48

Sixth Quarter

0594	Supervised Clinical Experience O.L.A. V (Med.)	12	360
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PRACTICAL NURSING

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

Clinical experience is obtained by students at Mercy Hospital in Cedar Rapids, the American Rehabilitation Center, United Cerebral Palsy Center, Cedar Rapids Public School System and other approved medical facilities.

Graduates of this program are qualified to take the licensure examination given by the Iowa State Board of Nurse Examiners.

* There are two classes offered annually, March and September.

		Credit	Clock Hours
<i>First Quarter</i>			
0774	Body Structure and Function (Phys.)	5	48
0323	Personal, Vocational and Community Relations I (Nurs.)	3	24
0513	Normal Nutrition and Diet Therapy (Nurs.)	3	48
0575	Family and Life Span (Soc.)	4	24
0595	Administration of Medications I (Nurs.)	5	26
0872	Fundamentals of Practical Nursing I (Nurs.)	6	24
1394	Spelling (English)	1	12
0118	Clinic P.N. I (Nurs.)	3	12
<i>Second Quarter</i>			
0478	Care of Adult Patients I (Nurs.)	6	24
1395	Administration of Medications II (Nurs.)	3	24
1402	Fundamentals of Practical Nursing II (Nurs.)	3	36
1416	Clinic Medical-Surgical Nursing P.N. II (Nurs.)	18	72
<i>Third Quarter</i>			
0587	Care of the Adult Patient II (Nurs.)	4	48
0567	Nursing Care of Children I (Nurs.)	3	12
0926	Nursing Care of Mother and Infant I (Nurs.)	3	36
3413	Clinic P.N. III (Nurs.)	21	84

Fourth Quarter

0110	Nursing Care of Maternal and Infants II (Nurs.)	1	12
0323	Personal, Vocational and Community Relations II (Nurs.)	1	12
0767	Nursing Care of Children II (Nurs.)	1	12
1414	Clinic P.N. IV (Nurs.)	27	108
1539	First Aid, Disease, and Community Health Nursing (Nurs.)	3	36



Trade and Industry

ARCHITECTURAL DRAFTSMAN

The Architectural Draftsman course is designed basically to prepare an individual for entry employment in an architect's office. Normally, this involves the drawing or redrawing of plans, elevations, details, plumbing, electrical, and mechanical layouts. Attention is given to accuracy, neatness and proper drawing procedure. The drawing is primarily of commercial construction rather than of homes. The total course is four twelve-week quarters or 1,440 clock hours, and leads, upon successful completion, to a diploma.

<i>First Quarter</i>		<i>Credit</i>	<i>Clock Hours</i>
0924	Architectural Drafting I (Graph.)	12	288
0023	Basic Mathematics I (Math)	3	36
0529	Construction Materials (Const.)	3	36
<i>Second Quarter</i>			
0090	Architectural Drafting II (Graph.)	12	288
0115	Basic Mathematics II (Math)	3	36
0634	Construction Methods (Const.)	3	36
<i>Third Quarter</i>			
0154	Advanced Drafting III (Graph.)	11	264
0301	Related Disciplines (Graph.)	1	24
1377	Estimating (Const.)	1	36
1381	Presentations (Const.)	2	36
<i>Fourth Quarter</i>			
0218	Architectural Drafting IV (Graph.)	14	312
0259	The Profession (Psych.)	1	12
0627	Communication Skills I (Comm.)	3	36

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 covers, alignment tools, and specialized hand tools.

The Kirkwood program extends over three twelve-week quarters for a total of 36 weeks, and leads, upon successful completion, to a diploma. Class periods are six hours per day, five days per week, and include seven and one-half hours per week of related instruction.

	<i>Clock Hours</i>
Shop job routine processes and responsibilities	10
Safe use and care of equipment	40
Auto body construction materials	25
Metalworking	100
Filling (lead and paste)	100
Welding	50
Chassis and body shop	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>Credit</i>
0626	Collision Lab I (Mech.)	10
0933	Collision Related I (Mech.)	5
0934	Collision Lab II (Mech.)	10
0935	Collision Related II (Mech.)	5
0936	Collision Lab III (Mech.)	10
0937	Collision Related III (Mech.)	5

AUTOMOTIVE MECHANICS

The Automotive program is planned to provide two 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. Successful completion of the program leads to a diploma.

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 75 to 80 percent of their time in classroom and laboratory instruction, and the balance of their time in one of Iowa's largest and best equipped automotive shops.

Included in the curriculum are the following training areas:

	<i>Clock Hours</i>
Shop practices, safety and rules	40
Service station procedures	90
Brakes	90
Front-end service	90
Automotive electrical system	90
Fuel system and fuels	50
Engine testing and trouble shooting	210
Engine rebuilding and maintenance	200
Catch and transmission service	60

Automatic transmissions	90
Drive line service	30
Body service	10
Welding	30
Dynamics	30
Advanced brake and emission control	60
Air conditioning	30
Specialization	180
Consumer relations and employer-employee relations	30
(Course descriptions listed under Mechanics I)	
	Credit
0198 Auto Mechanics Lab I	1.5
0938 Auto Mechanics Related I	1.5
0939 Auto Mechanics Lab II	1.5
0940 Auto Mechanics Related II	1.5
0941 Auto Mechanics Lab III	1.5
0942 Auto Mechanics Related III	1.5
1343 Auto Mechanics Lab IV	1.5
1359 Auto Mechanics Related IV	1.5



ELECTRONICS TECHNOLOGY

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

COMMUNICATION ELECTRONICS

Successful completion of this curriculum will prepare the student for a career as a test technician, broadcast engineer, radio-television serviceman, commercial sound technician, two-way radio technician, and many other types of technician occupations. The course length is four twelve-week quarters, and leads to a diploma.

		<i>Credit</i>	<i>Class Hours</i>
<i>First Quarter</i>			
1393	Introduction to Electronics	2	6
0398	Electronic Circuits I	10	26
1359	Technical Mathematics I-C (Math I)	3	9
0151	Electronic Shop Methods	1	3
<i>Second Quarter</i>			
0485	Electronic Circuits II	7	15
1165	Audio Systems	4	7
0627	Communication Skills (Comm.)	3	3
0710	Technical Mathematics II-C (Math II)	3	9
<i>Third Quarter</i>			
0425	Television I	9	17
1351	Broadcast Systems	3	3
0813	Communication Electronics I	4	8
<i>Fourth Quarter</i>			
1375	Fundamental Eng	5	12
0161	Communication Electronics II	2	9
1329	Business Practices (Off. Lab)	3	1
0810	Television II	3	9

ELECTRONICS ENGINEERING TECHNOLOGY

The student successfully completing the two years of study will have the necessary skills and knowledge to secure an entry position as an electronics technician in any one of many industries. The course length is six twelve-week quarters, and leads, upon successful completion, to an Associate of Applied Science degree. The summer quarter between the third and fourth quarter is set aside for on-the-job training in an approved industry when possible.

		Credit	Clock Hours
<i>First Quarter</i>			
1393	Introduction to Electronics	1	4
0695	Electric Circuits I	2	13
0519	Technical Mathematics I-B (Math)	4	4
1367	Shop Rule	1	2
0837	Communications Skills I-B (Comm.)	3	5
<i>Second Quarter</i>			
0695	Electric Circuits II	5	9
0617	Electronics I	4	6
0613	Technician Mathematics II-F (Math)	4	5
0719	Communication Skills II-F (Comm.)	3	5
0202	Psychology and Human Relations (Psych.)	3	5
<i>Third Quarter</i>			
0633	Electronics II-B	6	8
0813	Communications Electronics	4	11
0892	Technical Electronic Drawing	2	6
0857	Technical Mathematics III-E (Math.)	4	5
<i>Fourth Quarter</i>			
0734	Transistor Circuit Analysis and Design	6	10
0846	Industrial Electronics	2	3
0920	Applied Physics I (Phys.)	4	5
0757	Transient Circuit Analysis	3	5
1401	Industrial Television Systems or		
1405	Audio Systems	4	7
<i>Fifth Quarter</i>			
0890	Network Analysis and Design	5	5
0126	Pulse and Switching Circuits	5	7
0925	Applied Physics II (Phys.)	5	5
0595	American Institutions (Pol. Sci.)	3	3
0231	Technical Elective Television Circuit Analysis or		

1439	Modulation and Detection Systems	5	10
<i>Sixth Quarter</i>			
0836	Advanced Electronics Problems	3	5
0836	Design Project	2	7
0811	Technical Reporting Technical Elective I	3	5
1412	Transmission Systems or		
0306	Electronic Computers Technical Elective 2	6	8
1359	Instrumentation or		
0589	Microwave Systems Analysis	4	5

ADDITIONAL RELATED ELECTRONICS COURSES

		Credit
1083	Transistor Circuit Analysis and Design First Half	3
1189	Transistor Circuit Analysis and Design Second Half	3

GRAPHIC ARTS

The graphic arts program is one year in length and leads to a diploma. It 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 business 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 advanced letterpress and offset presswork. In the final stages the student will become familiar with management problems, estimating, production control, plant organization and layout, industrial relations and related technical data.

	Clock Hours
Orientation and Survey of Graphic Arts	24
History of Graphic Arts	18
Fundamentals of Lithography	114

Makeup and Proofreading	30
Math for Printers	24
Layout and Design	30
Paper, ink and metalurgy	28
Letterpress operations	268
Compositing machine	30
Lithography	182
Drafting and finishing operations	18
Theory of color	24
Lithographic camera	102
Lithographic presswork	102
Stripping and offset platemaking	60
Cold type processes	58
Publication makeup and makeup	48
Printing management	30
Estimating	30
Production Problems	30
Plant organization and layout	18
Industrial relations	18
Applied lithography and/or letter press	794
10 course descriptions included under Graphics I	
	<i>Credits</i>
1416 Graphic Arts Lab I	10
1361 Graphic Arts Related I	5
1419 Graphic Arts Lab II	10
1365 Graphic Arts Related II	5
1473 Graphic Arts Lab III	10
1369 Graphic Arts Related III	5
1357 Graphic Arts Lab IV	10
1371 Graphic Arts Related IV	5

MACHINIST

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

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

	<i>Machinist (day)</i> <i>Clock Hours</i>	<i>Machinist (evening)</i> <i>Clock Hours</i>	
Mathematics and Blueprint reading	120		
Safety procedures	40		Total of 920
			<i>Day</i> <i>Evening</i>
			<i>Credits Credits</i>
			60
Measuring tools			55
Bench work			40
Drill press			40
Sawing			250
Lathe operation			25
Pattern work			200
Milling machine			50
Grinding			40
Special production machines			
(Course descriptions included under Metals and Manufacturing I)			
0753 Machinist Lab I			7 6
0943 Machinist Related I			8 4
0944 Machinist Lab II			8 6
0945 Machinist Related II			7 4
0946 Machinist Lab III			13 6
0947 Machinist Related III			5 4
0948 Machinist Lab IV			6
0949 Machinist Related IV			4

MECHANICAL DRAFTSMAN

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

Kirkwood Community College awards a diploma to students successfully completing this program.

		<i>Clock</i>
<i>First Quarter</i>		<i>Credit Hours</i>
0033 Mechanical Drafting I (Graph.)	6	18-0
0023 Basic Mathematics I (Math)	5	60
0637 Applied Problems I (Graph.)	2	60
0015 Manufacturing Processes (M. & M.)	2	60
<i>Second Quarter</i>		
0437 Mechanical Drafting II (Graph.)	6	18-0
0115 Basic Mathematics II (Math)	5	60
0726 Applied Problems II (Graph.)	2	60
0297 Manufacturing Materials and Methods (M. & M.)	2	60

Third Quarter

0518	Mechanics I (Drafting III) (Graph.)	4	180
0298	Basic Mathematics III (Math.)	5	60
0577	Applied Problems III (Graph.)	2	60
0511	Communication Skills I (Comm.)	3	60

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 of post-high school education with a career objective. It leads to an Associate of Applied Science Degree. The program consists of six quarters, each of twelve weeks' length. The curriculum includes practical experience in the drafting room, shops and laboratories but is more heavily weighted towards technical studies in the classroom.

First Quarter

		Credits	Clock Hours
0627	Communication Skills I (Comm.)	3	90
0537	Engineering Drawing I (Graph.)	6	180
0519	Technical Mathematics I (Math.)	5	90
0513	Manufacturing Processes I (M. & M.)	2	72
0224	Engineering Computers Mathematics I (Math.)	2	48

Second Quarter

0519	Communication Skills II (Comm.)	3	90
0400	Engineering Drawing II (Graph.)	6	180
0512	Technical Mathematics II (Math.)	5	90
0208	Manufacturing Processes II (M. & M.)	2	72
0521	Engineering Computers Mathematics II (Math.)	2	48

Third Quarter

0057	Technical Mathematics III (Math.)	4	48
0522	Engineering Drawing III (Graph.)	5	120

0858	Statics (Engin.)	8	120
0456	Hydraulics (Mech.)	5	72

Fourth Quarter

0302	Psychology of Human Relations (Psych.)	3	60
0213	Strength of Materials I (Engin.)	4	60
0778	Kinematics of Mechanisms (Engin.)	7	120
0824	Dynamics (Engin.)	7	120

Fifth Quarter

0595	American Institutions (Poli. Sci.)	3	60
0304	Elasticity (Mech.)	7	60
1335	Strength of Materials II (Engin.)	7	60
0008	Machine Design I (Engin.)	7	144
0712	Design Problems I (Engin.)	2	60

Sixth Quarter

0811	Communication Skills III (Tech. Reporting) (Comm.)	4	60
0885	Heat, Light and Sound	6	72
0150	Engineering Materials (Engin.)	2	48
1331	Design Problems II (Graph.)	6	144
0508	Industrial Organizations (Socia.)	3	60

WELDING

The welding program consists of three twelve-week quarters leading to either a diploma or a certificate. The first quarter is centered around metallic arc welding and oxy-acetylene cutting. Related instruction includes blueprint reading and shop math. This quarter is to prepare those completing the course for employment as welders in industry using the metallic arc process.

The second quarter instruction period is designed for those wanting to continue acquiring skills and knowledge in the field of welding by the study of the more advanced and specialized production jobs using the tig and mig welding processes.

The third quarter of related instruction involves the study of the theoretical aspects of welding, graphic skills, communication skills, math, and shop supervision. The set-up and use of productive machinery, welding inspection methods, and a student project will be taught in the welding problems lab. This quarter is to provide the students with the background needed to obtain work in industry as a supervisor, methods



man, inspector or specialist welder, or in the field of welding sales.

A student may take one, two, or three quarters, depending on his needs and abilities.

		Credit	Clock Hours
<i>First Quarter - Metallic Arc Welding</i>			
1354	Basic Arc Welding	3	144
1347	Related Instruction, Basic Arc	3	36
1351	Heavy Industrial Arc Welding	3	144
1356	Related Instruction, Heavy Ind. Arc	3	36
<i>Second Quarter - Gas Metal Arc Welding</i>			
1360	Oxy-acetylene Welding	4	108
1368	Helium Welding	4	108
1372	Non-Aeromatic Welding	1	36
1376	Sheet Metal Arc Welding	2	36
1390	Special Arc Welding Techniques	1	18
1384	Related Instruction: Adv. Welding Proc.	3	36
<i>Third Quarter - Specialist Welder</i>			
1382	Production Machinery	2	36
1392	Welding Inspection	2	36
1376	Student Project	1	36
1400	Welding Technology	4	60
1404	Graphic Skills	2	36
1413	Math Basic Mathematics II	2	36
1406	Communication Skills	2	36
1412	Human Relations & Shop Supervision	1	24

APPRENTICESHIP PROGRAMS

The Vocational Technical Division cooperates fully with local Building and Construction Trades Council as well as Joint Apprenticeship committees in providing related classroom instruction to approximately 200 indenture apprentices, involving six apprenticeship programs.

Represented in these programs are carpentry, electrical, millwright, plumbing and sheet metal and tool and die. All are equal opportunity programs. Classes are held in local school buildings and in Kirkwood 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 machinery, materials and substitutes used in the 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 Cedar Rapids local union office or the Coordinator of Adult Vocational Education at Kirkwood Community College.

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:

	Approx. Hours
Rough Framing (Floor, wall, roof, scaffolding, house and heavy construction)	1,000
Interior Building (Floor, beam, wall, trim, stairs, rail, etc.)	1,000
Interior Finishing (application of door and window trim, fitting and setting doors and windows, Application of baseboards, crown-mold and setting cases, stair work, etc.)	1,500
Acoustics and Drywall	700
Exterior Finishing	800
Layout	500
Finishing (trim, cupboards, etc., cabinet making, etc.)	800
Form 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 APPRENTICESHIP

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 preparation.	400 - 2,000
Commercial - wiring of public, commercial, school and hospital buildings; the installation and repair of all equipment fitting; and necessary shop work and preparation.	4000 - 7,000
Industrial - wiring of all industrial buildings and equipment; the installation, repair and adjustments of the same; and necessary shop work and preparation.	400 - 2,000

For additional information contact: Iowa State Coordinating Committee, Electrical Apprenticeship and Training, 2615 Ingersoll, Des Moines, Iowa 50317.

SHEET METAL

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, shop work	1000
Industrial sheet metal work (blow piping, collection systems, etc.)	1000
Warm air furnace and heating equipment, servicing same	500
Operation of hand tools and power machinery	500
Handling of substrate materials such as plastic	500

Specialty installation and specialty work (acoustical ceiling, etc.)

500

STEAMFITTER-PIPEFITTER

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 144 hours per year of related instruction.

Suggested Schedule of Work Processes for Steamfitter-Pipefitter 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, turning, peening and taking horizontal and pipe joints.	
Welding - oxy-acetylene, arc, inert gas, heating 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.

IN-PLANT TRAINING

An intensified In-Plant Training program offers training courses for both management and employees in businesses and industry located in the seven counties.

ON-THE-JOB TRAINING

Employees are trained at actual work stations under the supervision of company personnel. This type of training may be accompanied by job related instruction either during or after working hours at company or school facilities.



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course descriptions

SUBJECT AREAS AND THEIR KEY ABBREVIATIONS

The following is an alphabetical listing of subject areas with their key abbreviations, where needed, in parentheses.

The course numbers are random numbers and do not imply any sequence. The key abbreviations and course numbers are used on college transcripts.

The following symbols have been used to indicate course credit:

- H = High School
- D = Developmental
- V = Vocational
- P = College Parallel Transfer

The credit value of each course is indicated in quarter hours following the title of the course. Where possible, the description also indicates the number of lecture and lab sessions involved. Thus, (3/1) indicates 3 lectures and 1 lab session. An irregular course length or arrangement is also indicated. Thus (3/2-7 wks) means 3 lectures and 2 lab sessions for 7 weeks.

Credits earned in developmental courses, which are not also college parallel courses, may not be applied toward an Associate Degree in Arts or Sciences. Credits may be applied toward certificates and diplomas at Kirkwood Community College.

Accounting (Acctg.)	Library Services (Libr.)
Administration and Management (Admin.)	Literature (Lit.)
Art (Art)	Marketing (Mktg.)
Biological Sciences (Biol.)	Mathematics (Math.)
Chemistry (Chem.)	Mechanics (Mech.)
Communication (Comm.)	Medical & Surgical (Med.)
Construction (Const.)	Metals & Manufacturing (Met.)
Data Processing (Data Proc.)	Music (Music)
Dental (Dent.)	Nursing (Nursg.)
Drama (Drama)	Office Education (Off. Ed.)
Driver Education (Dr. Ed.)	Personal Development (Pers. Dev.)
Economics (Econ.)	Philosophy & Religion (Phil.)
Electricity & Electronics (Elect.)	Physics/Astronomy (Phys.)
Engineering (Engin.)	Political Science (Polit. Sci.)
Foreign Languages (F. Lang.)	Pollution/Environment (Poll.)
Geography (Geogr.)	Psychology/Education (Psych.)
Graphics (Graph.)	Safety (Saf.)
History (Hist.)	Science (Sci.)
Home Economics (Home Ec.)	Sociology (Soc.)
Law: Law Enforcement/Correction (Law)	Speech (Sp.)
	Therapy (Ther.)
	Welding (Weld.)

ACCOUNTING (Acctg.)

Adult

- 0529 **BOOKKEEPING I** V-3
Includes fundamentals of bookkeeping as applied to modern business—systematic recording of business transactions, use of journals, records, statements to illustrate bookkeeping cycle from original entry to annual balance sheet. (4:0)
- 0609 **BOOKKEEPING II** V-3
Studies use of journals, depreciation, bad debts and accrued expenses and partnerships. (3:0)

Vocational-Technical Division

- 0488 **ACCOUNTING FUNDAMENTALS I** V-5
Introduces the complete accounting cycle for personal service and merchandising enterprises. Application of fundamental principles covered in laboratory practice. (5:0)
- 0580 **ACCOUNTING FUNDAMENTALS II** V-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
- 0683 **ACCOUNTING FUNDAMENTALS III** V-5
Continues Accounting Fundamentals II, with emphasis on corporate organizations and introduction to cost accounting. (5:0) Prereq: Accounting Fundamentals II
- 0773 **ACCOUNTING SURVEY I** V-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. (2:0)
- 0894 **ACCOUNTING SURVEY II** V-3
(Cost accounting and financial control for the data processor) Includes classification of costs, cost control, standard costs, budgeting, forecasting, 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
- 0310 **ACCOUNTING LABORATORY** V-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 assigned by program).

- 0586 **ACCOUNTING PROCEDURES** V-4
Studies purpose of audit, relationship of auditor and client, kinds of audits, consideration of audit objectives and standards. Reviews internal control and examination of accounting systems. (4:0) Prereq: Principles of Accounting III

- 0104 **AGRICULTURAL TAX ACCOUNTING** V-2
Studies Federal and state income tax laws pertaining to individual and agricultural business enterprises. Related problems and tax forms are part of this course. (2:0)

- 1312 **MANAGEMENT ACCOUNTING** V-4
Presents management's viewpoint on cost analysis, budgeting, break-even, and statement analysis. (3:0) Prereq: Instructor's Approval

- 0253 **OFFICE ACCOUNTING** V-4
Provides understanding of basic accounting concepts and procedures. Includes the recording and transactions, preparation of financial statements, and payroll problems. A project set will be completed. (4:0)

- 0500 **RETAIL ACCOUNTING** V-4
Introduces principles of accounting from a managerial viewpoint. Cost controls, budgets, financial analysis and financial guides to profit-maximizing operations are included. (4:0)

- 0528 **BOOKKEEPING** V-2-4
Studies fundamentals of bookkeeping as applied to modern business, systematic recording of business transactions, use of journals, records, statements to illustrate bookkeeping cycle from original entry to annual balance sheet. (3-4:0)

- 0157 **MEDICAL BOOKKEEPING** V-4
Covers principles of bookkeeping from the viewpoint of the medical assistant. Areas of study include journalizing, posting to the ledger, taking a trial balance and preparation of financial statements. Special medical office problems are investigated. Areas of study include patient billing, preparing for audits, pay board accounting, use of data processing services, and use of credit bureau materials. (4:0) Prereq: Bookkeeping

- 0243 **DENTAL BOOKKEEPING** V-4
Covers basic principles of bookkeeping from the viewpoint of the dental assistant. Areas of study include journalizing, posting to the ledger and taking a trial balance and preparation of financial statements. Special attention is given to patient billing, preparing for audits, pay board accounting, use of data processing services, and insurance and tax forms. (3:0) Prereq: Bookkeeping

- 0927 **INCOME TAX PROCEDURES** V-3
Training in the preparation of Federal and state income tax returns. (3:0)

0847 FARM RECORD KEEPING V-3
Designed to familiarize students with farm records: accounting inventories, sales tax, cash flow, net worth, depreciation, and different types of record systems. (3/0)

College Parallel

0641 PRINCIPLES OF ACCOUNTING I P-3
Approaches accounting theory and procedures from the business entity concept. Accounting principles covered include understanding the balance sheet and income statements, matching costs and revenues, working paper development, and debitor-critic relationships.

