William Rainey Harper College

1970

1971

1970-1971 CATALOG

VOLUME 4

NUMBER 1

JUNE; 1970

Published by William Rainey Harper College
Algonquin and Roselle Roads
Palatine, Illinois 60067

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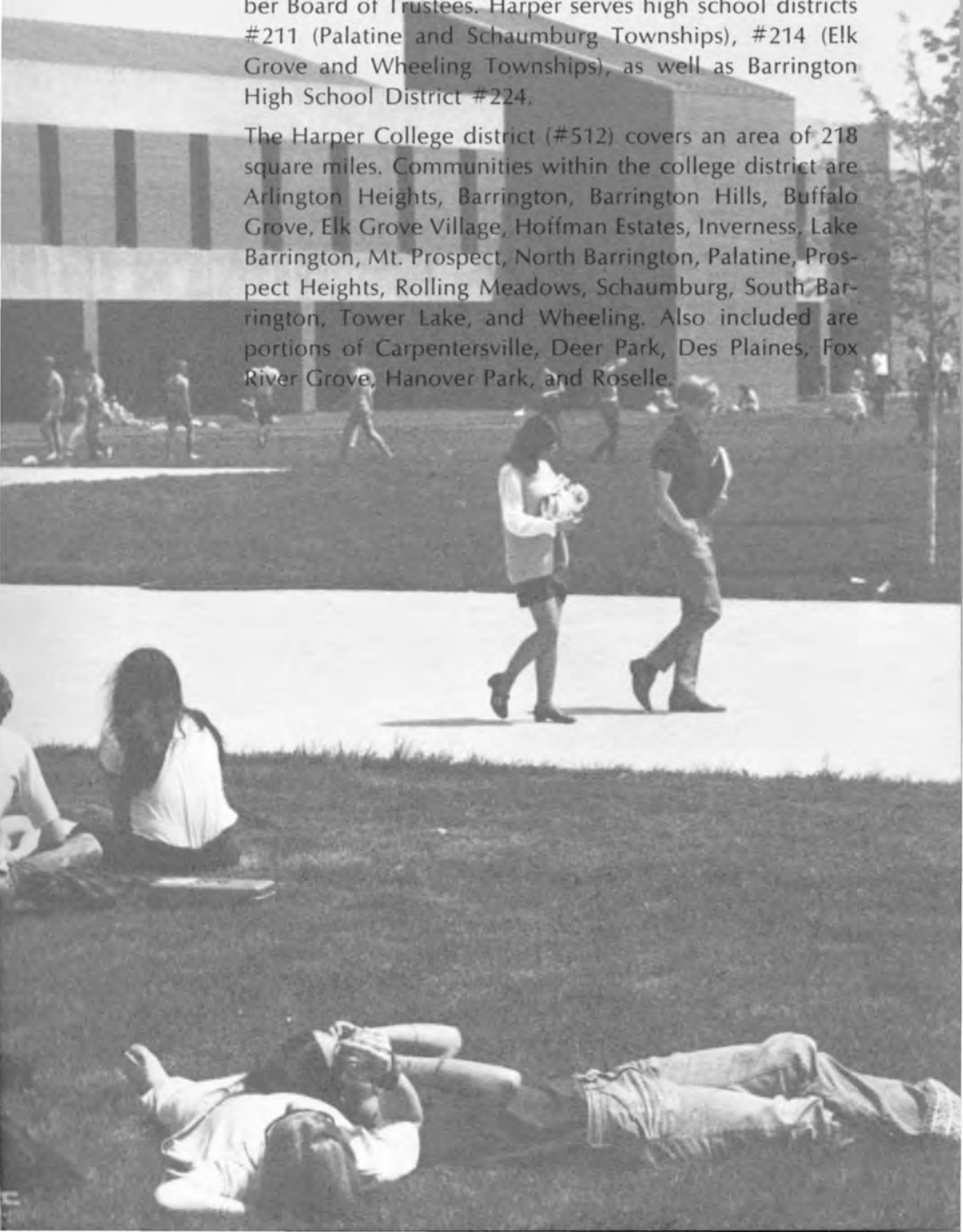
THE COLLEGE

William Rainey Harper College in Palatine, Illinois is a public college, an integral part of the Illinois system of higher education. The college, established in 1965 by voter referendum, is governed by an elected seven-member Board of Trustees. Harper serves high school districts #211 (Palatine and Schaumburg Townships), #214 (Elk Grove and Wheeling Townships), as well as Barrington High School District #224.

The Harper College district (#512) covers an area of 218 square miles. Communities within the college district are Arlington Heights, Barrington, Barrington Hills, Buffalo Grove, Elk Grove Village, Hoffman Estates, Inverness, Lake Barrington, Mt. Prospect, North Barrington, Palatine, Prospect Heights, Rolling Meadows, Schaumburg, South Barrington, Tower Lake, and Wheeling. Also included are portions of Carpentersville, Deer Park, Des Plaines, Fox River Grove, Hanover Park, and Roselle.



BOARD OF TRUSTEES

Just five years ago, in May, 1965, the newly elected Board of Trustees of William Rainey Harper College convened for their first official meeting. The college had no name, no staff, no facilities, but it did have a Board consisting of seven individuals determined to establish a community college worthy of the area it serves.

How do seven people establish, staff, and equip an operating college once the voters give them the go-ahead? Words such as "dedication," "hard work," and "civic pride" just don't tell the whole story.

Harper College has been most fortunate in having a Board of Trustees possessing the capacity to work together in planning programs, solving problems, and establishing educational goals unique in the history of the northwest suburban area.

There has been a "total involvement" by the Board members — and there has been a heartening interest and involvement by members of the community as well. Hundreds of citizens in the Harper community have worked countless hours to help accomplish key phases of the college program. In this, the "dedication year" of the college, it is both fitting and proper to reflect on the events of the past five years which have made the college and the new campus an impressive reality.

JAMES J. HAMILL, Chairman

LAWRENCE R. MOATS, Secretary

JESSALYN M. NICKLAS, Vice Chairman

JOHN A. HAAS

MILTON C. HANSEN

RICHARD L. JOHNSON

JOSEPH C. MORTON

THE FIRST FIVE YEARS

The history of Harper College is not long. Late in 1964, a petition was circulated calling for a referendum to vote on the establishment of a community college. A few months later, voters approved the referendum, and the townships of Elk Grove, Palatine, Schaumburg, and Wheeling joined together to form a community college district.

Formation of the first Board of Trustees was swift. Voters returned to the polls only thirty-four days after approving the referendum to elect seven citizens — from among forty-eight candidates — as the first Board of the new college.

The college district (#512) reached its present boundaries in March, 1967, when voters from high school district #224 in the Barrington area voted to join the district.

The idea of a community college in this area had been mentioned as far back as 1950, but community ideas take time to grow and mature, and it takes the vision and initiative of many groups to bring important ideas to fruition.

Harper's history covers a period of only five years. Milestones in the development of this brief history include:

1965

May

College Board of Trustees met for the first time, using the Board offices of High School District #211.

June and July

The Board of Trustees solicited various communities to determine their interest in having the new community college locate its campus in their area.

September

Dr. Robert E. Lahti from Michigan was employed as the first president of the college.

November and December

The Board of Trustees interviewed leading architectural firms for the purpose of designing and planning a new campus. Two outstanding architectural firms were se-

lected to work in association — Caudill Rowlett Scott of Houston, Texas and Fridstein Fitch and Partners of Chicago, firms respected and well known for their work in designing educational facilities.