0733 PRINCIPLES OF ACCOUNTING II P-3
Emphasizes partnership and corporate entries, worksheet adjustments and asset valuation. (1/0) Prereq: Principles of Accounting I

0831 PRINCIPLES OF ACCOUNTING III P-3
Emphasizes management uses, and studies introduction to cost accounting: job cost analysis, budgeting, flow flow, and statement analysis. (3/0) Prereq: Principles of Accounting II

0926 ELEMENTARY COST ACCOUNTING I P-4
Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the format of an report to management. (4/0) Prereq: Principles of Accounting III

0116 ELEMENTARY COST ACCOUNTING II P-4
Emphasizes standard costing and budgeting. (4/0) Prereq: Elementary Cost Accounting I

0228 INTERMEDIATE ACCOUNTING I P-4
Includes a brief review of accounting principles and a study in depth of assets, accounts receivables, inventories, and other tangible assets items. (4/0) Prereq: Principles of Accounting III

0429 INTERMEDIATE ACCOUNTING II P-4
Emphasizes intangible assets, liabilities, owner's equity, and statements from an complete records. (4/0) Prereq: Intermediate Accounting I

0425 INCOME TAX P-2
Studies the Federal Income Tax Law. Emphasis is placed on the application to the individual and the single proprietorship business. (1/0) Prereq: Principles of Accounting II

ADMINISTRATION AND MANAGEMENT (Admin.)

Vocational-Technical

1330 AGRICULTURE FINANCE V-2
Includes credit and its relation to maximizing farm income, credit sources, credit use, how to secure credit, and technical capacities. (2/0)

1295 AGRICULTURE BUSINESS MANAGEMENT V-4
Considers problems in operation of the operator or the farm supply center business: types of business organization, sources of capital, management planning, credit control, inventory control, budgeting, and pricing. (4/0)

1359 BUSINESS PRACTICES V-3
Includes basic bookkeeping, purchasing, inventory records, employe-employer relations, advertising, and customer relations. (3/0)

0411 BUSINESS ORGANIZATION AND MANAGEMENT V-3
Studies the structure, operation and control of a business organization. Organizational theory, managerial planning and controlling, and human relations. (3/0)

1541 CHECKOUT MANAGEMENT V-2
Teaches proper cash register operation and checkout procedures for the modern supermarket. Emphasis is placed on checker training, supervisor, and control of the checkout function. (2/0)

0919 CREDIT PROCEDURES V-3
Presents economic and sociological aspects of credit from a managerial viewpoint, the nature of credit instruments, the role of credit in our economy, management of the credit and collection function. (3/0)

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

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

0007 ENTERPRISE ANALYSIS V-3
Offers a detailed farm management record program going into detail in analysis of each individual agricultural enterprise connected with the farm business, and that enterprise's relationship to the total farm business. (1/5)

1541 ADVANCED ENTERPRISE ANALYSIS V-3
Applies the enterprise record system to the total home farm and includes analysis of structures as well as equipment, buildings, such as capital, machinery, buildings, and labor. (1/5)

0750 FARM MANAGEMENT V-3
Focuses on the abilities needed to manage a farm. The farm laboratory, and the extension facts, and the student's home farm are used. (1/0)

1535 ADVANCED FARM MANAGEMENT V-3
Applies management practices to the home farm, covering operations

low, insurance, property transfer, estate planning, leases, etc. (2/2)

0298 FASHION BUYING V-5

Studies principles and methods of successful merchandise selection, analyzing the fashion market, and coping with the problems of buying. Merchandise control and buying habits of consumers are included. (5/0)

0246 FOOD STORE MANAGEMENT V-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)

1092 IMPLEMENT BUSINESS FUNCTIONS V-4

Offers instruction in the actual applied functions of an implement business. Time is spent analyzing successful practices of community implement businesses (3/2)

0058 INSURANCE LABORATORY V-2

Provides practice in completing many types of insurance forms, including Medical and A.D.C. forms (3/0)

1093 INVENTORY CONTROL V-4

Offers instruction in the actual controlling of the complicated parts room inventory. Special procedures and techniques are discussed. (4/0)

1298 AGRICULTURE EQUIPMENT MANAGEMENT V-4

Includes practical decision making involving Agri-Business equipment, the general layout of country elevators and farm supply facilities, kinds of Agri-Business equipment, storage facilities, depreciation schedules, money management for efficient use of this equipment, livestock feeding, fertilizer application, and special purpose equipment. (6/7)

0220 NURSERY MANAGEMENT I V-2

Introduces the nursery industry - wholesale, retail, landscape service, and garden center operations. (4/0)

0310 NURSERY MANAGEMENT II V-2

Studies various phases of the industry including plant handling houses, equipment, and storage of plant materials prior to and after harvesting and sale. (4/0)

0407 NURSERY MANAGEMENT III V-2

Covers planting and care of trees, shrubs, and turf including the planting and transplanting, fertilizing, and training of ornamental stock. (4/0)

0147 MEDICAL OFFICE MANAGEMENT V-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)

0818 OFFICE MANAGEMENT V-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. (5/0)

0501 RETAIL FLOWER SHOP OPERATION I V-4

Introduces the florist business and studies expediting floral orders, purchasing and pricing, and selling floral products. (6/0)

0599 RETAIL FLOWER SHOP OPERATION II V-3

Studies flower shop operation including etiquette and sales, services, purchasing and pricing, and terminology. (7/0-7wks) Prereq: Retail Flower Shop Operation I

0699 RETAIL FLOWER SHOP OPERATION III V-3

Studies the florist business: etiquette and sales of wedding flowers, business policies, expediting a floral order, selling, and terminology. (7/0-7wks) Prereq: Retail Flower Shop Operation II

0700 RETAIL MANAGEMENT V-5

Studies managerial principles as they apply to retailing, and analyzes the functions of planning, organizing, and controlling in relationship to managerial policy and business relations. Decision-making skills are developed. (3/0)

0025 STOCK CONTROL V-3

Studies intensively the basic principles of food merchandising including inventory, stock turnover, and control. (5/6th weeks)

0592 SUPERVISORY DEVELOPMENT V-3

Provides the opportunity to study and apply the skills of supervision and management in business. Projects are developed according to the students' specialized interests. (5/0-6 wks)

College Parallel

0520 INTRODUCTION TO BUSINESS P-4

Survey American business and the environment in which it operates. Includes study of the economic, social, and political influences and business organization, financing and responsibilities. (4/0)

0413 PRINCIPLES OF FINANCE P-3

Includes basic methods and principles concerning such topics as financing, working capital and fixed capital needs, stocks and bonds, the marketing of securities and the operation of financial institutions. (3/0) Prereq: Principles of Accounting III

0596 BUSINESS INTERNSHIP P-2

Provides an opportunity to receive practical experience through on-the-job training in an approved business establishment. Valuable learning experiences are structured by the program coordinator and the training sponsor. (0/12)

AGRICULTURE (Agri.)

Vocational-Technical

- 0800 TECHNICAL AGRICULTURE I** V-3
Studies application of chemicals, attachments, up-to-date production practices and current trends. (1/30)
- 0890 TECHNICAL AGRICULTURE II** V-3
Continues Technical Agriculture I. (1/30)
- 0041 AGRICULTURE SURVEY** V-2
Offers field trip observations featuring surveys of farms and businesses as well as employment needs. (0/2-4)
- 1129 AGRICULTURAL ANALYSIS** V-2
Analyzes manpower needs and trends in the agricultural industry. (0/2-4)
- 1501 AGRICULTURE CHEMICALS** V-5
Studies use of insecticides, fungicides, nematocides, rodenticides, plant regulators, and internal parasites of livestock, poultry and pigs. 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. (3/0)
- 1061 AGRICULTURE SEMINAR** V-1
Designed to assist the student in managing his affairs as an employee. Includes "mini courses" on current topics. (1/0)
- 1529 ADVANCED FARM LAB** V-5 6-9
Offers socialization in areas of student interest, includes instruction and lab work in the following areas: Animal Husbandry, Crops, and Soils, Farm Management and Farm Operation. This course may also include courses taught in other programs, not only in the Agricultural Education Department, but in other departments within the school through special arrangement. (3/4 6/12)
- 1216 ANIMAL HEALTH PRODUCTS** V-2
Familiarizes students with products used to control diseases and parasites in animals and deals with product recommendations, basic principles of disease prevention, control, and eradication, effect of weather and environment on disease, and inspection and quarantine of disease. (1/3)
- 1529 APPLIED CROP PRODUCTION** V-3
Offers field application of practices taught in soil science, soil fertility, and field crop production, through the use of demonstrations and check plots on the home, farm, and the farm labs. (1/3)
- 1526 CROP PRODUCTION ANALYSIS** V-3
Analyzes practices carried out in the summer with emphasis on the cost and return for the different practices. (1/0)

- 0762 FARM MACHINERY OPERATION** V-7
Features approved methods of operating all farm machines with emphasis on safety. (1/12)
- 0132 EMPLOYMENT EXPERIENCE** V-6 12
Offers employment arranged to give students practical on-the-job training with an employer or self-employed. (0/30)
- 1526 FARM CONSTRUCTION** V-5
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. (5/0)
- 1534 FARMSTEAD PLANNING AND MECHANIZATION** V-2
Covers analyzing a farmstead, replanning it, and using capital to replace labor when profitable. The course includes types of equipment and methods of mechanization. (1/3)
- 1353 FEED AND FERTILIZER SERVICE** V-3
Designed to help students make customer recommendations concerning feed and fertilizer. New developments in the feed and fertilizer are stressed. (1/5)
- 1214 FEED PRESCRIPTIONS** V-5
Deals with the technical work of the feed mill farm supply center where formulating and mixing feed rations for customers are presented; selection of ingredients to provide specified amounts of nutrients; use of feed additives; types of feeds to recommend for different classes of livestock and for different purposes; and appropriate food and drug regulations of the state and federal governments. Alternative ingredients are considered in formulation feeds. (2/9)



1266 FIELD CROP PRODUCTION V-2
 Develops understandings and abilities in crop production, variety selection, certified seed classification of crop management practices, harvesting grain and feed crops, and plant growth factors. (1/2)

1117 FIELD PRODUCTION OF NURSERY STOCK V-3
 Studies choice of a site, using soils study techniques, conservation methods and the propagation of nursery stock under field conditions. (2/1)

1118 ELEMENTARY FOREST SURVEYING V-4
 Includes measurement and volume computation, forest type mapping, and graphs, recording of forest production. (3/0)

0401 COMMERCIAL FLOWER FORCING GREENHOUSE I V-2
 Contains study of flower forcing in the greenhouse including sanitation, soils, maintenance, structure, heating, seed and vegetative propagation, and production of various plant varieties. (4/0)

0489 COMMERCIAL FLOWER FORCING GREENHOUSE II V-1
 Continues study of flower forcing in the greenhouse including sanitation, management, propagation, plant varieties, and the production of plants. (3/4-7) wks. Project: Commercial Flower Forcing Greenhouse I

0481 COMMERCIAL FLOWER FORCING GREENHOUSE III V-1
 Offers further study of flower forcing in the greenhouse. (6/4-7) wks. Project: Commercial Flower Forcing Greenhouse II

1288 GRAIN GRADING AND HANDLING V-3
 Designed to prepare the student to grade grain according to the United States Grain Standards Act; the steps in movement, grade-ascending of grain through the rotary elevator, the functions performed at each step in the movement of grain, including grain-warehouseing. (2-1)

1161 GROUNDS MAINTENANCE V-3
 Studies building maintenance with the design specifications on parking, walks, shrub areas, and other elements in the landscape to help layout a design with the greatest aesthetic impact and for minimum upkeep. (1/6)

1284 HERBICIDES V-4
 Studies use of herbicides in weed control: types of materials, the method of use, application equipment, storage and safety methods to be followed. Stress is 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. (3/2)

0531 HORTICULTURE SCIENCE I V-5
 Introduces the biology of horticulture. An understanding of plant

relationships, structure, growth and the development necessary to understand the technology and industry of horticulture. (5/0)

0625 HORTICULTURE SCIENCE II V-6
 Deals with the technology of horticulture, including studies of soils, entomology, botany, landscape design, and landscape construction. (1/6)

0718 HORTICULTURE SCIENCE III V-4
 Deals with plant materials, identification, soil management, water management, landscape design, and layout as well as law. (1/3)

1097 LANDSCAPE CONSTRUCTION V-2
 Includes layout and execution of landscape plans incorporating the use of horticultural equipment, and land leveling, soil and water problems. (1/3)

1094 LANDSCAPE DESIGN I V-3
 Develops understanding of the function of the landscape plan showing the types and location of vegetation for the lot and home. (1/5)

1110 LANDSCAPE DESIGN II V-3
 Involves student in execution of a landscape design for the beautification of a specific area included in the design and the estimating, selling, and signing of the execution of the design. (1/5)

1067 LANDSCAPE DRAWING V-3
 Introduces pictorial drawing, isometric, and perspective drawing, showing scales of the object in one drawing. Architectural lettering is used throughout the course. (1/5)

1268 LIVESTOCK NUTRITION V-3
 Provides basic information needed by producers, salesmen, veterinarians and farmers in meeting the feed requirements of livestock: classification of forages and grains as feeds; the nutrients needed to provide for growth in livestock and poultry; feed rations; feed analysis; biological principles and body processes of animals. (2/3)

1519 LIVESTOCK HUSBANDRY V-2
 Applies animal husbandry and poultry management techniques essential for success in the livestock industry. Stresses livestock feeding, management, and disease and parasite control. (1/3)

1525 APPLIED LIVESTOCK HUSBANDRY V-4
 Applies the livestock nutrition and production theory taught in the fall and winter courses, as well as other livestock husbandry practices. The same farm and/or farm labs are used extensively. (1/5)

1115 APPLIED NATURAL RESOURCES V-3
 Studies specific natural resources as to origin, use, value, and conservation; topics suggested by student interests. (2/3)

1114	PARK AND RECREATIONAL DEVELOPMENT	V-3	0961	PLANT PROPAGATION PRACTICES I	V-3
Studies and applies the planning and layout of campsites and parking areas, recreation development including sanitation, disposal and water resources, and management problems pertaining to recreation. (2/3)			Expands the techniques of plant propagation by sexual and asexual methods including cutting, grafting, budding, and propagation by specialized stems and root methods. (5/9)		
1119	PARK AND RECREATIONAL MANAGEMENT	V-3	0928	PLANT PROPAGATION PRACTICES III	V-3
Factors in Park and Recreational Development with emphasis on the managerial aspect. (2/3)			Continues Plant Propagation Practices I and II with emphasis on a particular field or problem. (5/9)		
1117	CONTAINER GROWING OF NURSERY STOCK	V-3	1086	SOIL PROPERTIES	V-3
Includes study and use of growing plants in a container using a growing medium for the production of the plant, culture, growing mixtures, fertilizer and irrigation. (2/3)			Develops an understanding of the relationship between soils and plants which are produced from the soil. (2/2)		
1103	PESTS AND PESTICIDES	V-3	1113	SOIL CONSERVATION TECHNIQUES	V-3
Includes weed and insect control, insect and weed identification, and the safe use of pesticides. (1/2)			Studies maintenance of soil nutrients, soil structure, soil micro-organisms, soil organic matter and the physical structure of the soil, soil conservation techniques and soil management practices. Study carried out under actual working conditions. (1/3)		
1105	PLANT AND INSECT CHEMICALS	V-3	1511	SOIL FERTILITY	V-3
Studies weed and insect control by means of chemical, mechanical, cultural, and biological methods. (1/3)			Prepares the student to recommend, formulate, sell, and apply fertilizer. Covers fertilizer requirements, soil nutrients, 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. (2/3)		
1108	WEED IDENTIFICATION	V-3	1417	SOILS AND FERTILITY	V-1
Includes identification and identification of the primary and secondary noxious weeds in the local area and their treatment in the chemical methods of control. (1/3)			Introduces soils, covering types, physical properties, and the effect they have on fertility. Discusses fertilizer materials and sources available to the greenhouse operator. Time arranged by program.		
1424	WEED SCIENCE	V-2	1429	SOIL SCIENCE	V-3
Studies the identification of important weeds, reproduction and growth of weeds, and methods of controlling weeds with emphasis given to the basic principles of controlling undesirable plant growth through the use of clean seed, tillage, and biological means. (1/2)			Provides the background necessary for work on a farm in the fertilizer department or the farm supply store, physical, chemical, and biological properties of soils in relation to plant growth; soil texture, structure, moisture relations, temperature, biological activities, and organic matter content, the functions of the soil as a medium to support plants. (2/2)		
1088	PLANT MATERIALS I	V-4	1999	SOIL AND WATER MECHANICS	V-3
Develops knowledge of suitable plant materials used in the landscape setting field. (1/2)			Studies soil formation, types, classes and groups, soil erosion and control, soil fertility and fertilizers, their sources and effect on plant, and leveling, terracing and use of survey equipment. (1/6)		
1095	PLANT MATERIALS II	V-4	1104	TURFGRASS MANAGEMENT	V-3
Continues Plant Materials I, with increased emphasis on the adaptability of specific varieties and new varieties of nursery stock. (2/4)			Considers maintenance practices and their effects on each other. (1/5)		
1098	PLANT MATERIALS III	V-4	1100	TURFGRASS VARIETIES	V-3
Continues Plant Materials I and II, offering intensive study of new varieties plant materials. (2/4)			Discusses choice of the turf grass to meet the special requirements of soil, climate and use. (1/5)		
1109	HERBACEOUS PLANT MATERIALS	V-3			
Studies herbaceous ornamentals, flowers and foliage plants which combined with trees, shrubs, vines, and lawn complete the ornamental gardens. (1/3)					
0970	PLANT PROPAGATION PRACTICES I	V-3			
Covers the study of plant propagation, methods of overwintering plants, and the basic types of reproduction in fielding plant materials. (5/9)					

0258 SPECIAL PROJECTS V-3-4
Offers self-planned project work in individual interest areas. (3-1;0)

0911 SPECIAL PROJECTS I V-2
Offers self-planned individual projects, done in one of the following areas: crops and soils, animal husbandry, farm management and farm operations. Projects will be conducted at one or more of the following: home farm, Central Demonstration Farm Lab, outlying demonstration farms, Reading Room, and other reference sources. (2;2)

0670 SPECIAL PROJECTS II V-1
Offers self-planned, individual projects, usually done at the home farm in line with preparation for the area of specializing the second year. (1;0)

1102 HORTICULTURAL EQUIPMENT I V-3
Studies equipment needed to handle the multiple maintenance problems posed by widely different landscaped areas on the campus, golf course, woodlands, paved areas, nursery proper, and at the time service areas. (2;0)

1107 HORTICULTURAL EQUIPMENT II V-3
Continues Horticultural Equipment I. (2;0)



ART

Adult

0549 ART EI-3
Includes use of various media, oils, water colors, charcoal, crayon, pencil, brush and ink. Principles of drawing and painting, perspective, color and composition as applied to still life, portrait and figure painting.

Vocational-Technical

0854 BASIC FLORAL DESIGNING I V-4
Introduces floral designing and study of basic designing rules, geometric design, care of cut flowers, use of tools and supplies, bouquets, corsages, Christmas arrangements, foliage arrangements, potted plant decorating, identification, cost and pricing and expediting a floral gift. (2;5;0)

0621 BASIC FLORAL DESIGNING II V-2
Continues the study of floral designing including geometric design, basic designing of corsages, funeral and memorial flowers, plastic flowers and foliage, potted plant decorating, cost and pricing. (2;5;0-7 hrs.) Prereq: Basic Floral Designing I.

0111 BASIC FLORAL DESIGNING III V-2
Offers further study of floral design including bouquets, corsages, bridal bouquets, potted plant decorating, cost and pricing and expediting a floral gift. (2;5;0-7 hrs.) Prereq: Basic Floral Designing II.

College Parallel

0827 ART APPRECIATION P-3
Provides an overview of art from an historical, contemporary and aesthetic frame of reference. Recommended for non-art majors. (3;0)

0915 ART HISTORY I P-3
Studies architecture, sculpture and painting from prehistory to Rome. (3;0)

0678 ART HISTORY II P-3
Studies architecture, sculpture and painting from the medieval period through the 18th century. (3;0)

0174 ART HISTORY III P-3
Studies architecture, sculpture and painting in the 19th and 20th centuries. (3;0)

0600 FUNDAMENTALS OF CERAMICS I P-2
Introduces high-fire, hand-built and wheel-thrown pottery, fundamental glaze and clay experimentation. (2;0)

0591 FUNDAMENTALS OF CERAMICS II P-2
Continues Ceramics I (0585) Prereq: Ceramics I or permission of instructor.

1207 FUNDAMENTALS OF CERAMICS III P-2
Continues Ceramics I and II with emphasis on form, throwing and advanced glaze techniques. (054) Prereq: Fundamentals of Ceramics II or permission of instructor.

0595 FUNDAMENTALS OF DESIGN I P-2
Introduces basic design concepts, utilizing contemporary concepts of the visual experience. (054) Prereq: None.

0596 FUNDAMENTALS OF DESIGN II P-2
Continues Design I. Problems of design form and structure. (054) Prereq: Design I or permission of instructor.

1202 FUNDAMENTALS OF DESIGN III P-2
Continues Design I and II with emphasis being placed on the third dimension, analysis and space. (054) Prereq: Fundamentals of Design II or permission of instructor.

0517 FUNDAMENTALS OF DRAWING I P-2
Practices basic elements of descriptive drawing, analytical drawing and figure drawing. (054) Prereq: None.

0409 FUNDAMENTALS OF DRAWING II P-2
Continues Drawing I. Analysis of subject matter and accurate descriptive visual drawing. (054) Prereq: Drawing I or permission of instructor.

0580 FUNDAMENTALS OF DRAWING III P-2
Emphasis placed on the figure using the various media of drawing. (054) Prereq: Drawing II or permission of instructor.

1073 FUNDAMENTALS OF LETTERING P-2
Studies basic letter forms and the use of ball pens, problems in page design and manuscript writing. (054) Prereq: None.