1966

January

Possible sites for the new campus were studied by the Board and the architects.

February

The college was approved as a Class I Junior College, thus becoming eligible to receive state and federal funds.

March

A 200-acre site in Palatine was selected for the permanent campus.

April

The college adopted the name "William Rainey Harper" in honor of the first president of the University of Chicago and the "father" of the junior college movement.

May

Barrington residents expressed an interest in joining the Harper district.

June

Voters in the district approved a bond issue referendum authorizing Harper College to sell $7,375 million in construcion bonds. This bond issue represented the local share of the total building cost.

August

A budget of $869,838 for fiscal year 1966-67 was approved by the Board.

September

$3,375 million in construction bonds were sold to the First National Bank of Chicago at an average interest rate of 4.39 percent.

December

The first scholarship established for Harper students, a gift from the U.S. Gypsum Research Center employees, Des Plaines, was accepted by the college.

1967

January

The state approved Harper as an area vocational-technical school and set aside $750,000 for use in developing approved vocational-technical programs.

The first faculty members were employed.

Tom Griffith of Palatine became the first student to enroll at Harper College.

Four million dollars in revenue bonds were sold to the First National Bank of Chicago at an average interest rate of 3.65 percent.

February

An architectural master plan was approved. Phase I of the construction program was to cost approximately twelve million dollars.

March

Barrington voters approved a referendum by a 9 to 1 margin to associate with the Harper district.

The state approved Harper for a $2.6 million dollar federal grant.

April

Harper's first catalog was published.

August

The new faculty convened for a three-week orientation program before the beginning of classes.

September

Classes began. 1,725 students enrolled. The first edition of the student newspaper was published.

October

Ground was broken for the first six buildings of the new campus.

1968

February

The second semester began; enrollment topped 1,800; and twenty-six students were named to the academic honors list for the first semester.

March

Harper joined in forming GT/70, a national consortium of ten leading community junior colleges cooperatively seeking self improvement through new and stimulating approaches to quality education.

June

First summer session attracted nearly 1,000 including students from over fifty other colleges and universities throughout the country.

August

With GT/70 support, Harper hosted a three-week national workshop for student personnel staff in colleges and universities.

September

The second year of classes opened with more than 3,700 students enrolled; the faculty size doubled; and five new career programs were added.

November

Harper's Board of Trustees became the second community junior college board admitted to membership in the Association of Governing Boards of Universities and Colleges.

1969

February

127 students earned academic honors for the first semester; five students were recognized in the 1968-69 edition of **Who's Who Among Students in American Junior Colleges.** Harbinger, the student newspaper, won national recognition for excellence.

March

Harper president was named to a three-year term on the Board of Commissioners of the National Commission on Accrediting and on the Advisory Council of Presidents of the Association of Governing Boards.

April

Based on high performance ratings determined by a five-member examining team, the North Central Association for accreditation elevated Harper to candidacy status.

June

First commencement was held — 114 students received degrees; 72 associates in arts, 21 associates in science, and 21 associates in applied science.

Harper became the first college in Illinois to conduct student registration "on line" with its computer.

August

Harper's president was elected chairman of GT/70.

September

Phase I of campus construction was completed on schedule.

Faculty orientation meetings were conducted in the Learning Resources Center on the permanent campus.

The third year of classes began with a fall enrollment of 5,400 — a student population two years ahead of the most liberal projections.

Non-credit continuing education courses for adults were offered for the first time.

October

Harper Dental Hygiene Clinic opened to become the first such facility serving the northwest suburban area.

November

Harper linked with top management of northwest suburban business and industrial firms to form a Harper Industrial Steering Committee. The Committee announced plans for a series of in-service management conferences to be held at the college in 1970.

December

A two-day conference on "Computers in the Junior College" was hosted at Harper. Sponsored by the American Association of Junior Colleges, the conference drew 150 representatives from two-year colleges in Illinois, Iowa, Indiana, Michigan, and Wisconsin.

Legislators from the State of Michigan visited Harper to learn about development of the college as part of a study aimed at reorganizing the Michigan community college system.

Dental Hygiene students from Harper completed a six-week program of dental health education among 4,300

elementary school children from Schaumburg district 54 and Arlington Heights district 59.

1970

January

Harper and five other Chicago-area community colleges joined to form the "Skyway" community college athletic conference. Harper's Vice President of Student Affairs was elected to head the new league.

Registration procedures were simplified through creation of a "register by telephone" system hooked into Harper's computer.

The Board of Trustees voted to request tax rate increases of twelve cents in the Educational Fund and five cents in the Building (maintenance and operation) Fund through a referendum held on March 21, 1970.

February

Harper presented a series of six Sunday afternoon "Open House" programs, February 8 through March 15, to introduce the college to local citizens.

Sixty-two nursing students were "capped" in recognition ceremonies.

Harper was featured in the National Education Television (NET) series on community colleges.

March

The seventeen cent tax referendum was rejected by a two to one vote despite endorsement by the Illinois Third District legislators.

April

Ten Harper students earned recognition in 1969-70 edition of **Who's Who Among Students in American Junior Colleges.**

May

Formal dedication of the permanent campus was held on May 3, with a month-long dedication observance climaxing at the second annual commencement.

June

Commencement on June 5 had 270 students receiving degrees: 116 associates in arts, 58 associates in science, 64 associates in applied science, and 32 certificate program recipients.

W. R. Harper, at right, with J. D. Rockefeller observing University of Chicago's Decennial Celebration, June 18, 1901.

WILLIAM RAINEY HARPER
Father of the Community College

The spirit of Harper College is reflected in its name. William Rainey Harper, first president of the University of Chicago, was a scholar, teacher, writer, and administrator who devoted his life to the pursuit of excellence in education.

Dr. Harper accomplished so much in his lifetime that he is counted among the intellectual giants of his day. A prodigy who enrolled in college at the age of ten, Harper received a bachelor of arts degree from Muskingum College in Ohio at 14 and a Ph.D. from Yale at 19, where he became a full professor of Semitic Languages and Biblical Literature at the age of 29. During his 15-year presidency, the University of Chicago emerged as one of the leaders in the movement to reform higher education. The principle of academic freedom at this institution was clearly defined, the importance of both teaching and research was established, and the way was set for the flowering of this great American university.

A man of vision and an innovator. Dr. Harper is recognized as the father of the two-year college idea, which he initiated at the University of Chicago just before the turn of the century. In 1896, the university was divided into two major divisions — the Academic College (later named Junior College) for freshmen and sophomores, and the University College (later named Senior College) for juniors and seniors. Full-fledged emergence of his concept came almost 70 years later.

The community college, as we know it today, came of age in the mid 1960's. In Illinois alone there are nearly 40 public two-year colleges serving upwards of 200,000 citizens through a full range of transfer, career/vocational, and continuing education programs on both a daytime and an evening basis.

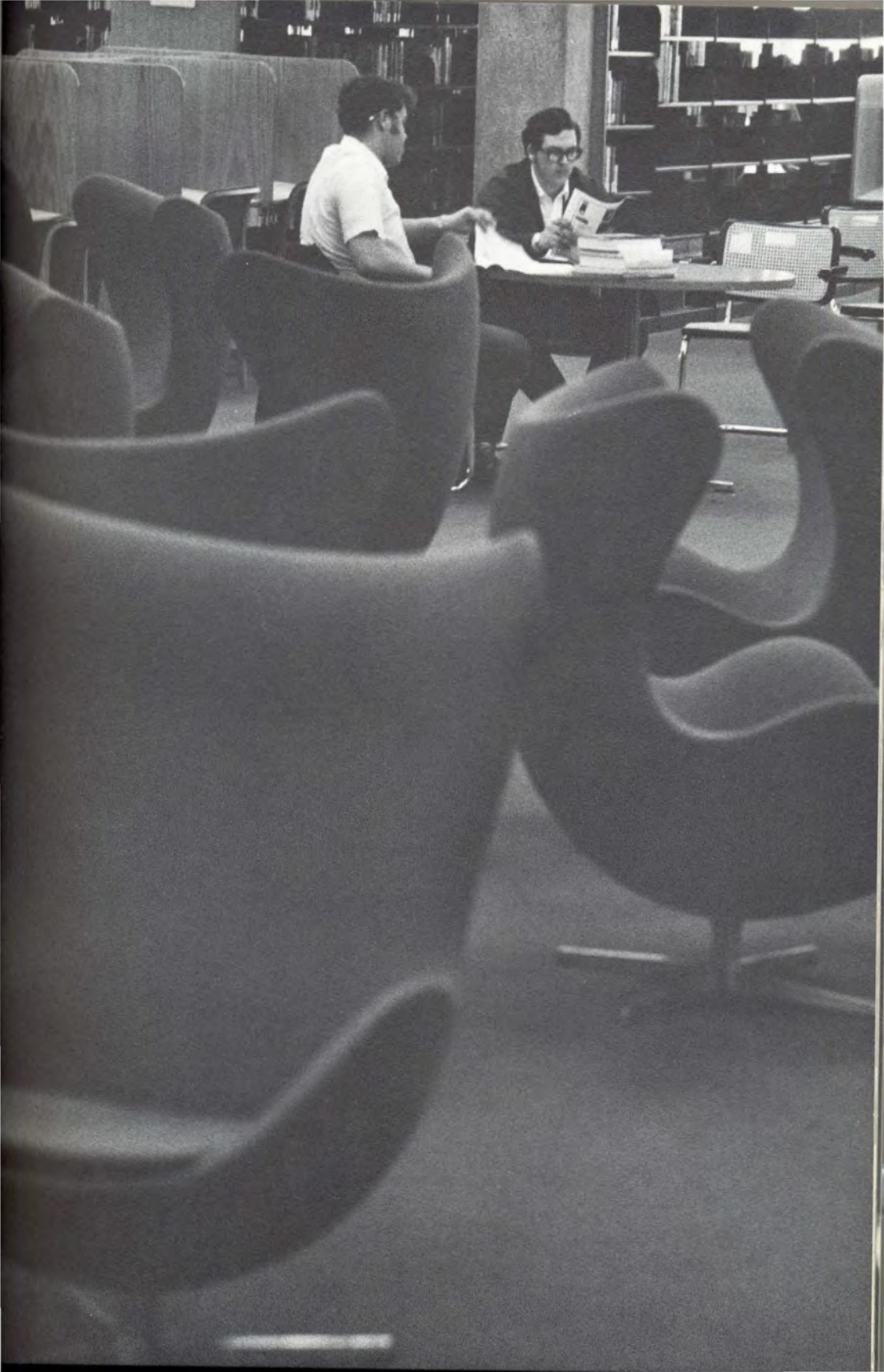
PHILOSOPHY OF HARPER COLLEGE

An outstanding program of higher education for the community it serves is both the promise and the guiding philosophy of William Rainey Harper College. Created by a community responsiveness to the contemporary insistence on more education for more of its citizens, the college is determined to meet the particular educational and vocational requirements of each student and thus serve the community at large — for a true community college answers to the demands of the total community.

The demands of the community are clear. In addition to the specific need for two years of high quality transferable collegiate credit, the college must recognize the more general, but no less important, requirement of educating all of its students for a meaningful role in a free and fluid society which promises increased leisure time.

Basic to responsible participation in society is the student's realization of his contribution in voting more intelligently, producing more efficiently through the acquisition of a salable skill, and adapting more readily to a complex society. In view of the twin sober realities of the complexity of a dynamic society and the knowledge explosion, the student must not only learn what is known but also how to acquire knowledge not yet extant.

The mission of William Rainey Harper College, within the framework of this philosophy, is to provide the highest quality community college program of education, to seek out the most modern, creative, and effective organizational and educational ideas, and to test, improve, and implement those ideas which meet the needs of the community. Inherent in this mission is the responsibility of providing these programs for a reasonable cost to the student and at an efficient and reasonable cost to the community. The ultimate goal is an institution that allows



the individual student maximum opportunity to learn and develop.

With a commitment to the dignity and significance of each student, the college endeavors to bring the student to a realization of what place he can make for himself in modern society and to provide the necessary training for his social and personal goals. To this end, the college must create an environment conducive to the development of sound standards of thinking and conduct and must provide those cultural experiences which will open to the student the heritage of the educated man.

OBJECTIVES

Specific objectives of the college are:

A To offer the first two years of transfer or pre-professional education, preparing students within their chosen field of study with a sound background commensurate with the first two years of education at a four-year college or university.

B To offer two-year programs in technical-vocational training providing students with the knowledge and skills required in a specific field.

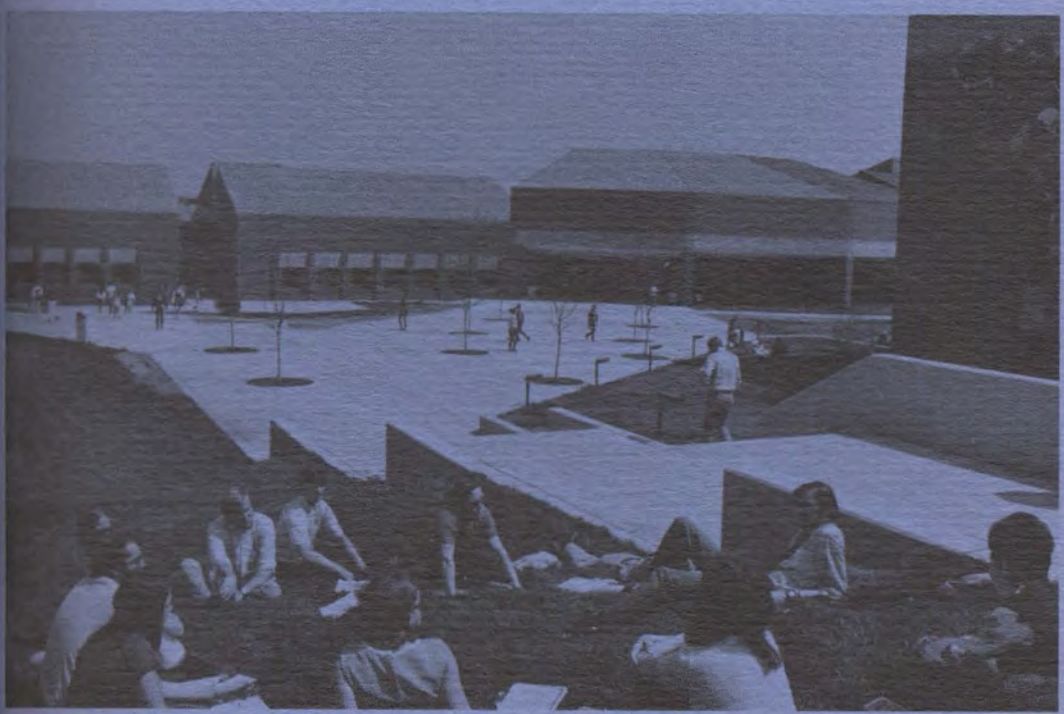
C To offer appropriate general education for all citizens, preparing them for more effective participation in a free society as well as for personal and cultural enrichment in an era which promises more and more leisure time.