0518 FUNDAMENTALS OF PAINTING I P-2
Introduces painting. (054) Prereq: None.

0410 FUNDAMENTALS OF PAINTING II P-2
Continues Painting I. Includes oil and various water color methods. (054) Prereq: Painting I or permission of instructor.

1203 FUNDAMENTALS OF PAINTING III P-2
Continues Painting I and II with emphasis on composition and color. (054) Prereq: Fundamentals of Painting II or permission of instructor.

0175 FUNDAMENTALS OF PHOTOGRAPHY P-2
Use of camera, light meter and dark room. Theory of photography and contemporary photography methods. (054) Prereq: None. Will not be offered before fall of 1971.

1208 FUNDAMENTALS OF PHOTOGRAPHY II P-2
Emphasizes creative aspects of contemporary techniques. (054) Prereq: Photography I or permission of instructor. Will not be offered before fall of 1971.

1210 FUNDAMENTALS OF PHOTOGRAPHY III P-2
Emphasizes non-ideal problems and modern aesthetics in photography. (054) Prereq: Photography II or permission of instructor. Will not be offered before fall of 1971.

1065 FUNDAMENTALS OF PRINT AND COMPOSITION I P-2
Introduces wood cut, engraving, dry point and silk screen techniques in contemporary and traditional methods of reproducing. (054) Prereq: None.

1304 FUNDAMENTALS OF PRINTS AND COMPOSITION II P-2
Introduces basic methods of linocut printing and etching. (054) Prereq: Fundamentals of Printmaking I or permission of instructor.

1209 FUNDAMENTALS OF PRINTS AND COMPOSITION III P-2
Continues Printmaking I and II with emphasis on advanced compositional and technical methods. (054) Prereq: Fundamentals of Prints and Composition I and II.

1070 FUNDAMENTALS OF SCULPTURE I P-2
Introduces carving, modeling and casting. (054) Prereq: None.

1205 FUNDAMENTALS OF SCULPTURE II P-2
Continues Sculpture I with emphasis on welding and combining media in the sculpture area. Exploration of form and color as they relate to sculpture. (054) Prereq: Sculpture I or permission of instructor.

1306 FUNDAMENTALS OF SCULPTURE III P-2
Emphasizes advanced techniques and form with concern for applying methods of the construction of a major project in sculpture. (054) Prereq: Sculpture I or permission of instructor.

BIOLOGICAL SCIENCES (Biol.)

Adult

0645 PRACTICAL SCIENCE H-3
Introduces the basic principles governing biology. Textbook coverage of subject matter with discussion relating this science to life and general application of natural laws.

Vocational-Technical

1171 ANATOMY OF SEED PLANTS V-5
Studies internal structure of seed plants, the distinctive features of cells and tissues and fluids, with emphasis on internal structure of non-flowering plants. (17)

1327 DENTAL ANATOMY V-5
Introduces the description and individual characteristics of each tooth in the permanent dentition. The wax carving of fourteen teeth in the maxilla and mandible. Extends over two quarters. (3/4)

0846 ORAL ANATOMY V-3
Studies the anatomical features, structure and function that must be considered in the fabrication of denture prosthesis. (3/0)

1350 HUMAN ANATOMY AND PHYSIOLOGY I V-4
(See course description under college parallel listing.)

1351 HUMAN ANATOMY AND PHYSIOLOGY II V-4
(See course description under college parallel listing.)

0723 BODY STRUCTURE AND FUNCTION I V-2-4
Designed especially for students in the Practical Nurse, Medical Assistant, Orthopedic Assistant, Occupational Therapy Assistant and Medical Secretary programs, adapted to the needs and interests of students in each program. Includes a study of the human body, its parts and their functions. (5/1)

0817 BODY STRUCTURE AND FUNCTION II V-1-2
Offered for students in the Medical Assistant, Orthopedic Assistant and Medical Secretary programs. A continuation of Body Structure and Function I. (5/0)

1283 PLANT PATHOLOGY V-1-2
Offers an introduction to the causes and nature of diseases of plants and studies actual field conditions caused directly or indirectly by disease. Time arranged by program.

1096 PLANT ENTOMOLOGY V-1
Continues Plant Pathology with emphasis on identification, diagnosis and treatment of the problem. (1/0)

1116 APPLIED ENTOMOLOGY V-2
Studies the insects affecting specific crops, the identification of the insect, damage and control of the same. (2/0)

1421 PLANT STRUCTURE AND GROWTH V-1
Introduces the parts of plants, their functions and how they work together to perform the basic process of growth. Time arranged by program.

1425 REPRODUCTION OF PLANTS V-1
Studies ways plants reproduce in relation to their life span, as in annual, biennial, perennial or winter annual. The effect of a culture of environment on reproduction is also covered. Time arranged by program.

1407 MEDICAL SECRETARIAL TERMINOLOGY AND BODY STRUCTURE I V-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)

1387 MEDICAL SECRETARIAL TERMINOLOGY AND BODY STRUCTURE II V-1
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.

0007 NORMAL GROWTH AND DEVELOPMENT V-3
Studies the growth and development from conception through old age. (4/1)

1070 INTRODUCTORY MICROBIOLOGY V-2
Introduces the importance of aseptic and preservative medicine and includes the physiology of wound healing, process of infection and spread and control of bacteria. (2/0)

COLLEGE PARALLEL

0708 GENERAL BIOLOGY I P-1
Introduces living systems, populations and ecological diversity. Basic concepts of ecology and population dynamics are stressed with emphasis on current topics of ecological interest such as population growth and environmental awareness. (See Audio Tapes in Lab below.)

0704 GENERAL BIOLOGY II P-4
Stresses the organization of life at the molecular and cellular level; the origin of life, simple evolution, cellular structure and function, plant and animal development, the genetic code, heredity and organic evolution. Prereq: General Biology I (See Audio-Tutorial Lab, below.)

0087 GENERAL BIOLOGY III P-4
Stresses animal structure and function. Covers Invertebrate and two representative vertebrates. (The frog and blue pig) in laboratory study of the neuro-regulatory, transport, digestive, skeletal, muscular, nervous, endocrine and reproductive systems. Prereq: General Biology I (See Audio-Tutorial Lab, below.)

AUDIO-TUTORIAL LAB FOR BIOLOGY I, II, III

Uses audio-tutorial approach in the laboratory sections. The student meets in a large lecture room one period per week, in a classification seminar one day per week and in the lab as his scheduled periods. 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.

1050 GENERAL BOTANY I

P-3

Studies the plant as a whole, and its relation to the environment. Emphasizes the structure and function of higher plants. Stresses use of dichotomous key in identification of local flora. Credit granted for this course only upon completion of General Botany II. (201) Prereq: General Biology 10 or departmental approval. Not offered before fall of 1971.



0141 GENERAL BOTANY II

P-3

Continues General Botany I with stress on the cellular and molecular level in nutrition, photosynthesis, respiration, behavior and reproduction. Special emphasis is given to genetic basis of evolution and to modern interpretations of natural selection. (201) Prereq: General Botany I. Not offered before fall 1971.

1514 MICROBIOLOGY I

P-3-4

Studies the morphology, physiology and pathogenicity of micro-

organisms, with emphasis on bacteria and viruses. The course includes lectures and laboratory. Techniques in culture, sterilization, irradiation and immunology. (205-4) Prereq: Two quarters of biology and two quarters of chemistry or permission of instructor.

1540 MICROBIOLOGY II

P-3-4

Continues Microbiology I, with emphasis on Medical and Industrial Microbiology. It is recommended that both I and II be taken to meet general transfer credits. (205-4) Prereq: Microbiology I.

1550 HUMAN ANATOMY AND PHYSIOLOGY I

P-4

Integrates the study of human anatomy and physiology with emphasis on structure and function of the human body. Gross and microscopic aspects and interdependency of the functional body systems are stressed as well as the observation of normal physiologic processes and their application to pathophysiology. First quarter includes the body as a whole, its organization, component parts and microscopic study of the cells and tissues as basic structural and physiological units. In addition, emphasis will be given on selected body systems (skeletal, muscular). Lecture and lab arranged based on current topic of study. Prereq: Instructor's approval.

1554 HUMAN ANATOMY AND PHYSIOLOGY II

P-4

Continues Anatomy and Physiology I. Further study of the metabolic systems of the body. Laboratories are designed to show basic phenomena such as metabolism, nerve conduction, circulation, muscle response as well as a comparative mammalian dissection. In general, laboratories are designed to complement the discussion sections. Lectures and lab arranged. Prereq: Human Anatomy and Physiology I.

1275 HUMAN ANATOMY AND PHYSIOLOGY

III

P-4

Continues Anatomy and Physiology II. Emphasis is placed on the respiratory, digestive, excretory/urinary and reproductive systems. As given in Anatomy and Physiology I and II, the laboratories are designed to complement the discussion sections. Lectures and labs to be arranged. Prereq: Human Anatomy and Physiology II.

1301 INVERTEBRATE ZOOLOGY

P-6

Survey 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 interrelationships, devoted to laboratories, lectures, seminars and field trips. (306) Prereq: General Biology I, II and III, or consent of instructor.

1320 A SURVEY OF VERTEBRATES

P-6

Offers an introduction to vertebrate zoology, with emphasis upon ecological relationships, vertebrate morphology, taxonomy and systematics, phylogeny and evolutionary significance and diversity. In addition, a special problem is required. (306) Prereq: General Biology I, II, III or I, II and consent of instructor.

CHEMISTRY (Chem.)

Vocational-Technical

0614 TECHNICAL CHEMISTRY AND PHYSICS I V-3
For description, see Physics.

0711 TECHNICAL CHEMISTRY AND PHYSICS II V-3
For description, see Physics.

College Parallel

1303 SURVEY OF CHEMISTRY I P-4
Designed for interest transferring to four-year nursing programs, agriculture students, health sciences majors and all other interested non-science majors. Covers atomic structure, periodicity, chemical bonding, chemical reactions and kinetic molecular theory. (3/1) Prereq: Survey of Chemistry I.

1910 SURVEY OF CHEMISTRY II P-4
Continues Survey of Chemistry I, covering solutions, pH, equilibrium, oxidation-reduction and introduction to organic chemistry. (3/1) Prereq: Survey of Chemistry I.

1304 SURVEY OF CHEMISTRY III P-4
Continues Survey of Chemistry II, and includes a survey of organic chemistry, concluding with an introduction to biochemistry. (3/1) Prereq: Survey of Chemistry II.

1593 QUANTITATIVE ANALYSIS P-5
Studies fundamental principles of quantitative analysis. The theory and practice of volumetric, gravimetric, and elementary instrumental methods with emphasis on modern nomenclature and procedures. (2/1) Prereq: General Chemistry III.

0709 GENERAL AND INORGANIC CHEMISTRY I P-4
Introduces descriptive chemistry, with emphasis on recent developments and chemistry. Modern theoretical innovations are introduced. Liberal background is provided for application to daily living. (3/1) Prereq: High school algebra and high school chemistry; consent of instructor.

1098 GENERAL AND INORGANIC CHEMISTRY II P-4
Offers an integrated lecture and laboratory methods course, expanding concepts introduced in the first term. Laboratory techniques are emphasized in preparation for quantitative analysis. Use of nomenclature and rules of significant figure computation are stressed. (3/1) Prereq: General and Inorganic Chemistry I.

0588 GENERAL AND INORGANIC CHEMISTRY III P-4
Covers general, chemistry, and introductory qualitative analysis with emphasis on laboratory applications of chemical theory introduced in General and Inorganic Chemistry I and II. Utilizes an analysis scheme for elements to provide experience in practical chemistry. Individual compounds/elements are studied in depth as examples of products of chemical reactions. (3/1) Prereq: General and Inorganic Chemistry II.

0506 ORGANIC CHEMISTRY I P-4
Introduces theory and practice of organic chemistry with the emphasis on the chemical bond approach to compounds of carbon. Laboratory emphasis on scientific technique. (2/1)

0457 ORGANIC CHEMISTRY II P-4
Continues the chemical bond approach to organic compounds. Series of compounds are investigated and an integrated laboratory sequence provides an opportunity for introductory organic instrumental analysis. (2/1) Prereq: Organic Chemistry I.

0551 ORGANIC CHEMISTRY III P-4
Studies in depth classes of aromatic and heterocyclic organic compounds. Laboratory methods include an introduction to practical organic synthesis. (2/1) Prereq: Organic Chemistry II.

COMMUNICATIONS (Comm.)

Adult

0134 ENGLISH H-5
Includes composition, literature and reading aimed at the individual's level.

Vocational-Technical

0499 BUSINESS WRITING V-5
Develops the mechanics, procedure and practices of clear communication and their relationship to sales and management. (2/1)

0607 COMMUNICATION SKILLS I V-2-1
Reviews commercial usage and mechanics of standard expression. Students apply communication skills through oral and written composition exercises. Offered for students enrolled in several occupational programs. (3/1) Prereq: One period each week depending on program.

0719 COMMUNICATION SKILLS II V-3
Offers additional practice and application of skills reviewed in Communication Skills I, with application to student's individual learning needs. Emphasis on developing of oral skills in career situations will be developed. (3/1) Prereq: Communication Skills I.

0811 COMMUNICATION SKILLS III: TECHNICAL REPORTING V-3-4
 Studies principles of organization and interpretation as they apply to preparing technical reports. Research and descriptive writing skills needed for both internal and external reports will be emphasized. (4-8/9)

0537 COMPOSITION I V-4
 (See course description under college parallel listing.)

0631 COMPOSITION II V-4
 (See course description under college parallel listing.)

1698 MEDICAL COMMUNICATIONS V-5
 Includes writing medical reports, understanding reports oral and written, and presenting oral reports. (1/0)

1394 SPELLING V-2
 Study of the correct spelling and use of non-technical words. (2/0)

College Parallel

0048 READING LABORATORY P-1
 Provides continuing practice and instruction for the improvement of specific reading and study skills. An individualized improvement program arranged for each student. Program includes word recognition skills, word meaning skills, spelling, surveying or reading, comprehension and selection of main ideas and details, drawing inferences, speeded reading, skimming skills, and exploration of personal, educational and vocational goals. (2/0) Prereq: current enrollment in or completion of Effective Reading and Study.

0893 REVIEW ENGLISH FOR COLLEGE 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 for freshman composition courses. (1/0)

0064 EFFECTIVE READING AND STUDY P-2
 Provides instruction in successful methods of study and of developing an effective study skills. Designed to help students who need to develop flexibility in reading and other skills such as skimming, evaluating and interpreting. Periods to be arranged. (1/0)

0286 WRITING LABORATORY D
 Provides students who need additional help with writing with an opportunity to receive it. Periods to be arranged.

0351 COMPOSITION I: P-3
 Offers help to those students who need to place more study for skill improvement. Covers the skills of expository writing, developing organization,

idea, content and mechanics. To complete composition requirement for AA or AS degree, students enrolling in this course must also take Composition I and II. (4/0)

0444 COMPOSITION II P-3
 Continues Composition I, covering more comprehensively the demands of the regular campus level course. Required for those who take Composition I. (4/0)

0537 COMPOSITION I P-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 materials. Required of all freshmen. (4/0)

0631 COMPOSITION II P-4
 Deals with the formulation of valid propositions for argumentation as well as evaluation and manipulation of evidence for the purposes of persuasion and motivation. Teaches the research paper as a technique of scholarly investigation and emphasizes efficient use of library research tools. The course is also involved with classification and analysis of rhetorical techniques and the impact of stylistic techniques on communication. Required of all freshmen. (4/0) Prereq: Successful completion of Composition I.

0796 INTERMEDIATE COMPOSITION P-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 students' power of thought. (3/0) Prereq: Composition II or equivalent.

1216 CRITICAL READING P-3
 Designed for students with no serious reading problems, the course offers instruction and practice in advanced reading and study techniques needed to learn successfully from college courses requiring extensive reading in primary and secondary sources. Developing study skills, including the SQ3R method of studying from textbooks, learning from lectures and using the library as a resource in preparing reports are applied to the texts and lectures of an academic course. (Not to be offered before fall 1973) (1/0) Prereq: None.

1211 INTRODUCTION TO JOURNALISM P-3
 Presents a broad yet intensive picture of the most important phases of journalism: newspapers, writing, advertising and public relations. (3/0) Prereq: Successful completion of Composition I.

1517 JOURNALISM LABORATORY P-2
 Offers laboratory for news reporting and news writing and includes weekly meetings and student independent work in the college's publications. (1/1)

CONSTRUCTION (Constr.)

Vocational-Technical

- 1377 ESTIMATING V-3
Designed for Architectural Draftsman, course includes the techniques of estimating and quantity survey. (330)
- 1382 PRESENTATIONS V-3
Offered for Architectural Draftsman, course includes instruction in definition and models. (330)
- 0529 CONSTRUCTION MATERIALS V-3
Covers the study of footings, foundations, floors, walls and partitions and framing members (wood, steel and concrete). (330)
- 0624 CONSTRUCTION METHODS V-3
Familiarizes students with specified materials and construction by making field trips to a variety of construction sites. (330)

DATA PROCESSING (Data Pr.)

Vocational-Technical

- 0766 INTRODUCTORY KEYPUNCHING V-3
Offers training for the occupation of key-punching: punching and verifying of cards which serve as input to unit record and computer equipment. (121)
- 0097 KEYPUNCH LAB V-5
Lab practices simulating production key-punching. (121)
- 0515 SELF-SERVICE AIDS FOR PROGRAMMERS V-1
Presents basic operation of unit record equipment using practice panels. Includes key-punch, sorter, interpreter, reproducer, and calculator to make personnel self-sufficient in the operation of these machines. (1,2)
- 0603 PUNCHED/CARD DATA PROCESSING V-2
Studies functional wiring and basic operation of unit record equipment. Includes the interpreter, reproducer, sorter, collator, and accounting machine. (22)
- 0352 COMPUTER OPERATING TECHNIQUES V-2,3
Includes study and practice of computer operating techniques: student study and performance in the areas of card/tape/disk handling, computer console control, and accessory equipment operation. (1,2,3)
- 1430 FLOWCHARTING TECHNIQUES V-2
Covers the study and practice of the most significantly used techniques for the graphic representation of systems or programs logic. (230)

0538 COMPUTER SYSTEM AND INTRODUCTION V-3
Understanding of System/360 features and devices including System/360 Direct Access devices. The techniques of file organization and the programming systems support for these devices. A survey of programming language architectures and operating systems. (330)

0906 COMPUTER AND DATA PROCESSING CONCEPTS V-3
(See course description under college parallel listings.)

0438 360 MODEL 20 V-3
Provides an introduction to and programming of the IBM 360 Model 20 computers, functions and characteristics of the Model 20 as well as programming through use of RPG and punched card utility programs. (330)

0745 COMPUTER SYSTEM/360 ASSEMBLER LANGUAGE PROGRAMMING I V-3
Covers language components and 360 instructions needed to program the 360 in the Assembly Language. Designed for those programmers who need to code their programs in Assembly Language for use either with RPS, BOS, IOS, LOS as the Operating System/360. (330)

0702 COMPUTER SYSTEM/360 ASSEMBLER LANGUAGE PROGRAMMING II V-3
Continues Computer System/360 Assembly Language Programming I. (330)

0662 CARD-TAPE-DISK PROJECTS I V-2
Card, tape and disk programming projects. Students personally write, test and document card, tape and disk programs. (0,4)

0849 CARD-TAPE-DISK PROJECTS II V-2
Continues card-tape-disk projects I offering additional experience in writing, testing and documenting card, tape and disk programs. (0,4)

0394 INTRODUCTION TO REPORT PROGRAM GENERATOR V-2,3
Studies RPG on a card system. Methods for having data processed by a computer through use of the report program generator technique. (2,3,2)

0013 TAPE-DISK REPORT PROGRAM GENERATOR V-2
Studies RPG on a tape and disk system. Methods for having data processed by a computer with magnetic tape and disk through use of the report program generator technique. (1,2)

0149 INTRODUCTION TO SYSTEM/360 COBOL PROGRAMMING V-5
Studies Cobol programming concepts and techniques and writing and testing of Cobol programs. (3,4)

1253 ADVANCED SYSTEM/360
COBOL PROGRAMMING V-5

Continues Introduction to System/360 Cobol Programming (1245)

1252 COBOL PROJECTS V-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. (104)



0815 INTRODUCTION TO SYSTEM/360
FORTRAN PROGRAMMING V-3

Introduces Fortran programming concepts and techniques, with numerical analysis and other methods for solving mathematical/scientific engineering problems. (22)

9057 ADVANCED LANGUAGES V-3

Covers programming with advanced computer languages, and writing and testing of programs in Cobol and Fortran.