D To offer opportunities for adults in the community to initiate or to continue a collegiate education.

E To provide retraining and upgrading courses and programs to facilitate adjustment to, or re-employment or advancement in, a work environment that is undergoing rapid technological changes.

F To complement the educational programs with effective counseling services, including guidance and assistance to each individual student.

G To encourage the use of its facilities and services for educational and cultural purposes by all citizens of the community.



GENERAL EDUCATION

Harper College is committed to a program of general education which acquaints the student with a broad area of knowledge. This knowledge not only provides him with information in particular subject fields but contributes toward an enlightened and integrated view of life. General education serves to complement the specialized training designed to prepare him for an occupation, whether it be a trade skill, a technical proficiency, or a professional vocation.

Essential to transfer and career-oriented programs, the aim of general education is to equip the student with important understandings and insights and with the power to communicate them. Thus his efforts to assume his role as a citizen and to earn a livelihood are set in a perspective of values that gives a proper order to life's activities.

The general education philosophy of Harper College is intended to permeate the entire college program, enabling all members of the college community to work together to develop and strengthen constructive attitudes, knowledge, and understandings.

Degree graduation requirements have been developed to combine adequate specialization with general education.

DEGREES

Harper College offers three degrees: the Associate in Arts, the Associate in Science, and the Associate in Applied Science. The A.A. and A.S. degrees are primarily for students desiring to transfer to four-year institutions. The A.A.S. is primarily for those in two-year career programs.

In addition, the college structures certificate programs designed to meet specific needs of the community. These programs are normally one year in length, and upon completion of the prescribed courses the student receives a certificate of completion.

THE HARPER YEAR

The college follows the semester plan and also offers an eight-week summer session. Registration for the fall semester opens the second week of September, and classes begin the following week. Final exams are held the third week of January.

Winter-Spring semester registration is held the final week of January for classes beginning the first week of February. Final exams are held during the first week of June.

Summer session registration opens the second week of June for classes which begin the following week.

Day and evening classes are conducted throughout the college year.

EVENING AND CONTINUING EDUCATION

Harper College believes that the knowledge explosion in science and technology and the pervasive influence of social and cultural change has made it no longer possible to conceive of a completed education that will satisfy the needs of modern man. Education must be a continuing, lifelong process.

To meet the educational demands of adults, Harper College has developed a complete schedule of regular evening credit and non-credit courses. A variety of graduate extension courses will also be offered by Illinois colleges and universities. The Office of Evening and Continuing Education seeks to provide adults with a variety of ways to continue their education in a formal or informal manner.

Various seminars and other programs designed to meet the special needs of community interest groups are also planned and conducted. For example, the needs of business and industry are responded to via management training and development seminars as well as short courses and workshops.

Harper also seeks to extend its educational offerings to other community locations. Regular credit courses will be offered at various locations throughout the district as they are demanded. In addition, courses are offered on a contractual basis at other institutions such as industrial plants and local government offices.

Expansion of Harper's role as a catalytic force to assist community agencies and institutions in achieving goals and providing for community needs is also an objective. Every effort is being made to provide offerings that will be responsive to community needs and afford both enjoyment and practical benefit to the participant.

LEARNING RESOURCES CENTER

The mission of the Learning Resources Center is to support the instructional program of the college by providing appropriate resource services to both faculty and students. The staff is qualified and ready to help in the development and use of instructional and library materials.

1. Instructional Services

Instructional Services is located on the first floor of the Learning Resources Center. Instructional Services is prepared to assist faculty and students in the selection, production, and utilization of educational media. The service has an extensive television studio, photographic service, a graphics production area, and equipment and materials check-out service.

2. Library Services

The Library is located on the main (second) floor of the Learning Resources Center. It contains about 30,000 volumes, cataloged according to Library of Congress classification, along with newspapers and periodicals. About 550 magazines are currently received. Included in the collection are extensive holdings of the **Chicago Tribune,** the **New York Times,** and about 25 periodicals on microfilm. A Xerox copier is available for copies of either book or microfilm materials. Although the Library catalog contains 10,000 additional entries for other cataloged library materials, the various media (i.e., projectors, records, tapes, television, slides, films, filmstrips, etc.) are located on the first floor.

3. Flexible Facilities for Instruction

Seven Lecture/Demonstration facilities designed for large group instruction and equipped with audio systems, remote media projection, and television linked directly to the Learning Resources Center provide the teachers and students with flexible resources for instructional use.

Other instructional areas and the LRC independent study facility, each equipped with a variety of media, are also available to support instruction.

A LOOK AT THE NEW CAMPUS

The completion of the first phase of Harper's exciting new campus, which opened to 5,400 students in September, 1969, brought to the college district a complex of informal multi-level contemporary buildings nestled in the rolling terrain of 218 rural acres. On-time delivery of the buildings marks Harper as the first Illinois public community college to complete its entire Phase I project, which was formally dedicated on May 3, 1970.

Campus structures include a comprehensive library and learning resources center; a science and technology laboratory and classroom complex; a lecture-demonstration center; a fine and applied arts wing; a college center for student-related activities; an administrative wing including admissions, business offices, and data processing center; and a central utility facility serving the entire campus.

The hub of the campus, the college center, provides a natural meeting place for students and faculty — and includes a lounge, cafeteria, bookstore, various student activity offices, counseling center, community meeting rooms, and provisions for almost any activity the multi-purpose design might embrace.

Informal layout of the campus was designed to have a "village street" atmosphere. The architectural concept uses scale and placement of buildings, multi-level plazas, picturesque pedestrian street, "earth-tone" building materials (brick, wood, and concrete), and glass window walls to give a variety of interior and exterior views, producing a stimulating and pleasing environment for learning and working.

While suggesting strength, the structures are built into the natural contours of the land, with entrances on several levels. Panoramic vistas from several buildings embrace a small scenic lake to the north of the buildings, with a foot-bridge connecting the campus to the parking lot on a hill across the lake.

Scheduled for construction in 1970-71 are the music wing and an addition to the existing technology complex. Completion of the master plan in 1980 will enable the college to serve upwards of 11,000 students.

It is anticipated that the campus will become a focal point of the northwest suburban area, providing a cultural and educational opportunity center as well as a conference and meeting place for community organizations.

The Harper campus provides an exciting learning environment complete with the latest educational tools. Former students will be able to recall it with a feeling of pleasure and pride.

ADMISSIONS

High School Graduates

All high school graduates are eligible for admission to the college. Non-graduates, 18 years of age or older, may be admitted if they demonstrate the capacity and maturity to benefit from programs and courses offered by the college. To be placed in some programs within the college, applicants may have to meet additional requirements.

Adult Students

All classes are open to adults who meet course prerequisites and wish to attend. In addition, the college will offer special courses designed to meet the needs of adults within the college community.

High School Students

High school students may be admitted to selected courses upon the recommendation of their high school principal and the director of admissions.

International Students

International students will be admitted to Harper College. Information regarding their admission may be obtained from the admissions office.

TYPES OF ADMISSION

Regular Admission

Applicants may be admitted as regular students if they are high school graduates and meet the requirements, if any, for placement in the program of their choice. Applicants not meeting requirements will have an opportunity to demonstrate capacity to do college level work on an admission examination.

Provisional Admission

Applicants who have not met the requirements for placement into a specific program, or who fail to qualify for admission as regular students, may be admitted on a provisional basis to take the course work necessary to enter the program of their choice.

Applicants who have completed high school requirements by satisfactorily completing the General Education Development (G.E.D.) examination may be admitted as regular or provisional students, depending upon their performance on the admission examination.

Transfer Admission

Individuals transferring in good standing from another college or university will be admitted as regular students. Students transferring with less than a C (2.0) average will be admitted on a probationary status if it is felt they are ready to pursue a college program. Students must provide the admissions office with official college transcripts covering all previous college work.

Special Admission

Applicants desiring to enroll on a part time basis carrying less than 12 hours and not interested in earning credits applicable toward a degree may be admitted after completing the Special Admission form. If at a later date the student wishes to enroll in a degree program, credits earned as a special student may be applicable.

Readmission

Any student who has previously attended Harper College and who is returning after an absence of one semester or more must complete an application for readmission and supply transcripts for all academic work taken since last

attending Harper College. Any student dismissed for an academic or disciplinary reason must submit a petition for readmission to be reviewed by the admissions committee.

Application Procedures

Prospective students applying for admission to Harper College are required to:

1 Apply for admission using forms supplied by the college.

2 Submit complete transcripts of all high school work and any college credits earned.

3 Take the American College Test (ACT) and have the scores submitted to the college.

4 Complete and return the health form.

5 Pay a $10.00 non-refundable application fee.

RESIDENCY

Students enrolling at William Rainey Harper College shall be classified as Resident, Non-resident, or Out-of-State for tuition and fee purposes. Residency classifications are:

Resident

A student whose residence has been determined to be within the William Rainey Harper College District (Illinois Junior College District 512).

Non-resident

A student residing in Illinois but outside Junior College District 512.

Out-of-State

A student whose residence is outside the State of Illinois.

ADVANCED PLACEMENT POLICY

Credit and advanced placement will be awarded to students with adequate CEEB (college entrance examination board) Advanced Placement Examination grades in areas comparable to the Harper curriculum. The granting of credit and/or advanced placement will be determined following an evaluation of the examination by the appropriate division chairman.

DEVELOPMENTAL PROGRAM

Harper College has established a program for students whose high school achievement and test scores are below the minimum for admission to other college curricula. This program is designed to give the student every opportunity to develop his abilities, to remove deficiencies, and to qualify for the college curriculum of his choice. The program is designed and supervised by the student's counselor within guidelines established by the college.

TUITION AND FEES

*Tuition

Resident Tuition . . . . . $10.00 per semester hour

Non-Resident Tuition . . . . . 32.76 per semester hour
(See Charge Back Section)

Out-of-State Tuition . . . . . $48.26 per semester hour

Application Fee

An application fee of $10.00 is charged each new student applying for admission. The fee which is non-refundable covers the cost of processing the application.

Activity Fee

Students enrolled for 12 or more semester hours will pay a $10.00 activity fee; students enrolled for less than 12 hours will pay a $5.00 activity fee.

Payment of the student activity fee entitles students to attend without charge the lecture-concert series, the film series, drama productions, intercollegiate athletic contests, social events and other activities. In addition students with valid I.D. cards are welcome to free copies of the college newspaper the "Harbinger" and the college news magazine the "Halcyon".

Special Music Fee

Students enrolled in minor applied music will pay $56.00 per semester. This entitles the student to one private lesson per week. Major applied music students will pay $112.00 per semester and will receive two private lessons per week.

Students may lease musical instruments for $25.00 a semester, $15.00 of which may be refunded depending upon the condition of the instrument when it is returned.

Graduation Fee

A graduation fee of $10.00 includes the cost of the diploma.

Laboratory Fee

Laboratory fees are indicated in the course description.

Late Registration Fee

A fee of $5.00 is charged any student who registers after the close of the official registration period.

Program Change Fee

A fee of $3.00 is charged for program changes following registration.

*Subject to change without advance notice.

WITHDRAWALS

When a student wishes to withdraw from a class after regular registration, he must withdraw officially by petition approved by his counselor. The following guidelines determine grades for an official withdrawal.

1. Classes dropped prior to the beginning of the fourth week will not become a part of the students permanent record.

2. A "W" grade will be assigned to a class dropped after the beginning of the fourth week and prior to the beginning of the eleventh week.

3. A class dropped after the beginning of the eleventh week and prior to the beginning of the thirteenth week will be assigned a "W" grade if the student was passing at the time of withdrawal; if the student was failing at the time of withdrawal a grade of "F" will be assigned.

4. A grade of "F" will be assigned to a class dropped after the beginning of the thirteenth week. If extenuating circumstances exist, students **may** petition through the Vice President of Academic Affairs Office for a "W" grade.

Students not withdrawing officially through the counseling office are subject to an "F" grade.

TUITION REFUND POLICY

Tuition refund requests should be made to the office of the registrar. Refunds will be made according to the following schedule:

	Percent of Refund
First week of classes*	80
Second week of classes	60
Third week of classes	40
Fourth week of classes	20
After fourth week	None

*Terminates with the Friday ending the first full week of classes in accordance with the college calendar.

CHARGE BACK

Resident students desiring an educational program not available at Harper College may apply for charge back tuition if they attend another public junior college in Illinois which offers that program.

Students approved for charge backs will pay the resident tuition of the receiving institution; the Harper College district will reimburse the college for the remainder of the non-district tuition cost.

Application for charge back tuition is made in the office of admissions.

GRADING

At mid-term and at the end of each semester the student will receive a grade for each class in which he was enrolled at the beginning of the fourth week of the semester. Mid-term grades have no official standing and are given to provide students an indication of academic progress. The official grade point average is computed only on the basis of final grades given at the end of each semester or summer term.

Grade Point: Grade points are numerical values which indicate the scholarship level of letter grades. Grade points are assigned according to the following scale:

Grade	Significance	Grade Point
A	Superior	4.0
B	Good	3.0
C	Average	2.0
D	Poor	1.0
F	Failure	.0
H	Audit	.0
X	Incomplete	.0
W	Withdrawal	.0

ACADEMIC HONORS

Trustees' Honor List
Each semester the students achieving a grade point average of 3.75 to 4.00 are recognized as Trustees' Honor Students.

Dean's Honor List
Students achieving a grade point average of 3.50 to 3.74 during any semester are placed on the Dean's Honor List.

Honors List
Students with a grade point average of 3.25 to 3.49 are listed as honor students.

INCOMPLETE GRADES

A student may receive a grade of "X" for unfinished work in a course, provided the work was incomplete because of circumstances deemed by the instructor to be unavoidable. The unfinished work must be satisfactorily completed by the mid-term of the following semester or a grade of "F" will be assigned. An extension of time may be granted by the Vice-President of Academic Affairs for special cases (e.g., military service).