0430 COMPUTER SYSTEM/360 PROGRAMMING
LANGUAGE I V-3

Introduces language specifications for System/360 PL/I. (27)

10784 AUTOMATED TESTING V-2

Provides automatic program testing in a closed shop situation, and includes the methods, skills and techniques required to detect and correct program malfunctions through the use of automatic test procedures. (22)

0462 PROGRAM ANALYSIS V-2

Covers methods, skills and techniques for program testing and program improvement. Students are required to detect and correct program malfunctions and to organize the efficient use of working programs. (22)

0346 COMPUTER SYSTEM/360 DISK OPERATING
SYSTEM CONCEPTS & FACILITIES V-3

Designed to acquaint the analyst and DP manager with the general structure of the Disk Operating System, examining its concepts and facilities as provided to the DP installation. (30)

0440 COMPUTER SYSTEM/360 DISK
OPERATING SYSTEM CODING V-5

Designed for programmers who plan to use the Disk Operating System of the System/360. Covers all facilities of the Disk Operating System, including the job control language, supervisor services and macros, system generation, system maintenance, the Linkage editor, functions, Input/Output Access Methods, Input/Output Coding and multiprogramming facilities. (34)

1251 COMPUTER SYSTEM/360 DISK
OPERATING SYSTEM ADVANCED CODING V-5

Continues Computer System/360 Disk Operating System Coding. Intended to acquaint programmers with some of the more sophisticated aspects of the Disk Operating System such as physical DDCS, multiprogramming, system generation and maintenance, etc. (34)

0126 COMPUTER SYSTEM/360 OPERATING
SYSTEM CONCEPTS & FACILITIES V-3

Studies concepts, organization and functions of Operating System/360. Designed to acquaint the systems analyst and DP manager with the facilities provided by the Operating System and how they can be effectively used. (30)

0242 COMPUTER SYSTEM/360 OPERATING
SYSTEM CODING V-5

Covering Operating System Facilities, teaches programmers to use the supervisor services provided in OS/360 Assembly Language. Covers the use of JCL definition and macros as they relate to writing programs to be run under the Operating System. (34)

0740 PROGRAMMING SYSTEMS V-2

Surveys the programming systems area: assemblers, compilers, sorts, merges, monitors, and considerations of future trends in programming. (20)

0833 PROGRAMMING SYSTEMS LABORATORY V-2

Develops knowledge and skill in the use of various programming systems, and offers actual working experience with a sort, merge, monitor, and various utilities. (20)

0475 DATA COMMUNICATIONS V-3

Introduces concepts, considerations, devices and control of data communications for using computer data processing. (30)

0527 COMPUTER SYSTEM/360 OS
COMMUNICATIONS CODING V-3

Offers an extension of OS Coding, including Teleprocessing systems. (20)

0623	COMPUTER SYSTEM/IBM DOS COMMUNICATIONS CODING	V-3	0699	RECORDS AND SCHEDULING OF DATA PROCESSING OPERATIONS	V-3
	Offers an extension of DOS coding to include Teletyp processing systems. (1/72)			Studies types, formats, and typical systems for maintaining records for a data processing installation. Prereq: Introduction to Computer Programming, Introduction to Unit Record Processing. (1/71)	
0651	ADVANCED PROGRAMMING STUDIES	V-3	0788	RELATED EQUIPMENT I	V-1
	Investigates advanced areas of computerized data processing. Specially selected computer related topics which are researched in depth by the students. (1/71)			Includes characteristics, functions and use of equipment related to data processing: instruction processing and handling, after-handling equip- ment: ledger card machines, copying equipment, and key driven equipment controlled by paper tape. (1/70)	
0497	NUMERICAL ANALYSIS	V-1	0901	RELATED EQUIPMENT II	V-1
	Includes theory and application of numerical processes to the computer assisted solution of mathematically/scientific/engineering problems. Itera- tive techniques, polynomial interpolation, numerical differentiation, integration, and integro-differential equations. Computer usage in problem solution is stressed. (1/71)			Covers Related Equipment I. (1/71)	
0385	INTRODUCTION TO OPERATIONS RESEARCH	V-3	0642	OFFICE AUTOMATION	V-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, queuing theory, networks and graphs, opti- mizing algorithms in O.R., etc. All units will begin with a basic introduction to the theory needed to develop an understanding of the subject and a rather elementary level. (1/70)			Includes types of up to date equipment and techniques for automating office activities. Capabilities, limitations, and applications of office automation equipment. (1/71)	
0784	ADVANCED OPERATIONS RESEARCH	V-3	0631	DOCUMENTATION I	V-3
	Further develops topics considered in introduction to operations research. Applied O.R. techniques to problem situations so as to develop application abilities. (1/71)			Includes Documentation, standards and layout design for a computer- ized data processing installation. (1/71)	
11506	CERTIFICATE IN DATA PROCESSING REVIEW	V-3	0720	DOCUMENTATION GRAPHICS	V-3
	Provides review of topics related to the certificate in data processing examination: automatic data processing equipment, computer pro- gramming and software systems, data processing systems, accounting, mathematics and statistics. (1/71)			Discusses techniques and methods of preparing and presenting data processing charts, instructions, forms and related visual displays. Prereq: Introduction to Computer Programming. (1/70)	
0877	ON-THE-JOB OR ASSIGNED PROJECTS	V-1-5	0447	SPECIAL ACTIVITIES	V-1
	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. (1/71-72)			Offers topics of current interest to the data processor in forms of lectures, films, discussion, exhibits, field trips, etc., to present informa- tion to broaden and deepen the knowledge of the data processor within his field. (1/71)	
0801	INSTALLATION MANAGEMENT I	V-3	0687	INTRODUCTION TO DATA PROCESSING	V-3
	Offers specific coverage of specialized subjects pertaining to organizing or managing a data processing department. Prereq: 3 quarters of data processing. (1/71)			(See course description under college profile listings.)	
0704	INSTALLATION MANAGEMENT II	V-3	0932	ELEMENTS OF DATA PROCESSING I	V-3
	Continues specific coverage of specialized subjects begun in Installation Management I. Prereq: 3 quarters of data processing. (1/71)			Explores the use of various data processing systems for business applications and identifies the student with the functional character- istics of D.P. systems. Also: business applications of order writing, billing, accounts receivable, inventory accounting and sales analysis are covered. (1/71)	
			1433	ELEMENTS OF DATA PROCESSING II	V-3
				Continues Elements of Data Processing I. (1/71)	
			0566	BUSINESS APPLICATIONS OF DATA PROCESSING	V-3-3
				Applies data processing to a business organization, and considers functional areas such as production, personnel and accounting. (2-3/71)	
			0634	INTRODUCTION TO SYSTEMS	V-3
				Includes systems, procedures, systems analysis and systems design, purpose, responsibilities, applications and characteristics of the systems.	

activity as found in a business organization. (3:0)

0089 ADVANCED SYSTEMS V-3

Applies systems analysis/design to particular functions of a business organization. General consideration of data processing systems to include the manufacturing, marketing, personnel, and accounting activities. Systems examined range from a small procedure to a total management information system. (3:0)

0071 APPLIED SYSTEMS I V-3

Provides practical experience in systems analysis and design at several levels. Student performs analysis and design functions in simulated business environments. Prereq: Management Systems, Advanced Systems Techniques. (3:0)

0167 APPLIED SYSTEMS II V-3

Coverages Applied Systems I. (3:0)

0250 APPLIED SYSTEMS III V-3

Coverages Applied Systems II. (3:0)

0428 SEMINAR SERIES V-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)

0755 MANAGEMENT SYSTEMS V-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: Introduction to Systems. (3:0)

0860 ADVANCED SYSTEMS TECHNIQUES V-3

Studies procedures and techniques useful in the design and evaluation of integrated management information systems. Prereq: Introduction to Systems, Management Systems. Either course may be taken concurrently. (3:0)

0052 ACCOUNTING SYSTEMS V-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. (3:0)

0177 PRODUCTION CONTROL SYSTEMS V-3

Offers in-depth study of systems analysis/design as applied to the function of production control. The subject of production control is covered more fully in this course than in the Advanced Systems course. (3:0)

0261 PROJECT MANAGEMENT SYSTEMS V-3

Applies a specific management technique to the planning and control of projects including, anticipation, profit and cost. Includes critical path methods, PERT costing, and the use of computers to implement those techniques. (3:0)

0760 MATERIAL CONTROL SYSTEMS V-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. (3:0)

0881 PAYROLL/PERSONNEL SYSTEMS V-3

Offers an in-depth study of systems analysis/design as applied to the function of payroll/personnel. The subject of Personnel/payroll is covered more fully in this course than in the Advanced Systems course. (3:0)

0525 ON THE JOB SYSTEMS PROJECTS V-3

Offers supervised assignment of systems analysis/design tasks which develop skill, knowledge and ability in the responsibility activities and methods of systems work. (3:0)

College Parallel

0087 INTRODUCTION TO DATA PROCESSING P-3

Surveys data processing concepts and apparatus. Oriented to the business student or of general interest. Prereq: None. (3:0)

0895 INTRODUCTION TO COMPUTER ORGANIZATION AND PROGRAMMING P-3

Studies logical basis of a digital computer system: machine representation of numbers and characters, flow of control, arithmetic and logical operations, indexing, input/output, subroutines, linkage and record addresses in computer organization. Programming in problem oriented languages. Concepts illustrated and problems programmed on available computers. (3:0)

0086 COMPUTER ORGANIZATION AND PROGRAMMING I P-4

Studies number systems, symbol and number representation; basic algorithmic processes; flowcharting, decision tables; switching matrices. From datum and solution of a wide range of algorithmic processes on a small training computer and/or simulation on existing large scale digital computers. Prereq: 18 credits in mathematics or statistics. (4:0)

0169 COMPUTER ORGANIZATION AND PROGRAMMING II P-4

Studies organization of a large scale digital computer, instructions and format, basic assembly language coding and hardware and solution of a variety of scientific and non-scientific problems in one or more high-level problem-oriented languages. Prereq: Data Processing 0086. (4:0)

0252 COMPUTER PROGRAMMING P-3
Studies Fortran, Cobol, and PL/I programming. Prereq: Data Processing
0164 (3/0)

0606 COMPUTER AND DATA PROCESSING P-3
CONCEPTS (Introduction to Computers
and Programming)
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)



DENTAL (Dent.)

Vocational-Technical

0089 ORIENTATION, D. A. V-2
Provides information necessary to build a complete and knowledgeable
foundation upon which to architect a meaningful career as a dental
assistant. Includes dental terminology, understanding of dental assistant
certification, history and organization of dentistry and its allied
organizations, and a thorough study of State Practice Act. (3/0)

0136 DENTAL MATERIALS V-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)

0705 DENTAL MATERIALS, D. L. I. V-3
Develops basic insights into use and composition of materials related to
the dental laboratory to further field. (2/2)

0270 PRINCIPLES OF DENTAL ASSISTING I V-4
Presents the basic principles of chairside assisting and identification of
instruments and equipment. Includes assisting skills in the area of oral
diagnosis, operative, crown & bridge and prosthetic dentistry. (3/4)

0368 PRINCIPLES OF DENTAL ASSISTING II V-6
Includes the basic assisting function areas of endodontics, periodontics,
orthodontics, oral surgery and prosthodontics, radiography, practice and
application of exposing x-ray film, developing film and processing
radiographs. (4/1)

0550 PRE CLINICAL SCIENCE I V-3
Includes a study of dental anatomy and body structure and function.
(2/2)

0644 PRE CLINICAL SCIENCE II V-3
Presents an overall view of dental diseases and their prevention; the
relationship of immunization to disease and their control. (2/2)

0731 PRE CLINICAL SCIENCE III V-2
Presents general concepts of caring, attention in relation to dental
health and a study of drugs commonly used in dentistry. (2/0)

0792 DENTAL LABORATORY ASSISTING I V-4
Practice and application of laboratory skills normally performed in a
private dental office, including pouring and trimming of study models,
principles of soldering and construction of removable acrylic appli-
ances. (2/1)

0883 DENTAL LABORATORY ASSISTING II V-2
Designed to develop skills in construction of bite blocks, gut of dies and
wax patterns for casting crowns and inlays. (1/0)

0137	DENTAL ASSISTING SEMINAR	V-3	0158	PORCELAIN ON METAL	V-3
Designed to assist the student in clinical situations. Class participation in problem solving of unethical experiences. (0137)			Reviews L'prow/Bridge with the emphasis on aesthetics, using porcelain glazed to a metal framework. (213)		
0212	CLINICAL I, D. A.	V-4	1303	PROJECTS LAB I, D. L. T.	V-0
Offers individual experience in clinical areas of operative, crown, & bridge, and prosthetics at the College of Dentistry in Iowa City for practical experience. (0133)			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.		
0307	CLINICAL II, D.A.	V-4	1307	PROJECTS LAB II, D. L. T.	V-0
Allows students to rotate through the various departments of periodontics, endodontics, orthodontics, oral diagnosis, oral surgery, pedodontics and x-ray at the College of Dentistry in Iowa City. Designed to give the student an overall view of dental assisting in all areas of dentistry. (0155)			Offers individualized student assignments.		
0397	CLINICAL III, D.A.	V-3	1311	PROJECTS LAB III, D. L. T.	V-0
Provides experience in private dental offices in order to develop speed, responsibility and gain experience in business procedures. (0119)			Continues projects lab I and II.		
0605	DENTAL EQUIPMENT, D. L. T.	V-2.5	1315	PROJECTS LAB IV, D. L. T.	V-0
Includes study of basic parts, charts, weights and measurements related to dental laboratory technology. (339)			Continues projects lab I, II and III.		
0793	DENTAL EQUIPMENT, D.L.T.	V-4	1323	PROJECTS LAB V, D. L. T.	V-0
Studies proper arrangement, care and maintenance, safety procedures and availability. (372)			Continues projects lab I, II, III, and IV.		
0579	CLINICAL EXPERIENCE I AND SEMINAR D.L.T.	V-12	0245	PORCELAIN JACKET CROWN	V-5
Provides practical experience in dental laboratories located at the University of Iowa, commercial laboratories located in Iowa, the Veterans Administration Hospital and possibly some private dental offices. (0177)			Covers adapting a matrix, applying porcelain, completion of the crown, changing shades through staining and removing the matrix prior to slipping to the dentist. (266)		
0609	CLINICAL EXPERIENCE II AND SEMINAR, D. L. T.	V-12	0326	DENTURE TECHNIQUES AND ARTICULATION	V-5
Continues and develops skills practiced in Clinical Experience I. (0124)			Studies special techniques such as implants and articulators that the technicians may come in contact with while constructing dental prosthetics. Clinicians demonstrate the application of these special techniques with relation to the dental laboratory technician. (118)		
0774	ACRYLIC JACKET CROWNS AND VENEERS	V-5.5	0448	SPECIAL PARTIAL TECHNIQUES	V-4
The procedures and actual construction of acrylic jacket crowns and veneers. (274)			Includes analyzing, designing and construction of partials using techniques of Westgard, P.R.P. saddlecock, stressbreakers, dent plate abutments. (241)		
0917	PRECISION ATTACHMENT PARTIALS	V-6.5	0375	LABORATORY MANAGEMENT	V-2.5
The designing and construction of different types of attachment partials. (377)			Discusses psychology and interlaboratory relations, certification flow, when, why?, bookkeeping and cost analysis, and when these services may be needed. (256)		
0918	CAST METAL BASE DENTURES	V-3	0907	DENTURE TECHNIQUES I	V-6.5
Continues complete denture construction, including cast metal bases (chromium). (212)			A complete outline and study of the procedures related to denture construction. (1306)		
			0907	DENTURE TECHNIQUES II	V-5
			Delves into the esthetics, phonetics and function. Working with special advanced articulators and advanced work in tooth arrangements. (266)		
			0185	ARTICULATORS AND ARTICULATION	V-3.5
			Studies mechanical devices used to simulate the movements of the jaw		

anatomy with relation to the construction of dental prostheses. (3/5)

0205 CAST INLAY AND CROWN V-3
Covers the technique of pouring models, mounting, trimming and construction of inlays and crowns. (2/6)

0371 CROWN AND BRIDGE V-11
Studies procedures used in constructing dental bridges, offers practice in actual construction of bridges. (4/2)

0385 PARTIAL DENTURE TECHNIQUES I V-4
Includes the construction of simple removable partial dentures. (2/4)

0476 PARTIAL DENTURE TECHNIQUES II V-5
Introduces casting partials and the actual designing and construction of the cast removable partial prosthesis. (2/6)

DRAMA

College Parallel

0151 INTRODUCTION TO THE THEATER P-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. (3/1)

1436 THEATER WORKSHOP P-2
Provides students with experience in theatrical production. Student may work in one of a number of production areas under the guidance of experienced theater personnel. Graduate and transfer credits provide students with the understanding of production activities. May be repeated for credit once. Production schedule determines hours per week. (3/1)

DRIVER EDUCATION (Dr. Ed.)

Adult

0921 DRIVER EDUCATION H-3
Offers three hours of classroom work and six hours of actual driving time; designed to prepare the student for the written and driving tests for an Iowa Driver's License.

ECONOMICS (Econ.)

Adult

0195 ECONOMICS H-3
Introduces the study of economics with regard to government as well as

everyday situations. Broad coverage of economic theories governing personal affairs and institutions.

Vocational-Technical

0638 AGRICULTURAL ECONOMICS I V-3
Applies economic principles to agriculture. Designed to develop a knowledge of the relationships between capital and investment, the course includes a study of economic returns, land, labor, livestock, crops, and equipment, and the best combination of these factors necessary for good production. (1/3)

0728 AGRICULTURAL ECONOMICS II V-3
Continues Agricultural Economics I. (1/3)

College Parallel

0541 THE AMERICAN ECONOMY P-3
Presents an overview of the American economy, and an exposure to capricious institutions and to some of the elementary concepts in economics. Emphasizes a variety of economic problems present in contemporary society. Recommended for Associate Degree programs only. Transfer status uncertain. (1/3) Prereq: None

1277 PRINCIPLES OF BUSINESS ECONOMICS I P-3
Acquaints the student with the business enterprise in the perspective of the modern economy, and introduces the economizing problem and a comprehensive analysis of markets and the price system. Includes demand and supply, market structures, supply and cost of production, revenue and cost relationships, price and output determination, resource pricing, and business and government. Recommended for Associate Degree programs only. Transfer status uncertain. (3/3) Prereq: None

1279 PRINCIPLES OF BUSINESS ECONOMICS II P-3
Continues Business Economics I. Studies the role of the business sector in expanding national income and employment. Emphasizes national income accounts, the business cycle, money and banking, and fiscal and monetary theory and policy. Recommended for Associate Degree programs only. Transfer status uncertain. (3/3) Prereq: Business Economics I.

0771 ECONOMICS I P-3
Introduces principles of economics and the economizing problem with emphasis on national income and employment analysis. Includes national income accounting, the business cycle, money and banking, fiscal and monetary theory and policy, and economic growth. Recommended for students pursuing a Baccalaureate Degree program. (3/3) Prereq: None

0867 ECONOMICS II P-3
 Continues Economics I. Emphasizes markets, the price system and the allocation of resources, demand and supply, market structures, price and output determination, and income distribution. Recommended for students pursuing a Baccalaureate Degree program. (3:0) Prereq: Economics I.

0029 ECONOMICS III P-3
 Presents an advanced analysis of some of the topics discussed in Economics I and II. Additional topics include the problems of under-developed nations, international trade, and comparative economic systems. Independent study and research will be stressed. Recommended for students pursuing a Baccalaureate Degree program. (3:0) Prereq: Economics I and II.

1501 INDEPENDENT STUDY IN THE SOCIAL SCIENCES (Economics) P-0-1 2-3
 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.

ELECTRONICS (Elect.)

Vocational-Technical

0404 ELECTRICITY V-3
 Studies principles of electricity, electric cells, direct current circuits, electrical symbols, electric power, magnetism and electromagnetism, alternating current, electrical instruments and measurements, induction, capacitor, inductance, capacitance and resistance in AC circuits, generator, direct current motors, alternating current motors, lighting, communications, identification of alternating current, electrical safety. (2:3)

0541 APPLIED ELECTRICITY I V-3,4
 Studies basic electricity principles in resistance, capacitance, voltage, amperage, and training in the use of test equipment. (2:4)

0534 APPLIED ELECTRICITY II V-4
 Continues Applied Electricity I, with greater emphasis on the electrical systems of farm equipment. (2:4)

1193 INTRODUCTION TO ELECTRONICS V-2
 Presents the "big picture" of electronics by approaching modern electronic devices as systems. The student also learns correct laboratory procedure and develops professional techniques in the use of test equipment. (3:3)

0095 ELECTRIC CIRCUITS I V-9
 Studies resistive circuits with both constant and alternating 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. (3:5)

0495 ELECTRIC CIRCUITS II V-5
 Offers an analysis of single time-constant circuits (R-L and R-C circuits). Includes reactance, resonance, and sinusoidal and exponential responses. The superposition is introduced in this course. (4:5)

0577 ELECTRONICS I V-4
 Includes vacuum diodes, rectifiers, vacuum tubes, vacuum tube amplifiers, special purpose tubes, and air filters. Emphasis is on engineering techniques. (4:1)

0673 ELECTRONICS II V-6
 Studies rectification for physics, large signal operation, bias arrangements, AC capacitance and temperature effects. (3:5)

1363 ELECTRONIC CIRCUITS I V-10
 Includes basic direct and alternating current and circuit analysis, and basic vacuum tube and semiconductor analysis. (8:8)

1367 ELECTRONIC CIRCUITS II V-7
 Continues the course, Unit 1, and develops the concept of the vacuum tube and semiconductor as circuit elements. The student analyzes low frequency amplifiers, high-frequency amplifiers and oscillators during this course. (5:10)

0454 ELECTRONIC SHOP METHODS V-1
 Covers the techniques used by technicians in a modern electronic shop. Some of the topics covered include soldering techniques, wiring, and part replacement. (0:0)

0813 COMMUNICATIONS ELECTRONICS V-0
 Includes audio circuits, audio frequency circuits, power supplies, superheterodyne receiver, modulation and transmitters, and transmitter circuits. Emphasis is on engineering techniques. (4:7)

0813 COMMUNICATIONS ELECTRONICS I V-4
 Studies the various types of power supplies used to power electronic circuits. Other topics include receiver systems, modulation systems and transmitter systems. (3:5)

0100 COMMUNICATIONS ELECTRONICS II V-5
 Continues the study of communication systems and includes study of Antennas, Transmission Lines, FM Multiplex Systems, Microwave Systems, Remote Control Devices, and Base Transmitter Troubleshooting Techniques. (3:6)

1405 AUDIO SYSTEMS V-4
 Covers hi fidelity amplifiers, stereo systems, intercom systems, public address systems, and recording. (3:4)

1542 OPERATIONAL AMPLIFIERS V-3
 Covers the fundamentals and significant applications of the operational amplifier. Includes noninverting amplifier, inverting amplifier, D.C. offset, drift, frequency response, oscillation and phase compensation. (3/0) Prereq: Familiarity with intermediate algebra and trigonometry as well as the fundamentals of basic electronic circuit theory.

1371 BROADCAST SYSTEMS V-3
 Includes Telecasters, Sync Generators, Television Film Projectors, Television Lighting Systems, Optics for Television, and Basic Program Production Techniques. FCC rules and regulations are studied during this time. (3/2)

0423 TELEVISION I V-9
 Includes the TV broadcast system, transmitter systems, receivers, troubleshooting techniques, and alignment procedures. (2/2)

0510 TELEVISION II V-1
 Extends the student's experience into color television, covering such topics as transmitters, receivers, and receiver servicing. (2/2)

0231 TELEVISION CIRCUIT ANALYSIS V-5
 Studies the television broadcast system, antenna transmission of signals, receivers, troubleshooting and alignment procedures, and the introduction to the principles of color television. (4/6)

140. INDUSTRIAL TELEVISION SYSTEMS V-4
 Covers a completely 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 TV, Color Cameras and Associated Circuits, Color Encoders, Color Television Monitors, Video Switching, and Video Tape Recording. (4/5)



1-113 TRANSMISSION SYSTEMS V-6
 Deals with methods employed to convey information by means of electromagnetic induction. Includes Radiators, Transmission Lines, Properties of Antennas, Propagation, AM-FM Transmitters, Single Sideband Transmitters, Basic Parametric Amplifiers, and Masters and Slaves in Communication Systems. (5/3)

0856 INDUSTRIAL ELECTRONICS V-2
 Analyzes the basic circuits found in industrial applications and study of these include: Cathode Tubes, Semiconductor Control Circuits, Photoelectric Devices, Radio Frequency Heating and Servomechanisms. (1/2)

0126 PULSE AND SWITCHING CIRCUITS V-5
 Includes analysis and design of electronic switching circuits including clippers, comparators, multivibrators, pulse shapers, blocking oscillators, logic circuits and sweep circuits. (3/3)

0734 TRANSISTOR CIRCUIT ANALYSIS AND DESIGN V-6
 Covers the operating point, equivalent circuits and parameters, multi-stage amplifiers, stability and feedback, UJT's, SCR's, unijunctions, systems, and test devices. (4/3)

1385 TRANSISTOR CIRCUIT ANALYSIS AND DESIGN - FIRST HALF V-5
 Takes an analytical approach to transistor circuitry, covering techniques of setting the operating point, equivalent circuits and their parameters, high frequency analysis, and design of low power amplifier circuits. This course plus 1389 (both offered in evening sessions) are equivalent to 0734. (2/3)

1389 TRANSISTOR CIRCUIT ANALYSIS AND DESIGN - SECOND HALF V-5
 This course is a continuation of Transistor Circuit Analysis and Design First Half. The topics covered in this course are large-signal amplifiers, multi-stage amplifiers, gain stability, feedback, compensation circuits, and pulse circuits. This course plus Transistor Circuit Analysis and Design First Half may be substituted for 0734 Transistor Circuit Analysis and Design. (2/3)

0777 TRANSIENT CIRCUIT ANALYSIS V-3
 Includes analysis of multiple time-constant circuits, (R-L-C circuits), and solution of integro-differential equations followed by the use of Laplace transform techniques in obtaining complete circuit responses. (3/2)

1375 TROUBLESHOOTING V-5
 Offers practical experience in troubleshooting actual electronic equipment. While most of the time is spent in the lab repairing equipment, time is devoted to class discussion of various troubleshooting techniques that might be employed to repair various electronic devices. (2/9)

1409 MODULATION AND DETECTION SYSTEMS V-2

Deals with the various ways in which data in various forms can be converted into forms that the transmission system, in case electronic media, can be covered include: Amplitude Modulation, Single and Double Sideband Modulation, Amplitude Modulation Design, Angle Modulation, Multiplex Systems, Pulse Modulation, Detection Fundamentals, and The Effect of Noise on the Communication System. (4/5)

0557 MICROWAVE SYSTEMS ANALYSIS V-3

Deals with the radiation of the electromagnetic wave at frequencies above 300 MHz. Methods of generating, transmitting and receiving the microwave signal are discussed.

0305 ELECTRONIC COMPUTERS V-4,5,6

Deals with computer operations, programming, number systems, logic circuits, applications and memory elements, input/output devices and control elements. (5/3)

0870 NETWORK ANALYSIS AND DESIGN V-3

Applies network analysis to such topics as filters, equalizers, and tuned amplifiers. This course includes an introduction to filter network synthesis. (3/2)

1353 INSTRUMENTATION V-3

Studies techniques employed in measuring electrical, mechanical and fluid quantities, voltages, and rates of flow. (2/2)

0046 ADVANCED ELECTRONIC PROBLEMS V-3

Covers modern advances in Electronic Technology, discusses new devices with application, and studies modern techniques of circuit analysis with emphasis on application of the computer. (5/2)

0342 F.C.C. RULES AND REGULATIONS V-2

Includes radio laws, rules and regulations, operating procedures, and a review for license examination. (3/0)

0635 SPECIAL PROJECTS V-2

Allows the student to develop, test, and write a report on one or more projects. (0/0)

0636 DESIGN PROJECT V-3

Allows students to research, develop, and test a project, and then to write a formal report on the project. (0/2)

ENGINEERING (Engin.)

Vocational Technical

0858 STATICS V-3

Includes fundamental terms resultant and equilibrant forces, moments, non concurrent coplanar forces, trusses, static and kinetic friction, hydrostatic loads. (6/4)

0738 KINEMATICS OF MECHANISMS V-1

Studies definitions, vectors, basic motion concepts, kinematic drawing and displacement centers (instantaneous centers), velocities in mechanisms, accelerations in mechanisms, motion curves, cams, gears, power trains, and mechanisms. (2/6)

0824 DYNAMICS V-2

Presents basic principles of dynamics: kinematics of translation, rotation, curvilinear motion, kinematics of rotation, and kinetics of rotation. (6/3)

0018 MACHINE DESIGN V-2

Studies engineering materials, stresses in elementary machine members design stresses and factor of safety, cylinders, pipes and tubes, metal fit, and tolerances, flat plate and cylinder heads, riveted joints, welding joints, threaded fasteners and power screws, keys and knuckle joints, shafts, bearings, couplings and clutches, brakes and springs. (2/4)

0150 ENGINEERING MATERIALS V-2

Includes properties of materials, stress, strain, finishes, testing of materials, corrosion, basic metallurgy. (1/2)

0213 STRENGTH OF MATERIALS I V-4

Studies simple stresses, analysis of structural joints and pressure vessels, torsion, analysis and beam stresses as related to the properties of engineering materials with a high emphasis on analytical design, problem solving. (3/2)

1335 STRENGTH OF MATERIALS II V-5

Offers an in-depth study of beams and columns including shear and moments, deformation, and deflections. Also combined stresses and statically indeterminate beams. (3/0)

FOREIGN LANGUAGES (F. Lang.)

College Parallel

0767 ELEMENTARY FRENCH I P-4

Introduces the French language with emphasis on development of oral and skills. Reading and writing introduced. (4/0)

0859 ELEMENTARY FRENCH II P-4

Continues elementary French I. Development of analytical reading and writing skills continued. (4/0) Prereq: Elementary French I or equivalent.

0027 ELEMENTARY FRENCH III P-4

Continues Elementary French II. Concentration on analytical skills and on reading. (4/0) Prereq: Elementary French II or equivalent.

0147 INTERMEDIATE FRENCH I P-3

Reviews the basic principles of the French language. Continued

development of oral-oral skills. Emphasis in writing French. Emphasis on development of reading skills, using texts from contemporary literature. (3/0) Prereq: Elementary French III or equivalent.

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

0232 INTERMEDIATE FRENCH III P-3
Continues Intermediate French II. (3/0) Prereq: Intermediate French II or equivalent.

1313 FRENCH CIVILIZATION I P-3
Provides readings on France and the French people. France, the provinces, the people and their way of life. Emphasis on developing listening, speaking, reading skills with some attention given to writing. Use of English will be minimal. (3/0) Prereq: Intermediate French III or equivalent.

1317 FRENCH CIVILIZATION II P-3
Provides readings on French history from the time of the Gauls to present. Contemporary topics will include politics, unions, education, the economy. Development of listening, speaking, reading skills will continue with some writing. Use of English will be minimal. (3/0) Prereq: French Civilization I or equivalent.

1321 FRENCH CIVILIZATION III P-3
Provides readings on the cultural heritage of France from the Middle Ages to modern times. Topics will include literature, music, art, drama. Development of listening, speaking, reading skills will continue with some writing. Use of English will be minimal. (3/0) Prereq: French Civilization II or equivalent.

0578 ELEMENTARY GERMAN I P-4
Introduces the German language with emphasis on development of oral-oral skills. Reading and writing introduced. Course will not be offered before 1971-72. (3/0)

0676 ELEMENTARY GERMAN II P-4
Continues elementary German I. Development of oral-oral, reading and writing skills continued. Course will not be offered before 1971-72. (4/0) Prereq: Elementary German I or equivalent.

0709 ELEMENTARY GERMAN III P-4
Continues elementary German II. Concentration on oral-oral skills and on reading. Course will not be offered before 1971-72. (4/0) Prereq: Elementary German II or equivalent.

0675 ELEMENTARY SPANISH I P-4
Introduces the Spanish language with emphasis on development of oral-oral skills. Reading and writing introduced. (4/0)

0708 ELEMENTARY SPANISH II P-4
Continues Elementary Spanish I. Development of oral-oral, reading and writing skills continued. (4/0) Prereq: Elementary Spanish I or equivalent.

0860 ELEMENTARY SPANISH III P-4
Continues Elementary Spanish II. Concentration on oral-oral skills and on reading. (4/0) Prereq: Elementary Spanish II or equivalent.

0053 INTERMEDIATE SPANISH I P-4
Reviews the basic principles of the Spanish language. Continued development of oral-oral skills, practice in writing Spanish. Emphasis on development of reading skills, using the texts from contemporary literature. (3/0) Prereq: Elementary Spanish II or equivalent.

0143 INTERMEDIATE SPANISH II P-3
Continues Intermediate Spanish I. (3/0) Prereq: Intermediate Spanish I or equivalent.

0233 INTERMEDIATE SPANISH III P-3
Continues Intermediate Spanish II. (3/0) Prereq: Intermediate Spanish II or equivalent.

1311 HISPANIC CIVILIZATION I P-3
Provides readings of Spain, the people and the land, history and ways of life. Use of the English language will be minimal. Course will not be offered before 1971-72. (3/0) Prereq: Intermediate Spanish III or equivalent.

1305 HISPANIC CIVILIZATION II P-3
Provides readings on Mexico, Cuba, Puerto Rico and Central America. The people and the land, history and ways of life. Use of English will be minimal. Course will not be offered before 1971-72. (3/0) Prereq: Intermediate Spanish III or equivalent.

1309 HISPANIC CIVILIZATION III P-3
Provides readings on the South American countries. The people and the land, history and ways of life. Use of English minimal. Course will not be offered before 1971-72. (3/0) Prereq: Intermediate Spanish III or equivalent.

GEOGRAPHY (Geogr.)

College Parallel

0493 HUMAN GEOGRAPHY P-4
Studies the geography of population and principal ways of life with consideration of the capacity of the earth for future population. (4/0)

0452 PHYSICAL GEOGRAPHY P-4
Features of distribution patterns of climate, topography, vegetation and soils. Regional differences in problems of physical development are studied. (4/0)

GRAPHICS (Graph.)

Adult

0237 MECHANICAL DRAFTING AND BLUEPRINT READING II-3
Introduces basic drafting vocabulary and use of vocational tools such as slide rule, practical uses of blueprints and perspective drawing.

Vocational-Technical

1404 GRAPHIC SKILLS V-2
Develops basic drafting skills (rule, triangle and a T by hand instruments) (172)

0892 TECHNICAL/ELECTRONIC DRAWING V-2
Studies the theory of orthographic projection, formalization into drawing instructions, materials and drafting practices and applied to mechanisms. Students do more a block diagram and a schematic diagram of a simple machine system. (175)

0544 MECHANICAL DRAFTING I V-6
Covers lettering, orthographic projection, pictorial drawing, size control of mating parts, dimensioning, complete detail working drawings, projections and developments and structural drawing. (174)

0427 MECHANICAL DRAFTING I V-6
Continues Mechanical Drafting I. (174)

0518 MECHANICAL DRAFTING II V-6
Continues Mechanical Drafting I and II. (174)

0637 APPLIED PROBLEMS I V-2
Involves the student with drafting problems in arithmetic and geometry, applications of algebra, and trigonometry and with drafting problems as a logarithm. (175)

0726 APPLIED PROBLEMS II V-2
Continues Applied Problems I. (175)

0934 ARCHITECTURAL DRAFTING I V-12
Lays the foundation, orthographic projection, dimensioning, line quality, sectioning, perspective, lettering. (177)

0990 ARCHITECTURAL DRAFTING II V-12
Teaches the proper procedures in developing site plans, floor plans, building plans, floor plans, and fronting object elevations, and wall sections. (177)

1034 ARCHITECTURAL DRAFTING III V-11
Lays the development of details (structural) for doors, windows, and

fencing are covered, and finishing as related to millwork and scheduling. Students also learn to utilize reference materials and develop time-saving techniques. (178)

0778 ARCHITECTURAL DRAFTING IV V-14
Helps the student develop a full set of working drawings from a verbal description. (179)

0337 ENGINEERING DRAWING I V-6
Deals with instruments and their use, lines and lettering, geometric constructions, orthographic projection, and sketching. (179)

0430 ENGINEERING DRAWING II V-6
Studies pictorial drawing, auxiliaries, sections and developments. (179)

0522 ENGINEERING DRAWING III V-5
Includes dimensioning, fits and limits, fasteners and working drawings. (179)

0712 DESIGN PROBLEMS I V-2
Covers theories on design principles, design procedures, design problem observations, design problem solutions, layouts, working drawings, design collection, specifications, and vendor research. (179)

1351 DESIGN PROBLEMS II V-6
Includes instruction in design principles and procedures, problem observations and problem solutions. (179)

0201 RELATED DISCIPLINES V-2
Includes piping, plumbing, and civil work in ducts, different systems, and electrical and conductive electrical as they relate to the development of materials and drawings. (179)

1416 GRAPHIC ARTS LABORATORY I V-10
Introduces the printing processes of letterpress and lithographic. Layout and design, cold type composition, fundamentals of typography, makeup and proofreading, mathematics for printers, and a survey of historical aspects in the development of graphic arts. (179)

1419 GRAPHIC ARTS LABORATORY II V-10
Continues Graphic Arts Laboratory I. Lithographic camera and exposure, stripping and platemaking, introduction to letterpress and lithographic press operation, hot and cold type composing machine operation and a study of paper, ink and metallurgy. (179)

1422 GRAPHIC ARTS LABORATORY III V-10
Continues Graphic Arts Lab II. Advanced lithographic training in the area of photo-lithography, platemaking, camera, darkroom techniques, stripping, platemaking and proofing, introduction to publication, style, makeup and makeup. (179)

1357 GRAPHIC ARTS LABORATORY IV V-10
Continues Graphic Arts Lab III. Management practices, estimating and cost analysis, production problems, plant organization and layout, industrial relations and job preparation. For the major portion of this quarter the student will concentrate in the area of lithography and/or linocut. (15/25)

1361 GRAPHIC ARTS RELATED I V-5
Offers instruction related to the printing processes of linography, letterpress, galvano, flexography, and silk screen. Typographic layout and design, graphic arts terminology, history of graphic arts up to present technological advancements, and shop safety. (15/21)

1365 GRAPHIC ARTS RELATED II V-5
Continues Graphic Arts Related I. Instruction related to camera and camera operation, principles of operation of lithographic and letterpress printing presses, hot and cold type composition, and a close study of paper, ink and color used in the graphic arts. (15/21)

1369 GRAPHIC ARTS RELATED III V-5
Continues Graphic Arts Related II. Instruction related to preparation of copy for the various printing processes including publication style, markup and a cleanup. (15/21)

1373 GRAPHIC ARTS RELATED IV V-5
Continues Graphic Arts Related III. Instruction in estimating, production scheduling, plant organization and layout, industrial relations and employer-employee responsibilities. (15/21)

College Parallel

0805 ENGINEERING GRAPHICS I P-3
Includes study of sketching, lettering, layout and drawing, the use of drawing instruments, and principles of projection. (1/24)

0896 ENGINEERING GRAPHICS II P-3
Continues Engineering Graphics I. (1/24)

HISTORY (Hist.)

Adult

0786 AMERICAN HISTORY I H-3
Studies American history beginning with the first European explorations of the New World through Reconstruction.

0189 AMERICAN HISTORY II H-3
Continues American History I. Reconstruction to the present.

0732 WORLD HISTORY H-3
Present historical facts relating the past to the present. Studies a broad-based background of world events and explores the theories leading to present world situations.

College Parallel

0211 U. S. HISTORY I P-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. (1/20)

0203 U. S. HISTORY II P-4
Surveys the social, political and economic history of the United States from the 1840's through the Progressive Era. Prereq: None. (1/20)

0301 U. S. HISTORY III P-4
Surveys the social, political and economic history of the United States from World War I to the present. Prereq: None. (1/20)

0918 WESTERN CIVILIZATION I P-4
(Part of a three-quarter college-parallel study.) Designed to present and explore the social, economic, political, and cultural basis of the Western World and covers from the Middle Ages to the Thirty Years War. (1/20)

0081 WESTERN CIVILIZATION II P-4
Continues objective of three-quarter study and covers from the Thirty Years War to the Treaty of Vienna. Prereq: None. (1/20)

0176 WESTERN CIVILIZATION III P-4
Continues objectives of three-quarter study and covers from Treaty of Vienna to the present. Prereq: None. (1/20)

1515 BLACK HISTORY P-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. (1/20)

1501 INDEPENDENT STUDY IN THE SOCIAL SCIENCES (U.S. HISTORY) P-0, 1, 2, 3
Provides readings, papers and/or book research projects under the individual guidance of the staff member. Consent of instructor and department chairman is required before registering.

1502 INDEPENDENT STUDY IN THE SOCIAL SCIENCES (WESTERN CIVILIZATION) P-0, 1, 2, 3
(See course description above.)



HOME ECONOMICS/HOMEMAKING (H. Econ.)

Vocational-Technical

0290 FASHION DESIGN V-2
Applies basic art principles to fashion merchandise. Practice and experimentation with line, shape, color, and texture are included. Skill in sketching and creating fashion design is developed. (4/0)

0388 FASHION HISTORY V-3
Studies development of costume design from the Middle Ages to the present with influences of the past as related to present-day fashion trends. (3/0)

0507 TEXTILES V-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. (3/0)

0606 TEXTILES LABORATORY V-2
Studies properties of fabrics and fibers. Offers directed laboratory activities which provide knowledge for fabric identification and analysis of fiber characteristics. (1/1)

LAW/LAW ENFORCEMENT/CORRECTIONS (Law)

Adult

0130 BUSINESS LAW H-3
Emphasizes the legal problems of the layman. Studies legal problems common to the consumer.

Vocational-Technical

0257 APPLIED BUSINESS LAW V-3
Surveys principles of law as applied to business and employment situations. (3/0)

0392 F.C.C. RULES AND REGULATIONS V-2
Includes radio laws, rules and regulations, operating procedures and a review for license examination. (2/0)

0339 MEDICAL LAW V-1
Studies medical jurisprudence in relation to medical assistants and the physician. (1/0)

College Parallel

0137 ADMINISTRATION OF JUSTICE P-4
Studies arrest, search and seizure, review of court systems, procedures from indictment to final disposition, principles of constitutional, federal, state and civil laws as they apply to actual law enforcement. (4/0)

0590 BUSINESS LAW I P-3
Surveys principles of law as applied to business relationships and transactions. (3/0)

0694 BUSINESS LAW II P-3
Studies partnerships and corporations, real property, negotiable instruments, sales, insurance, trusts and estates, government and business. Prereq: Business Law I. (3/0)

1514 CORRECTIONAL SERVICES IN THE COMMUNITY P-4
Survey and evaluate community and regional resources available to the correctional process. Emphasis is placed on vocational rehabilitation, employment services, welfare services, child guidance and mental health services and clinics, and professional and private volunteer services and agencies. (4/0)

0042 CRIMINAL EVIDENCE P-4
Studies the kinds and degrees of evidence and the rules governing the admissibility of evidence in court. (4/0)

0830 CRIMINAL LAW I P-4
Part of two-quarter study. Explores the philosophy and basis for law; the historical development of criminal law and procedure; the structure, definitions and criminal laws of Iowa. Prereq: None. (4/0)

0920 CRIMINAL LAW II P-4
Part of two-quarter study, continues topics of Criminal Law I. Need not be preceded by Criminal Law I. (4/0)

1527 INTRODUCTION TO CORRECTIONS P-2
Offers a case-oriented examination of the history and philosophy of the correctional process from law enforcement through administration of justice, correctional institutions, probation and parole. (2/0)

0531 INTRODUCTION TO LAW ENFORCEMENT P-2
Covers the philosophy and history of law enforcement, overview of crime and police problems, organization and jurisdiction of local, state and federal law enforcement agencies, survey of professional career opportunities and qualifications required. (2/0)

1515 PROBATION, PAROLE AND PARDONS P-4
Surveys the organization, administration of the correctional process, Probation, parole and pardon as applied in the community setting. (4/0)

**1513 PRINCIPLES OF CORRECTIONS
MANAGEMENT AND SUPERVISION P-4**

Studies the principles and methods of correctional supervision, management, administration, and evaluation. Emphasis is placed upon budgeting and control, staff recruitment and development, administrative decision-making and public relations as they relate to the correctional setting. (4:0)

LIBRARY SERVICES (Libr.)

College Parallel

1067 INSTRUCTION IN EDUCATIONAL MEDIA P-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. Prereq: None. May not apply toward library science major when credit is transferred.

**0618 INTRODUCTION TO THE USES OF THE
LIBRARY P-3**
Introduces the duties of library personnel and comprehensive survey of books and libraries, with emphasis upon the many kinds of library materials, their organization and arrangement, and their usefulness for specific purposes. (4:0)

0091 LIBRARY LITERATURE P-3
Considers specialized materials variation in most library collections including reference materials, catalogs, indexes and periodicals. May not apply toward library science major when credit is transferred. (1:0)

0025 LIBRARY PROCEDURE P-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. (1:0)

0741 LIBRARY ROUTINES P-2
Covers theory and practice in the basic routines of library procedure. This will include an understanding of the history of libraries, the Dewey Decimal System, and the circulation, location, and shelving of books. May not apply toward library science major when credit is transferred. (1:0)

0801 TECHNICAL PROCESSES P-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. (1:0)

LITERATURE (Lit.)

College Parallel

0322 AMERICAN ARTS I D-3
Explores current American art forms and their antecedents. The emphasis is understanding and interpreting the cultural expression of our times. (2:0)

0073 CHILDREN'S LITERATURE P-4
Surveys of children's books, analysis and discussion of children's reading interests and abilities. Prereq: Composition II or equivalent. (4:0)

0632 INTRODUCTION TO LITERATURE I P-4
Introduces the techniques and purposes of the novel and the novel story. Both forms based on students' interests, broadening and refining those interests. Intensive analytical and interpretative reading and extensive comparative reading will help to enrich and improve students' literary tastes. In addition to basic texts, supplemental reading lists will refer students to a variety of literary reading in the novel and short story. Prereq: Composition I. (4:0)

0524 INTRODUCTION TO LITERATURE II P-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)

0619 INTRODUCTION TO LITERATURE III P-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 perceptible acquaintance with a large number and variety of the world's poetry. Prereq: Composition I. (4:0)

0663 MASTERPIECES OF WORLD LITERATURE I P-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)

**0757 MASTERPIECES OF WORLD
LITERATURE II P-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 genetic, socio-cultural, mythical and comparative approaches in combination. Prereq: Composition II or equivalent. (4:0)

**0845 MASTERPIECES OF WORLD
LITERATURE III P-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. Prerequisite position is as equivalent. (4:0)

MARKETING (Mktg.)

Vocational-Technical

1261 ADVERTISING TECHNIQUES V-3
Studies the impact of the economic, sociological and psychological aspects of advertising. The student receives instruction and practical experience in the areas of ad layout, copywriting, display, design, and construction.

1303 AGRIBUSINESS SALES V-3
A continuation of Principles of Selling. Psychology of selling, meeting the customer's needs, sales call planning, answering objections, and closing will be emphasized. (3:0)

0440 AGRICULTURAL MARKETING V-4
Studies the role and functions of producers and wholesalers, marketing systems, marketing levels, product transportation, collective bargaining, price determinants, seasonal and supply cycles, and an analysis of cost factors affecting production and distribution.

1281 ADVANCED AGRICULTURAL MARKETING V-3
Emphasizes marketing principles, policies, and problems. Individual marketing problems and reports are assigned to help the student see the day-to-day application of marketing principles. Also covers the Futures Market.