AUDITING A COURSE

A student desiring to audit a course without credit must, at the time of registration, receive approval from the instructor or the division chairman and the registrar's office. Students will be required to pay full tuition and fees and

will receive a grade of "H" for the course. An auditor cannot change his status to that of a credit student nor can credit for the audited course be established at a later date.

SELECTIVE RETENTION

Students who have accumulated seven hours of credit or more and who have failed to achieve satisfactory progress may be placed on probation or be disqualified. In the following table, satisfactory performance, probation and disqualification are defined in terms of grade point average.

Attempted Cumulative Hours	Disqualified	Probation	Satisfactory
7-18	.00- .99	1.00-1.49	1.50 or more
19-36	.00-1.29	1.30-1.74	1.75 or more
37 or more	.00-1.59	1.60-1.99	2.00 or more

Students may be disqualified without first being placed on probation if their grade point average is below the minimum level shown for probationary status. For example, if a student taking 12 credit hours during his first semester earns only a .91 grade point average, he will not be able to enroll at Harper the following semester.

PROBATION

Probationary students must raise their cumulative grade point average to the minimum required for the succeeding semester in which they are enrolled or be disqualified. A probationary student may be required to carry a reduced number of units upon the recommendation of his counselor. Students not achieving a satisfactory grade point average after two semesters on probation will be disqualified from further attendance.

TRANSCRIPTS

Official transcripts of a student's academic record will be issued and sent at his request to other educational institutions and prospective employers. Each student is entitled to two transcripts without charge. A fee of $1.00 is charged for each additional copy.

TRANSFER OF CREDIT

Credits earned at Harper College may be transferred to other institutions of higher education. Students should select courses at Harper to fit the program they plan to follow at the four-year institution. These courses should be selected with the aid of one of the members of the college counseling staff. The college counselors are available to help students select courses. However, the primary responsibility for making the correct academic selections rests with the student. In this regard it is important that a student know which program and major he wishes to pursue and, if he wishes to transfer, which four-year college he will attend. Harper College has received assurance from numerous colleges throughout the United States that qualified students will be able to transfer without difficulty.

FINANCIAL AID

Veterans Programs

Harper College provides information to veterans applying for educational benefits under the federal (Cold War G.I. Bill) and the state (Illinois Veterans Scholarship) programs. Under the federal program, veterans are paid monthly by the Veterans Administration according to the following schedule:

	No. Dependents and Monthly Rates			
Hours	**None**	**One**	**Two**	**Each Additional**
14 or more	$130	$155	$175	$10
13 - 10	95	115	135	7
9 - 7	60	75	85	5
less	According to tuition paid.			

These benefits have been increased for veterans who have been in service since August, 1964. Veterans should apply to the Veterans Administration at 2030 West Taylor Street, Chicago, or call 829-2800. Benefits are also available to widows and dependent children of deceased or disabled veterans.

The state program provides veterans with a scholarship covering tuition (in district rate only) and mandatory fees. Veterans must present a copy of their DD214, furnish

proof of residence by photostat, file a notarized application, and prove they were residents of Illinois at the time they entered the service. Honorable or medical discharges are required and they must have served at least one year of active duty. Further information may be obtained from the Placement and Student Aids Office, Room 347 in the College Center.

Law Enforcement Grant and Loan Program

Harper College has been granted funds under the Omnibus Crime Bill to assist students in law enforcement education. Benefits covering tuition and fees are available to students who are full time employees of law enforcement agencies. Loans are also available to full time students enrolled in the law enforcement curriculum.

PLACEMENT SERVICES

Harper College offers complete full and part-time job placement services to students. Graduates from two year programs are assisted with preparation for interviews, resumes and application forms. Interviews are arranged with employers from lists provided students. Placement services are also available to former graduates. Questions concerning placement should be directed to the Director of Placement and Student Aids.

COUNSELING

Counseling is one of the most important and necessary aspects of a community college. Harper recognizes this fact and has developed an extensive program of counseling services. All students are encouraged to see a counselor when personal or social problems arise, or when they need assistance in selecting a vocation. Counselors also serve as academic advisors, and all full time students are assigned to a specific counselor.

A comprehensive testing program is available to students without charge. Through proper interpretation, the tests can give valuable information regarding ability, aptitude, interests and personality. Comprehensive vocational, educational testing and counseling service are also available

to the community. The GED (General Educational Development) test can be taken through the college Counseling Center.

Human Motivation Seminars (small student groups numbering six to ten) are provided through the counseling department. The seminars are designed on a basis which allows individuals to experience more honest positive interaction with each other as a means for promoting personal growth. Individual strengths, values, goals and achievements are some of the concepts discussed during the 8-week sessions.

A decentralized counseling approach is used at Harper which houses counselors within divisional offices. Counselors are thus readily accessible to students on an appointment basis. In addition, a counselor is always on duty in the main counseling center for students on a non-appointment basis both during the day as well as Monday through Thursday evenings.

The Counseling Center, located in the College Center, Building A, contains a vast amount of valuable information, such as: a career library describing thousands of vocations, filmstrips and recordings on career information, a machine used for assisting the student in college selection, and college catalogs for personal use by students.

Counseling for Non-Harper Students

Counseling and testing services are available to non-Harper clients regardless of age on a fee basis. A student finishing high school or recently out of school could become a client because of problems that involve choosing an appropriate occupational goal; finding a suitable college or other educational institution; obtaining information about different kinds of work; or diagnosing academic difficulties. Another client may be wondering about the desirability of returning to school; the suitability of some specialized career training program; or the wisdom of changing to another occupation after some years of experience in his present work.

ORIENTATION

All students are invited to participate in the college orientation program held each year during the month of August. General information about the college will be presented and students will meet with their counselors for academic advisement. Details of the orientation program will be sent to all admitted students in July.

STUDENT GOVERNMENT

The focal point for the involvement of students in the democratic process at Harper College is the student government. It is the aim of the college to give the student government true authority and responsibility for student affairs and to look to it as the main vehicle through which students are involved in the decision making processes of the college. Students are appointed to college committees which make policy directly affecting them and they are asked to assume a major role in keeping the administration abreast of student thought.

CONDUCT

College students are assumed to be adults and as such are expected to maintain contemporary community adult standards of dress, mores, and conduct. If the conduct of any student tends to subvert the academic process, violate laws, or reflect negatively on the college community, the college reserves the right to take appropriate disciplinary action. Serious offenses may result in suspension or dismissal.

STUDENT ACTIVITIES

The College Center is an integral part of the Harper activity program. It is the scene of lectures, concerts, informal discussions, teach-ins, dances, meetings, conferences and a variety of other activities. Its facilities include food service areas, lounges, meeting rooms, games room and offices for student government, clubs and organizations,

student publications, counseling, health service and financial aids and placement.

A number of clubs and organizations have been started at Harper College and students are encouraged to begin any others that may interest them. Among the first clubs formally recognized are the Future Secretaries of America, Folk Music Club, Harper Association of Marketing Management Students, Harper Players, Junior American Dental Hygiene Association, Nursing Students Club, Human Rights Club, Spread Eagle Ski Club and Electronics Club. Any students interested in participating or beginning new organizations should see the Director of Student Activities. The activity program also includes a cultural arts series of art, drama, films, concerts and lectures; student publications including the college newspaper **Harbinger,** newsmagazine **Halcyon,** and a literary book; a full program of intramural athletics with traditional seasonal sports and bridge, chess, and billiards; social programs; speech activities; and a student travel program of domestic and European tours.

HEALTH SERVICES

Academic achievement and the choice of educational goals is largely dependent on the physical and emotional well being of the student. The college's acceptance of this fact has meant the recognition of the responsibility to provide a health program equal to the health needs of the student on campus.

Harper Health Service is directed by a registered nurse who has a physician consultant available to her at all times. Students are encouraged to utilize the service for physical injuries as well as for counseling regarding personal health problems. The Health Service is adjacent to and part of the Counseling Center.

ATHLETICS

Harper is a member of the Skyway Community College Conference and The National Junior College Athletic Association. Colleges in the conference are Triton, Elgin, Waubonsee, College of Lake County, McHenry and Harper. Harper participates in seven sports, including cross country, golf, basketball, wrestling, baseball, tennis and track.

An extensive intramural program has been developed by the athletic department. All students are encouraged to participate in these extra-curricular activities.

PARKING

All members of the college community are required to register their motor vehicles with the college, display their Harper parking permit decal, and park in the areas designated for them. Vehicles are registered and parking permits issued by the Security Office in Room B-103. Illinois motor vehicle laws will be enforced on the campus. The speed limit in all parking lots is 15 miles per hour.

GRADUATION REQUIREMENTS

1. A minimum of 60 semester hours of credit, at least 30 of which must be earned in attendance at Harper College.

2. A minimum grade point average of 2.0 for all work taken for the associate in arts and the associate in science degrees. A minimum grade point average of 2.0 for any applicable 60 semester hours of work for the associate in applied science degree.

3. Two hours of credit in physical education activity courses in addition to the 60 hours of credit above (1).

4. Satisfactory completion of political science 201 or a passing score on a college administered test on the constitutions of the United States and state of Illinois, the principles of American democratic government and the proper use and display of the American flag (sec. 27-4—school code).

5. A math standard score of 14 or higher on the A.C.T. test, a satisfactory score on a math achievement test administered by the college or the satisfactory completion of a math course at the college numbered 100 or above.

6. Requirement of 60 hours must be in courses numbered 100 or above for the degrees of associate in arts and associate in science.

7. Enrollment in Harper College during the semester in which graduation requirements are completed. Waiver of enrollment requirement by dean of instruction where exceptional circumstances warrant.

8. Fulfillment of the degree group requirements.

9. A student must apply for graduation and pay the graduation fee of $10.00. Students are encouraged to complete their application when registering for the semester in which his graduation requirements will be fulfilled. Notification of the students intent to graduate will be accepted in the Registrar's Office no later than one week after the mid-term of the semester in which the student intends to graduate.

DEGREE GROUP REQUIREMENTS

	Associate in Arts	Associate in Science	Associate in Applied Science
I. COMMUNICATION SKILLS English 101, 102	6 hrs.	6 hrs.	6 hrs.[1]
II. SOCIAL SCIENCES anthropology, economics, geography, history, political science, psychology, sociology, or social science	6 hrs.	6 hrs.	6 hrs.
III. SCIENCE OR MATHEMATICS biology, chemistry, engineering, geology, mathematics, microbiology, physical science, physics, zoology	8 hrs.	20 hrs.	8 hrs.[2]
IV. HUMANITIES art, fine arts, foreign language, humanities, literature, music, philosophy	6 hrs.	6 hrs.	3 hrs.
	26 hrs	38 hrs.	23 hrs.

[1] English 130 or English 99 or 103 may be used in satisfying this requirement under certain conditions. See a counselor for details.

[2] Students majoring in an approved applied science degree program may count courses in their major toward fulfillment of this requirement.

CAREER PROGRAMS

Harper College offers a considerable number of associate degree and certificate programs in the vocational area.

Associate degree programs currently being offered are:

Accounting Aide
Architectural Technology
Chemical Technology
Data Processing Technology
Dental Hygiene
Electronics Technology
Fashion Design
Food Service Management
Journalism
Law Enforcement
Marketing Mid-Management
Mechanical Engineering Technology
Numerical Control Technology
Nursing
Secretarial Science

Certificate programs are being offered in:

Accounting
Architectural Technology
Baking
Business and Industrial Security
Child Service
Clerical or Administrative Assistant
Cooking
Data Processing
Data Processing Clerical
Electronics
Fashion Design
Fire Science
Law Enforcement
Mechanical Drafting
Mechanical Technician
Numerical Control Technician
Practical Nursing
Secretarial Science
Supermarket Management

Additional programs considered for a year or two hence include:

Aviation — Pilot or Mechanic
Civil Engineering Technology
Dental Assisting
Drafting Technology
Instrumentation
Machine Tool Technology
Radio-Electronics
Urban Administration

Programs must be approved by the State Board before implementation. For current information on these programs, please check with the director of admissions.

The programs offered for 1970-71 and their course requirements are described in the following pages.

ACCOUNTING AIDE

Accounting Aide is a two-year program leading to an associate in applied science degree. The curriculum includes the study of accounting theory and practice, partnership and corporation accounting, and cost accounting. The program is designed to prepare students for employment as junior accountants in business, industry, and government.

First Year

FIRST SEMESTER		SECOND SEMESTER	
English[1]	3	ENG 130 Business Writing[1]	3
Mathematics[2]	3	SPE 101 Fund. of Speech	3
BUS 101 Accounting I	3	DPR 101 Intro. to Data Proc.	3
BUS 111 Intro. to Bus. Org.	3	BUS 102 Accounting II	3
SEC 131 Business Machines	2	ECO 201 Prin. of Economics I	3
Physical Education elective	1	Physical Education elective	1
	15		16

Second Year

FIRST SEMESTER		SECOND SEMESTER	
BUS 098 Tax & Payroll Acctg.	4	PSY 145 Psychology in Business & Industry	3
BUS 211 Business Law I	3	BUS 202 Inter. Acctg. II	3
BUS 201 Inter. Acctg. I	3	BUS 203 Cost Accounting	3
PSY 101 Intro. to Psychology	3	BUS 270 Principles of Mgt.	3
Humanities elective	3	BUS 262 Accounting Seminar & Internship	3
	16		15

[1] Students may elect English 99, English 101 or English 102 depending on their test scores and advice of their business division counselor. Business Writing may be taken as the second English course.

[2] Students may elect any mathematics course offered depending on their test scores and advice of their vocational counselor, however, only MTH 095 or higher will satisfy this requirement.

ARCHITECTURAL TECHNOLOGY

Architectural Technology is a two-year technical program leading to an Associate in Applied Science degree. Curriculum emphasis is on architecture, but courses in communication skills, social sciences, and humanities are also included. Graduates from this curriculum may be qualified for positions as architectural aide, engineering aide in building construction, building materials and equipment salesman, specification writer, and ancillary professional services.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ATE 101 Intro. to Architectural Tech. I	4	ATE 102 Intro to Architectural Tech. II	4
ATE 103 Building Materials Technologies I	4	ATE 104 Building Materials Technologies II	4
ATE 105 Computer Math for Architectural Tech. I[2]	3	ATE 106 Computer Math for Architectural Tech. II[2]	3
ENG 101 Composition[1]	3	ENG 102 Composition[1]	3
Social Science elective	3	Social Science elective	3
Physical Education elective	1	Physical Education elective	
	18		17

Second Year

FIRST SEMESTER		SECOND SEMESTER	
ATE 201 Comprehensive Building Project I	4	ATE 202 Comprehensive Problem II	4
ATE 203 Construction Problems I	4	ATE 204 Construction Problems II	4
ATE 205 Computer Graphics & Optimization	3	ATE 206 Comp. Applications in Architecture	3
ATE 207 Strength of Mtls. I	3	ATE 208 Strength of Mtls. II	3
Humanities elective	3	Technical elective	3
	17		17

[1] English 99, 103 or 130 may be used, under certain conditions, to satisfy this requirement.