0495 CUSTOMER INTERPRETATION V-3
Emphasizes understanding special needs and wants of the farmer-consumer. (3:0)

0112 FASHION MERCHANDISING LABORATORY V-1-2
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. (2-3:0)

0369 PRINCIPLES OF FASHION MERCHANDISING V-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)

0572 FASHION SHOW PROCEDURES V-3
Includes the principles of fashion show production: planning, coordinating and executing the fashion show. (3:0)

0820 PROBLEMS IN FASHION MERCHANDISING V-2
Helps the student integrate and apply his knowledge of fashion

merchandising through case study analysis. Includes consumer motivation, product knowledge, fashion coordination, and executive leadership. (2:0)

0591 FUNDAMENTALS OF RETAILING V-3
(Offered to Horticulture Center students.) Develops an understanding of basic retailing operations, including human relations, organization, location and layout. (3:0)

0749 FOOD STORE MARKETING LABORATORY V-2-3
Provides various insight into 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 the Food Store Marketing Laboratory facilities. (3:0)

0450 INTRODUCTION TO FOOD STORE MARKETING V-4
Offers an introduction to the specialized field of food merchandising. Study and projects will be based on the principles, practices, and procedures relating to the retail and wholesale food industry. (4:0)

0159 FOOD STORE PLANNING AND LAYOUT V-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 wks.)



1304 MERCHANDISING V-3
Acquaints the retail marketing student with functions of merchandising, such as merchandise purchasing, channels of distribution, pricing and inventory control. (5:0-6 wks.)

1283 MERCHANDISING TECHNIQUES V-3
Studies merchandising at the farm supply center, making a market survey, building an advertising calendar, preparing an advertising

budget, writing advertisements, construction displays for use at the fair, supply center or at community events such as county fairs and planning and using promotion days.

1403 PRODUCT MERCHANDISING V-3
Provides specific instruction and activity in handling products of the food industry, with special emphasis on produce and meat operations. (3/0/0)

0804 PRINCIPLES OF ADVERTISING V-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. (4/0/0)

1411 PRINCIPLES OF DISPLAY V-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, merchandise selection and the actual display construction. (3/0/0)

1319 SALES TECHNIQUES AND HUMAN RELATIONS V-3
Studies the art of getting along with people with special emphasis being placed on customer relations and sales situations. Employer-employee relations and co-worker relations are also included. (3/0/0)

1505 STORE SKILLS V-3
Directly prepares the student for employment experience: employment experience orientation, employment experience records, employment experience evaluation, and working with people. (3/0/0)

0737 TRENDS IN RETAILING V-3
Provides the student with an understanding of what retailing is and how it has developed. Many types of retail institutions are pointed out, as well as their advantages and disadvantages. (3/0/0)

0019 RETAIL MARKETING LABORATORY V-2-3
Designed to help prepare students for careers in retailing. The majority of laboratory 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. (3/0/0)

0782 FUNDAMENTALS OF SALESMANSHIP V-3
A basic course in personal selling techniques. Fundamental principles covered include developing the sales plan, effective presentation, closing the sale, and service after the sale. (3/0/0)

College Parallel

0687 PRINCIPLES OF MARKETING P-1
Studies the concepts, institutions, procedures, methods, and problems in moving goods or services from the producer to the consumer. (4/0/0)

0926 PRINCIPLES OF RETAILING P-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. (4/0/0)

0923 PRINCIPLES OF SELLING P-3-1
Studies selling of goods and services and the effect of this work on the entire field of business, with special emphasis placed on the psychology of selling. (4/0/0)

MATHEMATICS

Adult

0481 MATHEMATICS II-3
Includes general mathematics based on material programmed for individual speed and skill-building. General emphasis of classroom work determined by needs of those enrolled.

Vocational-Technical

1294 AGRICULTURE MATHEMATICS V-2-3
Includes instruction in areas of sales tickets, mark-ups, discounts, stock turn over, wages, and deductions, 175% dividends and postage refunds, interest charges, taxes, depreciation and office procedures. (3/0/0)

0028 BASIC MATHEMATICS I V-1-5
Covers basic math skills such as addition, subtraction, multiplication and division and the use of fractions, decimals and percents. Students work on problems related to their individual needs and to the program in which they are enrolled. (2-5/0/0)

0135 BASIC MATHEMATICS II V-1-5
Continues Basic Mathematics I. Extensive practice in applying math skills to problems related to program in which the student is enrolled. Students in Architectural Draftman program also learn to operate a teacher calculator. (2-5/0/0)

0208 BASIC MATHEMATICS III V-5
Offered for students in the Mechanical Draftman program. A continuation of Basic Mathematics II. (2/0/0)

1262 APPLIED CALCULUS FOR ELECTRONICS I V-2
Includes a study of limits, derivatives, differentials, maxima and minima, and simple integrals. This course plus Applied Calculus for Electronics II may be substituted for Technical Mathematics III+. (2/0/0)

1364 APPLIED CALCULUS FOR ELECTRONICS II V-2

Continues Applied Calculus for Electronics I, and includes a study of partial derivatives, integration techniques, differential equations and infinite series. This course plus Applied Calculus for Electronics I may be substituted for Technical Mathematics III. (2/2)

0224 ENGINEERING COMPUTATIONS MATHEMATICS I V-2

Studies of the slide rule C, D, CI and folded scales, slide rule R3, R7, and K scales, scientific notation, geometry review, circles and triangles, slide rule solutions, and dimensional analysis. (2/2)

0321 ENGINEERING COMPUTATIONS MATHEMATICS II V-2

Deals with slide rule trig scales, logarithms, tables and interpolation, slide rule and logs, and calculating machines. (2/2)

0853 MATHEMATICS IIC V-3
(Mathematics for business data processors.) Studies symbolic logic, set theory, Boolean Algebra, and probability theory. (3/0)

0377 MATHEMATICS III V-3
Continues Mathematics IIC. Matrix theory, linear programming, and further development of topics considered in the first course. Application of mathematical techniques to business problems is emphasized. (3/0)

0884 MERCHANDISE MATHEMATICS V-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. (3/0-6)

0519 TECHNICAL MATHEMATICS V-3-5
Includes fundamental concepts and operations, functions and graphs, trigonometric functions, linear equations and determinants, factoring and fractions, quadratic equations, vector algebra, and exponents and radicals. Emphasis is placed on applications to technology. (3/3-6)

0802 TECHNICAL MATHEMATICS I V-5
Continues Technical Mathematics 1 and includes a study of logarithms, practical trigonometry of right and oblique triangles, analytical trigonometry and applied geometry. (5/0)

0613 TECHNICAL MATHEMATICS IIE V-3-4
Continues Technical Mathematics I and includes a study of logarithms, the λ -operator systems of equations, inequalities, variation and progressions, inverse trigonometric functions, elements of analytic geometry, and introduction to statistics. (5/0)

0057 TECHNICAL MATHEMATICS III V-4
Includes a study of limits, derivatives and differentials, maxima and minima, integrals, partial derivatives, integration techniques, and infinite series. (4/0)

0710 TECHNICAL MATHEMATICS IIC V-4
Includes the λ -operator, exponents and radicals, logarithms, linear equations and determinants. (3/2)

0111 TECHNICAL MATHEMATICS IIC V-4
Covers algebraic factoring and fractions, quadratic equations, graphs of trigonometric functions, and applied electronics problems. (3/2)

1397 SLIDE RULE V-1
Studies use of the slide rule and concentrates on the C, D, CI, DI, folded, root, log, and trig scales. (1/1)

MECHANICS (Mech.)

vocational-Technical

0574 BASIC HYDRAULICS V-3
Covers fundamental principles of hydraulics, including properties of fluid flow, resistance and controls of fluid pressure. (1/4)

0455 HYDRAULICS V-3
Concentrates on Equid flow, pressure gauges and volume meters, fittings and seals, simple valves, and compound and pressure reducing valves, directional valves, introduction to pumps, centrifugal, propeller and rotary pumps, piston pumps and meters, and hydraulic liquids and systems. (2/4)

0672 APPLIED HYDRAULICS V-3
Studies use of pumps, meters, valves and other hydraulic equipment. (1/4)

1209 AGRICULTURAL EQUIPMENT OPERATION V-5
Features actual operation of farm machines and machines used in the fertilizer and feed industries. Includes adjustment, maintenance, and safe operation of this equipment. (1/11)

0540 AGRICULTURAL EQUIPMENT PRINCIPLES I V-4-6
Covers assembly, adjustment and maintenance of agricultural and light industrial equipment. Occupational orientation, safety, use of hand and power tools, and use of reference and service manuals are emphasized. (1/12)

0633 AGRICULTURAL EQUIPMENT PRINCIPLES II V-6
Studies major reconditioning and servicing of agricultural and light industrial equipment. (1/12)

0725 AGRICULTURAL EQUIPMENT PRINCIPLES III V-6
Continues Agricultural Equipment Principles I and II. (1/12)

0995	AUTO MECHANICS LABORATORY I	V-7.5
Offers formal classroom as well as on-the-job instruction in shop practices, to complete auto service procedures, automotive electrical systems, fuel systems, brakes, drive train, etc. (0/20)		
0930	AUTO MECHANICS LABORATORY II	V-7.5
Continues Auto Mechanics Laboratory I. (0/20)		
0941	AUTO MECHANICS LABORATORY III	V-7.5
Continues Auto Mechanics Laboratory II. (0/20)		
1343	AUTO MECHANICS LABORATORY IV	V-7.5
Continues Auto Mechanics Laboratory III. (0/20)		
0938	AUTO MECHANICS RELATED I	V-7.5
Shop practices, safety, mathematics, customer relations, and employer-employee relations. (10/0)		
0940	AUTO MECHANICS RELATED II	V-7.5
Continues Auto Mechanics Related I. (10/0)		
0942	AUTO MECHANICS RELATED III	V-7.5
Continues Auto Mechanics Related II. (10/0)		
1339	AUTO MECHANICS RELATED IV	V-7.5
Continues Auto Mechanics Related III. (10/0)		
0626	COLLISION LABORATORY I	V-10
Instruction through lectures, discussions, visual aids to work on "live" vehicles in accordance with instructor directions and shop manuals and under the supervision of the instructor. Practice with metal bumping and dinging, oxyacetylene and arc welding, metal shrinking, leveling, grinding and sanding, and preparation for painting. Proper use of power grinders, power drills, and hydraulics body and frame jacks. (0/25)		
0934	COLLISION LABORATORY II	V-10
Continues Collision Laboratory I. (0/25)		
0936	COLLISION LABORATORY III	V-10
Continues Collision Laboratory II. (0/25)		
0933	COLLISION RELATED I	V-5
Provides instruction in shop processes and responsibilities, shop management, shop responsibility, estimating. (5/0)		
0935	COLLISION RELATED II	V-5
Continues Collision Related I. (5/0)		
0937	COLLISION RELATED III	V-5
Continues Collision Related II. (5/0)		
1090	DIESEL DIAGNOSIS AND OVERHAUL	V-8
Offers instruction in the diagnosis and overhaul of diesel power units with emphasis placed on speed and accuracy of work.		



0978 EMPLOYMENT EXPERIENCES V-6-10
Six-week employment experience periods, scheduled to apply competencies learned in the classroom and laboratory and to develop the ability to work with people.

0942 ENGINES AND SYSTEMS V-6
Includes construction, operating principles and components of gasoline and diesel engine systems. (2/8)

1523 FARM MACHINERY V-7
Features actual operation of farm machines, including adjustment, maintenance, and safe operation of the equipment. (3/10)

College Parallel

0706 ANALYTIC GEOMETRY P-5
Includes point and plane vectors, direction cosines, the straight line, the circle, the cone, transformations of the axis, polar coordinates, the point and space vectors, surfaces and curves. (5/0) Prereq: College Algebra and Trigonometry.

0755 CALCULUS I P-5
Includes limits, derivative, differentiation, the differential, elementary applications of calculus and introduction to integration. (5/0) Prereq: Analytic Geometry.

0846 CALCULUS II P-4
Continues Calculus I and includes the study of the integral, integration, methods of integration, parametric equations, and improper integrals. (5/0) Prereq: Calculus I.

0012 CALCULUS III P-4
Includes study of indeterminate forms, infinite series, series expansion of functions, partial differentiation, and multiple integration. (5/0) Prereq: Calculus II.

0532 COLLEGE ALGEBRA P-5
Includes the real number system, theory of equations, complex numbers, mathematical induction, matrices, functions and their graphs, including algorithms. (5/0) Prereq: Intermediate Algebra or one and one-half years of high school algebra and one year of high school geometry.

0182 DIFFERENTIAL EQUATIONS P-5
Designed for the student majoring in mathematics or in engineering. 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. (5/0) Prereq: Calculus III.

0060 ENGINEERING PROBLEMS P-2
Studies use of the slide rule and computer and the utilization of problem solving techniques in engineering. (2/0) Prereq: College Algebra and Engineering Graphics I and II.

1434 INTERMEDIATE ALGEBRA 3A P-3
For students who do not have sufficient background in math to enter the regular sequence of math courses. Also for those students of Liberal Arts who need only one math course. NOTE: Both 3A and 3B must be taken to have transfer credit. (3/0) Prereq: One year of high school algebra or permission of the instructor.

1435 INTERMEDIATE ALGEBRA 3B P-3
Continues Intermediate Algebra 3A. NOTE: This course must be taken to have transfer credit for Intermediate Algebra. (3/0) Prereq: Intermediate Algebra 3A.

0442 MODERN COLLEGE MATHEMATICS P-5
(For the non-math major who desires one course in mathematics.) Includes deductive logic, language of sets, geometry, pure and applied mathematics, natural and real numbers, logic of algebra, mathematical computation, functions, statistics, and probability. (5/0) Prereq: One year of high school algebra and geometry.

0674 FUNDAMENTALS OF STATISTICS P-5
(Designed mainly for business students.) Includes descriptive statistics (mean, median, mode, standard deviation and variance), probability, linear regression and inferential statistics will be covered. (5/0) Prereq: College Algebra or consent of department.

0649 TRIGONOMETRY P-5
Studies real numbers, completeness property, functions, inverse functions, periodic functions, arc length, trigonometric functions, identities, inverse trigonometric functions, graphs, exponential and the logarithmic functions, and applications of elementary functions. (5/0) Prereq: Intermediate Algebra or one and one-half years of high school algebra and one year of high school geometry.

0981 SMALL ENGINES AND EQUIPMENT V-3
Includes specification and data for the 2 and 4-cycle engine. Knowledge of the function and operation of small engines used in Ornamental Horticulture. (3/2)

1084 GAS ENGINES V-3
Instruction in small gasoline engines and their application to the agricultural equipment industry. (1/5)

1085 GASOLINE DIAGNOSIS AND OVERHAUL V-1
Offers instruction in the complete diagnosis and overhaul of gasoline power units. Emphasis is placed on speed and accuracy of work.

0778 ADVANCED HYDRAULICS V-3
Involves the complete overhaul, adjustment, and general maintenance of hydraulic systems as related to farm equipment. (2/3)

0904 POWER TRANSFER SYSTEMS I V-3
Studies construction and operating principles of gears, clutches, transmissions, and other power transfer systems. (2/3)

0065 POWER TRANSFER SYSTEMS II V-3
Includes functions of automatic transmissions as utilized in farm equipment. (2/3)

0163 POWER TRANSFER SYSTEMS III V-3
Continues Power Transfer Systems I and II, coordinated with Agricultural Equipment Principles IV. (2/3)

0480 RECONDITIONING AND REPAIR V-5
Covers and develops the skills needed in oxy-acetylene welding, brazing, and air welding, drill press, grinding equipment, and engine's etc., as well as painting and recoumstoring processes.

MEDICAL-SURGICAL (Med.)

Vocational-Technical

0088 DISEASES OF MAN V-4
Covers the infectious, 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. (1/2)

1050 INTRODUCTION TO MEDICAL SCIENCE V-4
Designed to introduce the student to general medical conditions of the body. Efforts are directed toward promoting a knowledge of medical terms and an understanding of standard medical abbreviations. (4/1)

0343 MEDICAL LABORATORY PROCEDURES I V-1-2
An introductory course designed to acquaint the student with simple laboratory techniques that may be performed by a medical assistant in

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a doctor's office. Through demonstration and practice the student learns to perform common tests used in the medical office. (5/5)

0434 MEDICAL LABORATORY PROCEDURES II V-2
Builds upon concepts and skills introduced in Medical Laboratory Procedures I. Includes a study of hematology, electrocardiography, urinalysis, collection of specimens, smears. (2/1)

0576 MEDICAL TERMINOLOGY I V-1-2
An orientational course in the language of medicine. Efforts are directed toward promoting a knowledge of the elements of medical terms and abbreviations. Emphasis is placed on correct pronunciation and correct spelling of medical terms. (3/2)

0522 MEDICAL TERMINOLOGY II V-2
Continues Medical Terminology I. Further develops the ability to spell, define and apply terminology common to the medical field. (2-4)

0715 MEDICAL TERMINOLOGY III V-3
Continues Medical Terminology II. (1/2)

1570 PHARMACOLOGY V-3S
Studies drugs and their medical usage. (1/1)

0681 SUPERVISED CLINICAL EXPERIENCE V-6
M.A. I
Directed in private doctor's office, clinics, industry or wherever medical treatment is given, under supervision of doctors and registered nurses and school instructors. (0/18)

0772 SUPERVISED CLINICAL EXPERIENCE V-1S
M.A. II
Continues Supervised Clinical Experience M.A. I. (0/17)

0525 SEMINAR I (MA) V-5
Studies and discusses problems arising during clinical experience. (2/0)

0630 SEMINAR II (MA) V-5
Continues Seminar I. (2/0)

0085 EMERGENCY CARE (OA) V-3
Develops skills in resuscitatory methods, handling and transporting patients with acute injuries, assisting with minor aseptic procedures and bandaging. Also includes fundamentals of first aid care and methods of treatment of specific traumatic and medical emergencies. (2/3)

1366 INTRODUCTION TO HEALTH CARE AND PERSONNEL RELATIONS (OA) V-1
Designed to introduce the student to fundamentals of patient care, safety, and comfort. The student is given instruction in basic nursing procedures such as handling a patient, bedmaking, taking vital signs and admissions of patients. The relationship of the Orthopedic Assistant with other members of the health care team is discussed. Emphasis is

placed on the legal and ethical responsibilities of the assistant. Topics of various patient service areas of the hospital and community will be arranged. (2/3)

0464 ORTHOPAEDIC CONDITIONS I (OA) V-4
Covers common orthopedic diseases with review of the musculoskeletal system. Studies fractures in relationship to casting, traction and splinting. Special operative procedures are reviewed with clinical experience provided. (4/0)

0464 ORTHOPAEDIC CONDITIONS II (1A) V-4
Includes congenital deformities, developmental diseases, infections of bones and joints, metabolic disorders, common painful afflictions in adults, trauma, amputation and other special operative procedures. (4/0)



0273 OPERATING ROOM TECHNIQUES (OA) V-3
Includes aseptic techniques in orthopedic surgery, handling and maintenance of instruments and sterilization methods. Supervised clinical experience is provided in affiliated hospitals as scrub and circulating assistants. (3/1)

0179 PLASTER CASTING TECHNIQUES (OA) V-4
Develops skill in application and removal of casts with emphasis on patient instruction in the proper use of the applied plaster. Covers signs of impending circulatory impairment and pressure areas. (2/1)

0694 SUPERVISED CLINICAL EXPERIENCE I (OA) V-4
Includes learning experience in the hospital's emergency room. (0/12)

0692 SUPERVISED CLINICAL EXPERIENCE II (1A) V-6
Continues Supervised Clinical Experience I. Includes experience in the emergency room and in the orthopedic ward.

0783	SUPERVISED CLINICAL EXPERIENCE III (OA)	V-6
Continues Supervised Clinical Experience II. Includes experience in the hospital operating room. (0718)		
1544	SUPERVISED CLINICAL EXPERIENCE IV (OA)	V-6
Studies the patient as an inpatient. Applies and maintains all types of traction. (0718)		
0385	SUPERVISED CLINICAL EXPERIENCE V AND SEMINAR (OA)	V-12
Student is assigned to an orthopaedic station or private practice. He works with the orthopaedist six hours per week. (7050)		
1081	TRACTION FOR LIMBS (OA)	V-3
Includes principles of assisting in the orthopaedic ward and of developing a department of orthopaedic equipment and supplies. Application of the various types of traction, maintenance of traction equipment and body alignment are emphasized. (20)		

METALS AND MANUFACTURING (Met.)

Vocational-Technical

0763	MACHINIST LABORATORY I	V-6-7
Studies heat treatment of various metals and other basic metallurgical procedures; instruction in the proper care and use of measuring and layout tools and hand tools; development of skills in the following machines: drill press, engine lathe, turret lathe, horizontal and vertical milling machines, planers, shaper, tracer lathe, numerically controlled machines and other types of production machine tools. (0116-27)		
0914	MACHINIST LABORATORY II	V-6-8
Continues Machinist Laboratory I. (0116-27)		
0946	MACHINIST LABORATORY III	V-5-10
Continues Machinist Laboratory II. (0116-27)		
0948	MACHINIST LABORATORY IV	V-5
Continues Machinist Laboratory III (in the evening program only). (0116)		
0943	MACHINIST RELATED I	V-4-5
Offers instruction in mathematics, blueprint reading, shop customs and safety. (14-53)		
0945	MACHINIST RELATED II	V-4-7
Continues Machinist Related I. (14-53)		

0947	MACHINIST RELATED III	V-4-5
Continues Machinist Related II. (14-53)		
0949	MACHINIST RELATED IV	V-4
Continues Machinist Related III (in the evening program only). (145)		
0480	MACHINE SHOP & WELDING PROCESSES	V-5
Develops the skills needed in oxyacetylene welding, brazing, and air welding. Students become familiar with the drill press, grind equipment, and the engine lathe.		
1013	MANUFACTURING PROCESSES I	V-2
Covers various metals and materials, machining and cutting tools, layout tools, gaging and inspection, measuring, hand tools, sawing and turning lathes. (214)		
1108	MANUFACTURING PROCESSES II	V-2
Develops skills in turret and automatic lathes, screw threads, drilling, reaming, grinding and finishes, shaper and planer, and numerical control machine. (214)		
0297	MANUFACTURING MATERIALS AND METHODS	V-2
Follows Manufacturing Processes, and deals in greater depth with the properties and capabilities of various materials such as steel, aluminum and brass. (214)		
1388	PRODUCTION MACHINERY	V-2
Covers classroom study and shop practice on the use of metal forming machinery, and maintenance of welding equipment. (0114-4-5)		

MUSIC

College Parallel

0912	APPLIED MUSIC: INSTRUMENTAL	P-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.		
1071	APPLIED MUSIC: INSTRUMENTAL TECHNIQUES	P-3
Covers ingredients and techniques necessary to develop instrumental groups. Recommended if transferring to OSU. Prereq: None. (312)		
1329	APPLIED MUSIC (INSTRUMENTAL) KEYBOARD I	P-1
Designed for students entering in elementary education or in music, and for any adult beginner on piano. Contents include playing by note, music reading, functional theory, and piano technique. Student must be prepared to practice six to eight hours. Prereq: Consent of the instructor. (111)		

**1333 APPLIED MUSIC: (INSTRUMENTAL)
KEYBOARD II** P-1

Continues Keyboard I in the study of piano technique. Includes functional theory, analysis of musical structure as an aid to playing, transposition, and creative activities. Prereq: Keyboard I or consent of instructor. (1/0)

**1325 APPLIED MUSIC: (INSTRUMENTAL)
KEYBOARD III** P-1

Continues Keyboard II in the study of piano technique. Prereq: Keyboard II and Fundamentals and Harmony II or consent of instructor. (1/0)

**1332 APPLIED MUSIC: (INSTRUMENTAL)
KEYBOARD IV** P-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. (1/0)

0827 APPLIED MUSIC: VOCAL I P-1

Includes stage presence, breath control, freedom from tension, vowels, tone quality. (2/0)

0823 APPLIED MUSIC: VOCAL II P-1

Includes resonance, consonants, phonetic spelling, open scale, voice placing, head voice, male voice. (2/0)

0384 APPLIED MUSIC: VOCAL III P-1

Includes legato and staccato, staccato, embellishments, flexibility, interpretations, proportion and unity. (2/0)

0677 APPLIED MUSIC: VOCAL IV P-1

Offers private instruction for advanced students in voice. May be repeated for six credits. Periods to be arranged. Prereq: Vocal III or permission of instructor. (1/0)

0696 MUSIC APPRECIATION P-1

Includes elements and types of music with some attention to major periods and composers. (3/0)

**0405 ADVANCED HARMONY, EAR TRAINING
AND SIGHT SINGING I** P-3

Continues the first year sequence. Prereq: Fundamentals and Harmony III and Ear Training and Sight Singing III. (5/0)

**0492 ADVANCED HARMONY, EAR TRAINING
AND SIGHT SINGING II** P-3

Continues Advanced Harmony, Ear Training and Sight Singing I. Prereq: Advanced Harmony, Ear Training and Sight Singing I. (5/0)

**0586 ADVANCED HARMONY, EAR TRAINING
AND SIGHT SINGING III** P-3

Continues Advanced Harmony, Ear Training and Sight Singing II.

Prereq: Advanced Harmony, Ear Training and Sight Singing II. (5/0)

0109 BAND P-1

Designed for students with ability and desire to play in a band. May be repeated for a total of six credits. (0/2)

0076 CHORUS P-1

Chorus meets three hours weekly. May be repeated for a total of six credits. Period to be arranged. Prereq: Permission of instructor. (0/2)

1168 CHORAL TECHNIQUES P-3

Includes ingredients and techniques necessary to develop large vocal groups. Recommended if transferring to UNI. Prereq: Conducting. (3/0)

1076 CONDUCTING P-3

Develops techniques necessary for conducting. Recommended if transferring to UNI. Prereq: Fundamentals and Harmony III. (2/0)

0105 EAR TRAINING AND SIGHT SINGING I P-1

Includes skill development in listening and sight singing. (2/0)

0204 EAR TRAINING AND SIGHT SINGING II P-1

Continues Ear Training and Sight Singing I. Prereq: Ear Training and Sight Singing I. (2/0)

0796 EAR TRAINING AND SIGHT SINGING III P-1

Continues Ear Training and Sight Singing II. Prereq: Ear Training and Sight Singing II. (2/0)

0235 ENSEMBLE P-1

Offers instruction and performance in small vocal groups. May be repeated for a total of six credits. (0/2)

0781 FUNDAMENTALS AND HARMONY I P-3

Includes music theory and basic fundamentals. Coreq: Ear Training and Sight Singing I. (3/0)

0873 FUNDAMENTALS AND HARMONY II P-3

Continues Fundamentals and Harmony I. Prereq: Fundamentals and Harmony I. Coreq: Ear Training and Sight Singing II. (3/0)

0810 FUNDAMENTALS AND HARMONY III P-3

Continues Fundamentals and Harmony II. Prereq: Fundamentals and Harmony II. Coreq: Ear Training and Sight Singing III. (3/0)

1349 FUNDAMENTALS OF MUSIC D-2

Designed to give music majors the background necessary for success in fundamentals and Harmony. May also be taken by students wishing to develop musical skills. Content includes a survey of music reading, rhythm, scales, intervals, and triads. Credits are NOT applicable towards an associate degree. (2/0)

NURSING (Nursg.)

Vocational-Technical

0095	ADMINISTRATION OF MEDICATIONS I (PN)	V-4
The theoretical study of drugs through body systems and practical applications which follow. (3/3)		
0097	ADMINISTRATION OF MEDICATIONS II (PN)	V-2
A review of arithmetic and its relation to correct dosage, and the actual administration of medications, with a study of the actual administration of medications. (2/1)		
0478	CARE OF ADULT PATIENT I (PN)	V-6
A consideration of the relationship of nursing techniques to specific health problems. Emphasis on developing sensitivity to physical and emotional needs. (4/0)		
0587	CARE OF THE ADULT PATIENT II (PN)	V-6
More complex skills are studied including specific skills such as isolation technique and care of those with mental illness. First aid and disaster nursing are covered. (6/0)		
1306	CHANGING PATTERNS OF HEALTH CARE AND NURSING (RN)	V-2
Focus on changing patterns of the health care delivery system and the complex team relationships that affect the quality of health service. (2/2)		
0118	CLINIC I MED-SURG (PN)	V-1
The studying and learning of nursing skills with medical-surgical patients. (0/3)		
1405	CLINIC II MED-SURG (PN)	V-0
Continuation of learning experiences with medical-surgical patients. (0/3)		
1410	CLINIC III GERI UROL. ORTHO (PN)	V-8
Studies patient care in the following specialty areas: Geriatrics, Urology, and Orthopaedics. (0/3)		
1411	CLINIC IV PEDI-OB (PN)	V-9
Studies patient care in the following specialty areas: Pediatrics and Obstetrics. (0/3)		
0872	FUNDAMENTALS OF PRACTICAL NURSING I	V-2
Stays on basic nursing skills essential to good patient care. In addition, the physical, spiritual and emotional needs of the patient are covered. (1/2)		

1407	FUNDAMENTALS OF PRACTICAL NURSING II	V-3
Basic nursing skills to give direct patient care. Also stressed are the physical, spiritual and emotional needs of the patient. (1/2)		
1346	METROLOGY (RN)	V-1
Programmed instruction - conversion and application of apothecaries, metric and household systems of measurements. (1/0)		
0535	NORMAL NUTRITION AND DIET THERAPY (PN)	V-3
Studies normal nutrition and its relationship to optimum body function through the entire life cycle. Also covers food habits and taboos, regional and cultural food patterns, food and public health, and the modification of normal nutrition in diet therapy.		
1322	NURSING I (RN)	V-8.6
Offers orientation to nursing practice, nursing as an occupation and to the health care agencies. Focus on broad generalizations relative to health, stress (mental) and nursing problems in the care of the ill. (5/8)		
1326	NURSING II (RN)	V-9
Emphasizes development of fundamental nursing knowledge and techniques for the care of all patients. Specifics related to disturbed physiological body processes, i.e., oxygen, fluid and electrolytes. (5/12)		
1330	NURSING III (RN)	V-9
Focuses on a unified concept of health and disease and the inter-relatedness of nursing problems. Specifics related to stress and adaptation regulatory, sensory and motor. (5/12)		
1334	NURSING IV (RN)	V-10.3
Focuses on mental health and mental illness, includes etiology, treatment and prevention of mental illness. Psychiatric problems approached biologically. Needs, feelings and behavior of the student considered as well as those of the patient. (5/11)		
1338	NURSING V (RN)	V-11
Studies physical and mental illness concepts and related nursing procedures, specific focus on prenatal and child health and deviations in illness. (5/18)		
1342	NURSING VI (RN)	V-11
Studies physical and mental illness with focus on the development and application of nursing concepts related to illness. Emphasis placed on the student's ability for comprehensive planning and competent application of nursing knowledge. (5/20)		
1310	NURSING VII (RN)	V-12
Continues Nursing RN 367 with added emphasis on patient-focused teaching. (5/21)		

1318	NURSING VIII (RN)	V-2
Focuses on the role of the registered nurse in planning for priority of nursing needs, including utilization of community resources. Planned to assist the student with the transition from student role to nurse practitioner role. (3/2)		
1314	NURSING IX (SEMINAR) RN	V-2
Focuses on legal and personal responsibilities in the practice of nursing. (3/2)		
0567	NURSING CARE OF CHILDREN I (PN)	V-3
Develops an understanding of normal child growth and development and the child's relation to his family, social institutions, and the community. The individuality of the child and an identification of his variable behavior in time of illness is stressed. (3/2)		
0767	NURSING CARE OF CHILDREN II (PN)	V-1
Emphasizes skills needed to care for the child who is ill or has special specific nursing needs. The child with a physical handicap and the child who is mentally retarded are also studied. (3/2)		
0015	NURSING CARE OF MOTHERS AND INFANTS I (PN)	V-3
Stresses an understanding of physical and mental changes occurring during pregnancy and shortly thereafter. The process of normal reproduction, deviations occurring during pregnancy, and an appreciation of fears and fallacies related to pregnancy and the birth process are studied. Essential nursing care to mothers and infants and respect for specific techniques to guard against all infections are taught. Respect for concepts and how to gain an understanding are stressed. (3/2)		
0110	NURSING CARE OF MOTHERS AND INFANTS II (PN)	V-1
Correlated with the student's specific clinical experience while in this area. (3/2)		
0323	PERSONAL, VOCATIONAL, AND COMMUNITY RELATIONS I	V-7
Studies influence of history and tradition on progress in nursing. The development and understanding of communication skills both verbal and non-verbal. Emphasis is placed on the development of a code of professional ethics. (3/2)		
0418	PERSONAL, VOCATIONAL, AND COMMUNITY RELATIONS II	V-1
Includes a discussion of job applications and resumés and legal implications. Professional ethics are stressed. (3/2)		
1539	FIRST AID, DISASTER, AND COMMUNITY HEALTH NURSING (PN)	V-3
Studies emergency treatment appropriate to the situation; also, the identification of community health agencies and services available and their referral procedures. (3/2)		

OFFICE EDUCATION (Off. Ed.)

Adult

0860	CLERICAL PRACTICE	II-3
Offers general introduction to office skills required by most businesses; includes practical base for operation of routine business equipment and mechanical procedures.		
0863	STENOSCRIPT	II-7
Provides intensive course to create shorthand in the shortest possible time, at speeds necessary for government stenographers, secretaries, college students and those who must attend conferences and meetings without the luxury of a secretary.		
0261	TYPING I	II-3
Designed for persons who have had no previous experience or who need a refresher course. Includes key board, striking techniques, and basic letter forms.		
0361	TYPING II	II-3
Continues Typing I, showing improvement of typing techniques and specific applications of machine usage.		

Vocational-Technical

0312	CLERICAL PROCEDURES	V-4
Designed as a comprehensive advanced clerical course which includes the following basic units of instruction: data processing, office communication systems, duplicating procedures, mail and messenger services, receptionist procedures, and typing business papers. Should be taken towards end of program. (3/2)		
1063	OFFICE PROCEDURES I	V-7
Provides simulated office activities and problem-solving situations which will develop the best student skill or their isolated skills. Students are trained through realistic work of instruction and office positions that will better prepare them to perform day-to-day operations, to accomplish tasks, to negotiate detailed work, to develop self-confidence, and to cultivate other desirable characteristics and attitudes toward work and people. Prereq: College Typing II or instructor's approval. (3/2)		
1383	OFFICE PROCEDURES II	V-3
Refines knowledge and skills previously learned and to introduce new concepts and procedures leading to realistic preparation for working office employment. Prereq: College Office Procedures I or instructor's approval. (3/2)		
0364	COLLEGE TYPING IV	V-3
Emphasizes simulated office production typing. Prereq: College Typing III or instructor's approval. (3/2)		

- 0819 DENTAL TYPING** V-2
Concentrates on the common typing duties of the dental assistant including preparation of statements, correspondence and memoranda, and the use of the transcription machine and preparation of manuscripts. (3/0)
- 0805 LAW OFFICE PROCEDURES** V-3
Designed as a comprehensive advanced secretarial course which includes the following basic units of instruction as they apply to the legal field, communication through the use of letters, legal letters, reports, the telephone and telegraphic services; records regarding payroll, petty cash, insurance, and financial statements, and application of dictation and transcription techniques, reproduction procedures, and filing methods. Prereq: Legal Typing and Legal Terminology. (3/0)
- 0790 LEGAL DICTATION** V-3
Develops student's ability to take dictation of affidavits and to transcribe it in legal document form. Prereq: College Shorthand Transcription and Legal Terminology. (3/0)
- 1411 LEGAL MACHINE TRANSCRIPTION** V-3
Develops student's ability to transcribe legal material in document form from machine dictation. Prereq: Legal Terminology and proficiency in transcribing machines. (3/0)
- 0879 LEGAL TYPING** V-3
Concentrates on the typing of forms, letters, and other business papers which are common to the law office. Prereq: College Typing III. (3/0)
- 0812 LEGAL TERMINOLOGY** V-3
Provides training in spelling, derivation, and application of basic terms as in the legal field. (3/0)
- 0713 MEDICAL SECRETARIAL DICTATION** V-4
Concentrates on the construction of shorthand outlines for specialized medical terminology used in offices, where a knowledge of medical terminology is essential. Prereq: College Shorthand III, and Medical Secretarial Terminology and Body Structure I. (4/0)
- 0810 MEDICAL OFFICE PRACTICE I** V-3
Develops a basic understanding of what a physician's office is like and how it functions. Transcription in the medical office, fundamentals of contracts with patients, medical histories, telephone procedures, appointment scheduling, supply purchase, storage and inventory of supplies are presented. (3/0)
- 0876 MEDICAL OFFICE PRACTICE II** V-3
Continues Medical Office Practice. A consideration of case histories, health and accident insurance programs, government medical care programs, the physician's public duties and liabilities, professional liability, Medical Practices Acts, and the legal relationship of physician and patient. (3/0)

1415 MEDICAL SECRETARIAL MACHINE TRANSCRIPTION V-2

Further develops transcription skills with emphasis on medical terminology. Gives practice in transcribing medical letters and forms, case histories, consultation reports, operative records, discharge summaries, X-rays and EKG reports. Prereq: Medical Secretarial Terminology and Body Structure II and proficiency in transcribing machines. (2/0)

0093 MEDICAL SECRETARIAL OFFICE PROCEDURES V-1

Designed as a comprehensive advanced secretarial course which includes the following basic units of instruction as they apply to the medical field: communication through the use of letters, reports, the telephone and telegraphic services; records regarding payroll, petty cash, insurance, and financial statements, and application of dictation and transcription techniques, reproduction procedures and filing methods. Prereq: College Typing II or instructor's approval. (4/0)

0207 MACHINE SHORTHAND I V-4
Presents the basic Penon concepts of writing shorthand on the Stenograph shorthand machine. (3/0)

0580 MACHINE SHORTHAND II V-4
Teaches the routing key theory of using the Stenograph machine to record dictation. A larger writing vocabulary is developed. Prereq: College Machine Shorthand I or instructor's approval. (3/0)

0570 MACHINE SHORTHAND III V-1
Emphasizes furthering the student's ability to record dictation at an increasing rate. Preliminary emphasis on transcription is begun. Prereq: College Machine Shorthand II or instructor's approval. (3/0)

0019 MACHINE SHORTHAND IV V-4
Continues the emphasis on speed building and on the finished transcript. Prereq: College Machine Shorthand III or instructor's approval. (5/0)

0056 MEDICAL SECRETARIAL TYPING V-4
Concentrates on the typing of forms, letters, and other business papers which are common to the medical office. (4/0)



0621 MEDICAL TYPING V-2
 Gives the student practice in typing medical letters and forms, case histories, consultation reports, operative records, discharge summaries, X-ray and EKG reports, and the preparing of abstracts and articles for medical journals. Prereq: College Typing III. (3/0)

1395 OFFICE CALCULATING PROCEDURES V-4
 Provides for integration and relevance between basic mathematics and office machines. Concepts are developed; and these mathematical understandings are applied to the operation of adding and calculating machines. (5/0)

0216 OFFICE EDUCATION LABORATORY V-3
 Offers individual help in any office education subject, including both remedial and enrichment instruction. Time assigned by program.

1391 TYPING SKILL DEVELOPMENT V-2
 Continues further refinement of basic typing skills with emphasis on proper techniques, keyboard mastery, production of basic business correspondence, and speed and accuracy development. The course is primarily for dental and medical assistant students who need to reach a higher, general skills proficiency before advancing to their specialized typing units. (3/0)

College Parallel

0371 COLLEGE SHORTHAND I P-4
 For students with no knowledge of shorthand. (5/0)

0362 COLLEGE SHORTHAND II P-4
 Develops shorthand skills: beginning dictation and transcription. Prereq: Shorthand I or instructor's approval. (5/0)

0346 COLLEGE SHORTHAND III P-4
 Further develops shorthand skills with emphasis on dictation. Prereq: Shorthand II or instructor's approval. (5/0)

0314 COLLEGE SHORTHAND TRANSCRIPTION P-4
 Continues shorthand sequence with emphasis on increasing student's ability to transcribe difficult material from shorthand notes and to polish related transcription skills. Prereq: College Shorthand III or instructor's approval. (4/0)

0172 COLLEGE SHORTHAND V P-4
 Continues shorthand sequence with emphasis on increasing speed and accuracy. Prereq: College Shorthand Transcription or instructor's approval. (5/0)

0077 COLLEGE TYPING I P-3
 For students with no typing skills. (5/0)

0173 COLLEGE TYPING II P-3
 Further develops typing skills and knowledge. Prereq: College Typing I or instructor's approval. (5/0)

0262 COLLEGE TYPING III P-3
 Develops advanced typing skills and knowledge, especially designed for secretarial or business education majors. Prereq: College Typing II or instructor's approval. (5/0)

0721 OFFICE MACHINES P-2
 Includes operation and application of adding and calculating machines. (3/0)

0146 RECORDS MANAGEMENT P-3
 Studies filing systems and procedures for records storage and control. (3/0)

0435 SECRETARIAL PROCEDURES P-2
 Integrates skills and knowledge necessary to perform secretarial duties. Includes machine transcription and reproduction methods. Prereq: College Typing II or instructor's approval. (5/0)

PERSONAL DEVELOPMENT (Pers. D.)

Vocational-Technical

0802 PERSONAL DEVELOPMENT I V-1-3
 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)

0702 PERSONAL DEVELOPMENT II V-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)

0960 PERSONAL DEVELOPMENT III V-2
 Offers supervised study, counseling, and evaluation, techniques of effective studying. (2/0)

PHILOSOPHY/RELIGION (Phil.)

College Parallel

1526 INTRODUCTION TO PHILOSOPHY P-4
 Explores foundations of philosophical thought in the context of contemporary society. (4/0)

0511 INTRODUCTION TO RELIGION P-4
Includes a consideration of each of the great religions in the context of contemporary society. Variations in the structure, organization, and functions of religion are systematically examined. (4/0)

PHYSICS (Phys.)

Vocational-Technical

0930 APPLIED PHYSICS I V-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. (4/1)

0941 APPLIED PHYSICS II V-3
Studies temperature and heat transfer, air conditioning and refrigeration, wave motion and theory of atomic energy. (3/0)

0885 HEAT, LIGHT AND SOUND V-6
Employs laboratories to familiarize the student with the physical phenomena of heat, light, and sound and to introduce the scientific method. (4/2)

0614 TECHNICAL CHEMISTRY AND PHYSICS I V-3
Studies the chemical structure and the reactions that take place in mixing, gelation and sinterization of dental materials. Includes the laws of physics related to the dental laboratory fabrications. (3/0)

0711 TECHNICAL CHEMISTRY AND PHYSICS II V-3
Continues Technical Chemistry and Physics I. (3/0)

0803 TECHNICAL PHYSICS III V-2
Studies the principles of physics with relation to crown and bridge construction. (3/0)

College Parallel

0169 COLLEGE PHYSICS I P-4
(Open to freshmen in pre-medical, pre-dental, pharmacy and other students seeking to meet the science or physics requirements in professional or liberal arts programs.) Emphasizes the introduction of physical concepts without the rigor of advanced mathematics. Three-quarter sequence; first quarter includes review of necessary trigonometry and algebra, vectors, mechanics, Kepler's and Newton's laws, waves, sound, and heat. (3/2)

0266 COLLEGE PHYSICS II P-4
Includes electricity and magnetism, light, optics, and optical systems. Prereq: College Physics I. (3/2)



0360 COLLEGE PHYSICS III P-4
Includes electronics, atomic, and nuclear physics from an experimental and phenomenological point of view, special relativity, and cosmology. Three one-hour lectures, one 2-hour laboratory and one 1-hour problem session each week. (3/2)

0415 GENERAL PHYSICS I P-4
Designed primarily for engineering and science majors and those requiring a rigorous physics sequence employing mathematical techniques developed in the concurrent Calculus I course. Three-quarter sequence. First quarter includes vectors, mechanics, waves, oscillations, heat and thermodynamics, and statistical mechanics. Prereq: General Physics I and concurrently Calculus II. (3/2)

0514 GENERAL PHYSICS II P-4
Includes electricity and magnetism, electro-magnetic propagation, physical and geometrical optics. Prereq: General Physics I and concurrently Calculus II. (3/2)

0610 GENERAL PHYSICS III P-4
Includes quantum mechanical foundations, relativity, atomic and nuclear physics, elementary particles, cosmic rays and space physics. Prereq: General Physics II. (3/2)

1324 PHYSICAL SCIENCE (ASTRONOMY) P-4
Provides an introductory overview of modern astronomy for non-science majors. Topics include historical development of astronomy, fundamentals of astronomy, the earth-sun system, planetary motion, tides, the planets, the solar system, energy production in stars, the Milky Way, other galaxies, life and death of stars, the Universe and Cosmology. The week's third hour lab meets in the evening. (3/2)

0073 PHYSICAL SCIENCE (PHYSICS) P-4
Introductory overview of modern physics for non-science majors. Topics include atomic and nuclear physics, Galileo and Newtonian mechanics, wave-particle nature of light, time, cosmic rays and space physics. (3/2)

POLITICAL SCIENCE (Pol. Sci.)

Adult

0123 AMERICAN GOVERNMENT EC-3
Studies the government of the United States from the Mayflower Compact to the most recent laws passed by congress. Detailed study of individual segments of our government as determined by student interest.

Vocational-Technical

0598 AMERICAN INSTITUTIONS I V-1
Studies the effect of American social, economic and political institutions upon the individual as a citizen and a worker. Current local, national and international problems are viewed in the light of American political and economic heritage. Adapted to the needs and interests of students depending on the program in which they are enrolled. Open to students in vocational or technical programs only. (180)

0697 AMERICAN INSTITUTIONS II V-3
Continues American Institutions I. Open only to students in vocational-technical programs. (180)

1103 STATE AND LOCAL GOVERNMENT V-2
Analyzes principles, organization, procedure and functions of government in the community, state and nation. Special adaptation is made of legislation to the local business and its successful operation. (120)

College Parallel

0063 AMERICAN SOCIETY: COMMUNITY POLITICS P-4
Introduces the organization, structure and function of community politics and decision-making. An assessment of voting, interest groups and political party roles in the political process. Applies only to Associate Degree. (120)

0353 AMERICAN FEDERAL GOVERNMENT P-4
Offers analysis of principles, organization, procedure and functions of the national government of the United States. (120)

0445 STATE AND LOCAL GOVERNMENT P-4
Offers analysis of principles, organization, procedure and functions of government of the United States - state and local. (120)

0539 WORLD POLITICS P-4
Offers an analysis of major world regions and current international problems. (120)

1501 INDEPENDENT STUDY IN THE SOCIAL SCIENCES P-0, 1, 2, 3
Provides readings, papers and/or basic research projects under the individual guidance of a staff member. Consent of instructor and department chairman is required before registering.

POLLUTION/ENVIRONMENT (Poll.)

Vocational-Technical

1374 COMMUNITY IMPROVEMENT V-3
Identifies programs for Urban Renewal, neighborhood conservation and rehabilitation, air pollution control, traffic patterns, and the interrelationships among governmental services. (400)

0688 DISEASES OF MAN V-4
Covers the infectious, zoonotic, and traumatic injuries suffered by man. Also severity and frequency of occurrence; their agents and reservoirs, and the conditions and circumstances which result in their transmission to man and how they are controlled. (400)

0244 HOUSING INSPECTION V-5
Covers the health signi-ficance of housing; the features of houses which contribute to it including lighting, heating, ventilation, supplied facilities, site and sanitary maintenance and circulation space and air-conditioning requirements. The application of standards, building and housing codes to the control of these features and the inspectional methods employed in the production and enforcement of the standards. (120)

0898 INTRODUCTION TO PUBLIC HEALTH V-3
Offers an overview of the organized community effort to overcome disease and upgrade the level of health of the public. (400)

1382 INSTITUTIONAL SANITATION V-3
Studies environmental factors involved in the health and safety considerations in schools, nursing homes, hospitals and correctional institutions. (400)

0628 FOOD SANITATION V-3
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. (300)

0376 MILK SANITATION V-3
Includes the quality milk program, the sanitation involved in the production and the processing of milk, and proper sampling technique. (300)

1386 OCCUPATIONAL HEALTH AND INDUSTRIAL SAFETY V-3
Studies community and occupational sanitation problems including industrial and home hygiene and safety. (400)

1390 RECREATIONAL SANITATION	V-2
Covers the health and safety aspects of parks, trailer parks and swimming pools including regulations on enforcement and testing. (4:0)	
0140 REFUSE SANITATION	V-3
Covers the character of solid waste produced by households and communities, their health and nuisance significance; and proper methods of disposal including use of sanitary landfills, incinerators, and landfills. The hazard of log floating and the air pollution and storm problems associated with refuse burning and dumps will also be covered. (3:1)	
1378 PROJECTS LAB	V-4
Offers supervised selection projects involving lab work and field experience. (Hours arranged.)	
0391 SEWAGE SANITATION	V-5
Includes health significance of sewage and the importance of proper sewage disposal to public health, basic principles of sewage treatment and disposal, principles of Sewage Sanitation I as applied to specific private sewage treatment processes including privies, septic tanks, absorption systems, leach pits and oxidation ponds. (5:1)	
0267 SUPERVISED FIELD STUDIES (SUMMER SESSION)	V-10
Offers supervised on-the-job training and inspections of dwellings, food handling procedures, water testing, observations of quality of sewage treatment, inspection of piping, checking refuse disposal and nuisances. (3:0)	
0379 SEMINAR-ENVIRONMENTAL HEALTH	V-2
Studies problems via centered learning field learning experience. (2:0)	
0138 VECTORS	V-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)	
0346 WATER SANITATION	V-3
Provides the student with the understanding of the public health significance of a safe and adequate water supply. It will include the study of public water supply, proper well design, pump operation, water purification processes, water bacteriology, chemical testing, individual water systems, and sampling techniques. (3:1)	

PSYCHOLOGY/EDUCATION (Psych.)

Adult

0484 PSYCHOLOGY	II-3
Introduces the defining and solving of everyday problems. Textbook examples of situations common to all vocations. Group discussions relating life to theory of problem solving.	

Vocational-Technical

1412 HUMAN RELATIONS & SHOP SUPERVISION	V-1
Organizational principles and patterns of shop leadership. (3:2)	
0145 INTERPERSONAL RELATIONSHIPS	V-2
Studies people-to-people responses, emphasizing the less obvious, such as what people tell about themselves by interaction with their environment. (3:0)	
0259 ORIENTATION TO THE PROFESSION OF ARCHITECTURAL DRAFTING	V-1
Familiarizes students to Architectural Drafting with plans and procedures. Personal appearance and human relations are also stressed. (1:0)	
0402 PSYCHOLOGY OF HUMAN RELATIONS I	V-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 to which they are enrolled and is open to students in vocational or technical programs only. (3:5:0)	
0390 PSYCHOLOGY OF HUMAN RELATIONS II	V-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. Consideration of the special needs of persons at various ages from early childhood through adulthood. (3:0)	
0483 PSYCHOLOGY OF HUMAN RELATIONS III	V-2
Continues Psychology of Human Relations II. Open to students in vocational/technical programs. Provides students with opportunities to discuss human relations problems encountered while doing clinical work. (2:0)	
1517 SUPERVISORY PSYCHOLOGY	V-4
Designed to provide students with the opportunity to study and apply the skills of supervision and management in business. Priority will be developed according to the student's vocation/business. Management techniques will be stressed.	
College Parallel	
1345 PSYCHOLOGY OF ADJUSTMENT	P-1
Studies basic principles of psychology in relation to the development, assessment, and modification of personality; adjustment. Recommended for students wishing one course only in psychology. Not open to students who have taken General Psychology. (4:0)	
0889 GENERAL PSYCHOLOGY	P-4
Provides a general introduction to the study of human behavior. (4:0)	

0024 PSYCHOLOGY OF CHILD DEVELOPMENT P-4
Studies psychological growth and development from birth through high school age. Prereq: General Psychology. (4/0)

1341 EDUCATIONAL PSYCHOLOGY AND MEASUREMENT P-4
Considers and evaluates the following items: factors of physical and mental development; child and adolescent characteristics as they may affect 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)

0598 AMERICAN PUBLIC EDUCATION P-4
Provides an overview of the field of education with special emphasis on sociological, political and economic factors. (4/0)

1337 PRACTICUM FOR TEACHER ASSOCIATES
Offers observation of elementary or secondary classrooms, plus supervised classroom experience in which students serve as teacher aides. Weekly discussion of topical interest as related to classroom and experience. 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)

1501 INDEPENDENT STUDY IN THE SOCIAL SCIENCES P-0-1,2,3
Provides readings, papers, and/or basic research projects under the individual guidance of a staff member. Consent of instructor and department chairman is required before registering. (Hours arranged.)

SAFETY (Saf.)

Vocational-Technical

0987 FIRST AID V-0,5-1
Teaches basic principles of first aid and emergency care. (2/0)

College Parallel

0582 FIRST AID P-2
(Open to anyone, but particularly designed for policemen, firemen, ambulance drivers, supervisors, and others.) 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) (2/0)

SOCIOLOGY (Soc.)

Adult

0068 SOCIOLOGY H-3
Studies man and his relationship to his social environment. Designed to give the individual an understanding of his role in all social situations including the family.

Vocational-Technical

0518 INDUSTRIAL ORGANIZATIONS V-3
(Open to students in Mechanical Engineering Technology only.) Analyzes labor and management in an industrial society, collective bargaining, dynamics of the labor market, and labor-management relations. (2/0)

0575 FAMILY AND LIFE SPAN V-2
A study of the effect of various cultural and social developments on the individual, family, and groups in the community. Includes physical and psychological development and needs from infancy through the senior citizen. (3/0)

1292 RURAL SOCIOLOGY V-2
Explores the problems which have emerged in complex rural American society, including a study of the various farm and Agri-business organizations. (2/0)

College Parallel

0815 AMERICAN SOCIETY: COMMUNITY ORGANIZATION P-1
Introduces the study of American society, its social and group organization. Case studies in the nature and structure of the contemporary community. Applied only to the Associate Degree. (4/0)

0903 AMERICAN SOCIETY: COMMUNITY PROBLEMS P-4
Introduces the problems of communities in transition and crisis. The definition, nature and range of social problems and their challenge to the contemporary community. Applies only to the Associate Degree. (4/0)

0183 AMERICAN SOCIETY: MINORITY GROUP RELATIONS P-1
Focuses on race and ethnic relations in the U.S. and approaches race and ethnic relations as another form of diversity in American society. Developmental perspective is undertaken to ascertain the significance of contemporary race and ethnic relations. Applied only to the Associate Degree. (4/0)

0165 INTRODUCTION TO SOCIOLOGY P-4
Examines the range of human behavior. Drawing from the fields of anthropology, social psychology, and sociology, a survey of contemporary behavior is made, together with an examination of the theoretical assumptions governing the study of human behavior. The major findings of sociology will be presented, and its impact on contemporary thought will be examined. (4/0)

0355 MARRIAGE AND THE FAMILY P-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 pre-marital, marital and child-bearing decision making. The implications of marital dissolution is also explored. (4/0)

0254 SOCIAL PROBLEMS P-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)

1528 CRIMINOLOGY P-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)

1101 INTRODUCTION TO CULTURAL ANTHROPOLOGY P-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)

1501 INDEPENDENT STUDY IN THE SOCIAL SCIENCES (ANTHROPOLOGY) P-0,1,2,3
Provides readings, papers and/or basic research projects under the individual guidance of a staff member. Consent of instructor and department chairman is required before registering. (Hours arranged.)

1501 INDEPENDENT STUDY IN THE SOCIAL SCIENCES (SOCIOLOGY) P-0,1,2,3
(See course description above.)

SPEECH (Sp.)

Vocational-Technical

0358 SPEECH V-3
Studies the fundamentals of speaking, emphasizing the development of speaking skills. (3/0)

0268 ORAL COMMUNICATIONS V-3
Studies the fundamentals of speaking, the techniques and theory of persuasive speaking. The development of skills is continued through frequent opportunities to apply to techniques discussed. (3/0)

College Parallel

0358 SPEECH I P-3
Studies the fundamentals of speaking, emphasizing the development of speaking skills. (3/0)

0451 SPEECH II P-3
Examines the techniques and theory of persuasive speaking. The development of skills is continued through frequent opportunities to apply techniques discussed. (3/0)

SCIENCE (Sci.)

College Parallel

1358 INTEGRATED SCIENCE I P-4
Designed for students in health occupations, covers basic principles in chemistry. Emphasis is placed on an introduction to organic chemistry and biochemistry. (Permission of instructor required for students not in a health occupations program.) (3/2)

1367 INTEGRATED SCIENCE II P-4
Emphasizes the application of some basic principles of physics as they apply to medical procedures such as vectors and pulleys especially as they relate to traction, force and motion, and simple machines. In addition the course introduces the field of microbiology, covering such topics as immune mechanisms, germ theory of disease, allergic manifestations, chemotherapy, and epidemiology. Prereq: Integrated Science I. (3/2)

THERAPY (Thpy.)

Vocational-Technical

0400 CLINICAL EXPERIENCE OTA I V-5
Offers learning activities in an Occupational Therapy Clinic emphasizing the psychosocial aspects of therapy. (6/40)

0487 CLINICAL EXPERIENCE OTA II V-5
Offers learning activities in an Occupational Therapy Clinic emphasizing the physical disability aspects of therapy. (6/40)

1221 CLINICAL EXPERIENCE OTA III V-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)

0589 FUNCTION AND DYSFUNCTION (OCCUPATIONAL THERAPY THEORY) V-5

Provides basic understanding of processes by which function becomes dysfunction. Emphasis placed on conditions relevant to the occupation of therapist. (2/1)

0910 MANAGEMENT OF PHYSICAL DISABILITY (CLINICAL CONDITIONS) V-4

Management of the physical disability (clinical conditions as seen in the occupational therapy clinic. (4/1)

0821 MANAGEMENT OF PSYCHO-SOCIAL (CLINICAL CONDITIONS) V-4

Studies management of psychosocial clinical conditions relative to the occupational therapy clinic. (4/1)

0314 MEDIA AND SKILLS I V-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)

0437 MEDIA AND SKILLS II V-3-4

Introduces more crafts and emphasizes skills in the major crafts: weaving and leather relating activity to treatment. (7/6-8)

1082 INTRODUCTION TO PHYSICAL THERAPY, ORTHOTICS AND PROSTHESES (OA) V-4

Introduces simple active and passive exercises, importance of good alignment and body mechanics, practical experience in crutch training; and uses and care of braces and prosthetics. Supervised clinical experience in the physical therapy department is provided. (2/2)

0281 ORIENTATION TO OCCUPATIONAL THERAPY V-2

Presents basic orientation to and understanding of occupational therapy and the orientation of the assistant to his role. (1/20)

0274 PRINCIPLES AND PRACTICES OF REHABILITATION V-2

Presents basic principles of rehabilitation as a process in the treatment of physical and psychosocial disabilities. (3/1)

0553 PROSTHETICS AND PROSTHETIC MATERIALS V-2

Develops an understanding of prosthetic devices and materials provided for and used with patients, including adaptive devices. (2/9)

1047 PROJECT LAB - OTA V 1-3

Special projects chosen by the student related to the major area as approved by his department advisor. (0/1-2)

1082 SEMINAR OIA V-2

Helps the student from an interpretation of his practical experiences and their meaning. To get feedback from the students on the effectiveness of his clinical experience. (0/6)

WELDING (Weldg.)

Adult

0387 MACHINE SHOP AND WELDING U-3

Provides instruction in the operation of shapers, grinders, lathes and many other types of machinery, as well as theory and practice in arc and gas welding.

Vocational-Technical

1361 BASIC ARC WELDING V-5

Includes an introduction to all position arc welding, including flame cutting. 6 weeks. (0/24)

1347 RELATED INSTRUCTION: BASIC ARC V-3

Offers classroom studies of welding and cutting safety, electrode selection, and introduction to shop math and blueprint reading for welders. 6 weeks. (Taken with Basic Arc Welding) (6/6)

1351 HEAVY INDUSTRIAL ARC WELDING V-5

Develops the student's welding skills to a job entry level for industry, using the powered iron speed rods and the low hydrogen electrodes. A requirement for passing this course is the successful completion of A.W.S. Guided Bend Test. (6 weeks.) (0/24)

1356 RELATED INSTRUCTION HEAVY INDUSTRIAL ARC V-3

Studies metal identification, arc welding machines, welding oxy-acetylene welding process. (6 weeks) (6/0)

1412 HUMAN RELATIONS & SHOP SUPERVISION V-1

Increases organizational principles and patterns of shop leadership. (2/0)

1276 SHUTTLEWALD ARC WELDING V-2

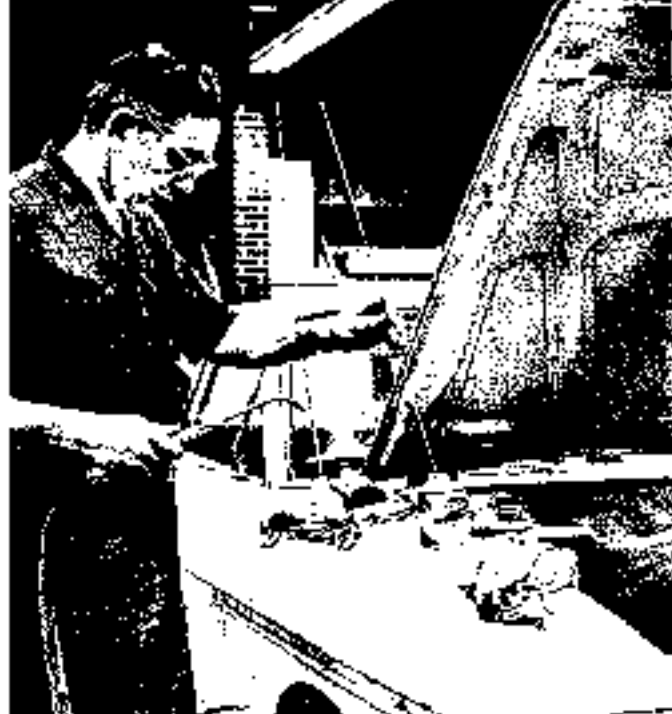
Studies all position weld techniques used on light gauge metal. (1 week) (0/17)

1372 SEMI-AUTOMATIC WELDING V-3

Studies the set up and operation of the semi-automatic welding process, using both hard wire and flux core wire. (2 weeks) (0/17)

1360 OXY-ACETYLENE WELDING V-4

Covers most common oxy-acetylene welding methods used in maintenance welding as well as production. (4 weeks) (0/27)



1368 HELIARC WELDING V-4
Covers all position welding techniques on ferrous and non-ferrous materials using the heliarc welding process. (4 weeks) (0-27)

1380 SPECIAL ARC WELDING TECHNIQUES V-1
Studies welding methods used on cast iron, stainless steel and hard steels. (1 week) (0-27)

1384 RELATED INSTRUCTION: ADVANCED WELDING PROCESSES V-3
Covers shop math, layout methods, and advanced welding processes for the combination welder. (300)

1392 WELDING INSPECTION V-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) (0-14)

1396 STUDENT PROJECT V-2
Preparation of an original project by the student in the areas of fabrication, inspection of welding processes. (0-14 - 4 wks.)

1400 WELDING TECHNOLOGY V-4
Studies welding processes and power sources including welding metal-logs, strength of materials, design of weldments, cost of welding and production methods. (300)

adult and continuing education

CORRESPONDENCE COURSES (High School Completion)

Correspondence courses have been developed to provide educational opportunities for those unable to participate in a regularly prescribed program or who need additional work.

Algebra I
Algebra II
American Government I
American Government II
American Government III
American Literature I
American Literature II
Biological Science I
Biological Science II
Consumer Mathematics
English Grammar I

English Grammar II
G.E.D. Preparation
Physical Science
Sociology I
Sociology II
U.S. History I
U.S. History II
U.S. History III
World History I
World History II
World History III

NON-CREDIT VOCATIONAL AND ADULT CONTINUING EDUCATION COURSES

Kirkwood Community College offers non-credit courses for individual, personal development or for career preparation or upgrading. The following courses are among those usually offered at least once during the year, more frequently when interest warrants. Where there is sufficient demand, additional courses can be arranged to meet the needs and interests of individual areas and groups. Civic, business, industrial and cultural leaders are often active in adult education programs.

ACCOUNTING:

- Bookkeeping I
- Bookkeeping II
- Bookkeeping III
- Business Machines

ADMINISTRATION AND MANAGEMENT:

- Iowa Local Government Training Program
- Investments
- Stock Investments
- Standards for Stock Selection
- Supervisory Management Training
- Traffic Management and Transportation

AGRICULTURE:

- Lawn and Turf
- Farm Tractor Maintenance
- Basic Hydraulics
- Farm Enterprise Analysis

ART:

- Basic Art
- Photography
- Creative Jewelry
- Toile 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 Data Processing
- 360-Model 20
- Introduction to Computers and Programming
- IBM S/360 Disk Operating System Concepts and Coding
- Introduction to IBM S/360 COBOL Programming
- Advanced Systems/360 COBOL Programming
- Computer Logic I
- Introductory Key punches

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
 Advanced Sewing
 Alterations
 Tailoring
 Slipcover and Drapery Making
 Interior Decorating
 Advanced Interior Design
 Lingerie and Knitwear
 Upholstering
 Basic Industrial Bookkeeping Techniques

LAW/LAW ENFORCEMENT/CORRECTIONS:

Law for the Layman

LITERATURE:

American Authors Series - Hemingway
 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 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
 Flexible 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:

Clubs

PHILOSOPHY AND RELIGION:

Philosophy and Philosophies
 Religions of the World

PHYSICAL EDUCATION:

Horsemanship
 Men's Recreation
 Indoor Sports for Men
 Gymnastics for Women
 Physical Fitness for Men
 Swimming for Women
 Beginning Swimming
 Intermediate Swimming
 Recreational Family Swimming
 Basic Scuba Diving
 Golf Instruction
 Judo
 Square Dancing
 Ballroom Dancing

POLITICAL SCIENCE

Current Events
Iowa Local Government
American Government
State and Local Government

PSYCHOLOGY

Psychology
Adolescent Psychology
Sales Psychology
Effective Supervisory Practices

RECREATION:

Beginning Bridge
Intermediate Bridge
Tournament Bridge
Tropical Fish and Aquariums
Rockhounds
Aviation Ground School
Travelogues and Book Reviews
Genealogy
Basic Handwriting Analysis

SAFETY:

Standard First Aid

SOCIOLOGY

Adult Basic Education: Sociology
Patterns for Living
Family Life
Retirement: Problems and Enjoyment
Sociology

SPEECH/DRAMA

Creative Thinking
Speechcraft
Public Speaking

WELDING:

Arc Welding
Oxy Acetylene Welding
Advanced Welding



proposed PROGRAMS and COURSES

The following are programs and courses under consideration for offering by Kirkwood Community College.

ARTS AND SCIENCES DIVISION

College Parallel Programs and Courses

Physical Education	
Physical Education for Men and Women	
I, II, III	P-I, 1, 1
Physical Education for Men and Women	
IV, V, VI	P-I, 1, 1
Physical Science (Current Problems)	
Psychology	
Dynamics of Leadership	
Psychology of Growth and Development	

VOCATIONAL-TECHNICAL DIVISION

Agriculture Department

Technical Agriculture Assistant - Six quarters - Associate in Applied Science Degree.

Business Department

Industrial Marketing - Seven quarters - Associate in Applied Science Degree.

Advertising - Six quarters - Associate in Applied Science Degree.

Traffic and Transportation Management - Six quarters - Associate in Applied Science Degree.

Data Processing Department

Data Processing Supervision - Eight quarters - Associate in Applied Science Degree.

Health Occupations Department

Ambulance Attendant - Four quarters - Diploma.

Operating Room Technician - Four quarters - Diploma.

Home Economics Department

Supervisory Institutional Housekeeping - Three quarters - Diploma.

Trade and Industry Department

Civil Technology - Six quarters - Associate in Applied Science Degree.

Refrigeration and Major Appliances Repair - Four quarters - Diploma.

PROPOSED WORKSHOPS - SEMINARS - INSTITUTES - SHORT COURSES

Health Occupations Department

Dental Laboratory Technician - Refresher

Emergency Health Care Seminar

Environmental Health - Extension Course

Medical Office Assistant - Refresher

Registered Nurse - Refresher

Home Economics Department

Food Service Training/Cook (Hotel and Restaurant) Entry

Food Service Training for School Lunch Personnel

Institutional Housekeeping Management

Institutional Housekeeping Techniques

Trade and Industrial Department

Supervisory Management Development Training Series

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