[2] Students in this program may count this course toward fulfillment of their mathematics requirement.

CHEMICAL TECHNOLOGY

Chemical Technology is a two-year program leading to an associate in applied science degree. The program is designed to combine chemical, physical, and mathematical theories with procedural and technical skills for application in the chemical and allied industries.

Graduates will find employment in such positions as research technician, production technician, product analyst, pilot-plant operator, and product or equipment salesman.

First Year

FIRST SEMESTER		SECOND SEMESTER	
CHM 121 General Chem. I	4	CHM 122 General Chem. II	4
MTH 101 Fund. of Math. I	3	MTH 102 Fund. of Math. II	3
ENG 101 Composition	3	ENG 103 Report Writing	3
PHY 101 Technical Physics I	4	PHY 102 Technical Physics II	4
CHM 110 Chemical Tech. Seminar	1	PED 216 First Aid	2
Physical Education elective	1		16
	16		

Second Year

FIRST SEMESTER		SECOND SEMESTER	
CHM 204 Organic Chemistry	5	Humanities elective	3
ECO 201 Principles of Eco.	3	Social Science elective	3
CHM 240 Unit Operations I	4	Physical Education elective	1
CHM 210 Quantitative & Instrumental Analysis I	5	CHM 241 Unit Operations II	4
	17	CHM 211 Quantitative & Instrumental Analysis II	5
			16

DATA PROCESSING TECHNOLOGY

The Data Processing Program is a technical curriculum to train students for various positions in the field of data processing. The student will take courses in mathematics, business, data processing, and general education. Graduates of the program will find employment as computer programmers, systems analysts, and computer and unit record equipment operators.

First Year

FIRST SEMESTER		SECOND SEMESTER	
DPR 101 Intro. to DP	3	DPR 108 Computer Prog. I	5
ECO 201 Princ. of Econ.	3	DPR 150 DP Math. I	3
ENG 101 Composition[1]	3	DPR 203 Sys. Anal. & Des. I	3
MTH 103 College Algebra[1]	3	BUS 101 Accounting I	3
SOC 101 Intro. to Soc.	3	BUS 111 Intro. to Bus. Org.	3
Physical Education elective	1		17
	16		

Second Year

FIRST SEMESTER		SECOND SEMESTER	
DPR 110 Computer Prog. II	5	DPR 210 Computer Prog. III	4
ENG 103 Report Writing	3	Humanities elective	3
DPR 204 Sys. Anal. & Des. II	3	DPR 202 Prog. Systems	3
DPR 250 DP Math. II	3	DPR 230 Field Pro./Case St.	3
BUS 102 Accounting II	3	BUS 203 Intro. Cost Acc.	3
Physical Education elective	1		16
	18		

[1] Students not qualifying in placement tests for English 101 or college Algebra 103, will be required to take appropriate preparation work.

DENTAL HYGIENE

Dental Hygiene is a two-year program including one summer session and leading to an associate in science degree in dental hygiene. The program is designed to train the hygienist and educate the person. The curriculum is rich in basic and technical dental sciences and incorporates clinical practice, communication skills, social sciences, humanities, and community dentistry with field training.

Graduates, after passing state board examinations and achieving licensure, are qualified for private practice in the dental office, hospitals, health agencies, government, and armed services.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101 Composition	3	ENG 102 Composition	3
SOC 101 Intro. to Sociology	3	ART 105 Art Appreciation	3
BIO 160 Anatomy & Phys.	4	BIO 161 Anatomy & Phys.	4
CHM 100 Intro. Chemistry	4	CHM 101 Biochemistry	4
DHY 170 Orientation	1	DHY 111 Dental Radiology	1
DHY 161 Dental Anatomy	4	DHY 101 Pre-clinic	2
	19	Physical Education elective	1
			18

SUMMER SESSION

BIO 180 Histology & Embryology	3
BIO 130 Microbiology	4
DHY 150 Clinic & Radiology	2
	9

Second Year

FIRST SEMESTER		SECOND SEMESTER	
SPE 101 Fund. of Speech	3	PSY 101 Intro. to Psychology	3
BIO 190 Pathology	3	PHI 115 Ethics	3
DHY 230 Nutrition & Perio.	2	DHY 201 Seminar	2
DHY 240 Dent. Pharm. & Anesthetics	1	DHY 221 Community Dent.	3
DHY 220 Community Dent.	3	DHY 251 Clinic	4
DHY 250 Clinic	4	DHY 291 Dental Assisting	2
DHY 280 Dental Materials & Assisting	3	Physical Education elective	1
	19		18

ELECTRONICS TECHNOLOGY

Electronics Technology is a two-year technical program leading to an Associate in Applied Science degree. It is designed to prepare students for the field of electronics and associated industries. The curriculum offers courses in electronics, circuit analysis, mathematics, physics, and general education, with laboratory emphasis placed on equipment familiarization and use.

Graduates will find employment as electronic engineering technicians, industrial technicians, electronic/electrical draftsmen, customer engineers, technical writers, and research laboratory technicians.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ELT 110 Intro. Electronics	2	ELT 111 Electronics I	3
ELT 101 Circuits I	4	ELT 102 Circuits II	4
MTH 106 Mathematics I	5	MTH 107 Mathematics II	5
ELT 105 Electro-Mech. Draft.	3	ELT 210 Computer Program.	3
ENG 101 English	3	Humanities elective[1]	3
Physical Education elective	1		18
	18		

Second Year

FIRST SEMESTER		SECOND SEMESTER	
ELT 203 Electronics II	4	ELT 204 Electronics III	4
ELT 103 Circuits III	4	Electronics Tech. elective[2]	4
MTH 206 Mathematics III	3	Social Science elective[3]	3
PHY 101 Technical Physics I	4	ENG 103 Eng. Tech. Report	3
Social Science elective[1]	3	PHY 102 Technical Physics II	4
	18	Physical Education elective	1
			19

[1] Any three hour course in the Humanities area will meet this requirement.

[2] Technical electives

ELT 205 Electronic Instrumentation 4
ELT 206 Electronic Computers 4
ELT 207 UHF Com. and Reception 4
ELT 211 Analog Simulation I 4
ELT 212 Analog Simulation II 4

Courses may not be taken out of sequence without the consent of the instructor.

[3] The Social Science requirement can be completed by taking six hours from the following courses.

ANT 201 General Anthropology 3
ECO 201 Principles of Economics 3
GEO 101 World Geography 3
HST 111 History of the American People to 1865 3
HST 112 History of the American People from 1865 3
HST 141 History of the Western Civilization 4
PSC 201 American Government 3
PSY 101 Introduction to Psychology 3
PSY 145 Psychology in Bus. & Ind. 3
SOC 101 Introduction to Sociology 3

FASHION DESIGN

Fashion Design is a two-year program leading to an Associate in Applied Science degree. The program is designed to train students in apparel design, flat pattern design, draping, fashion illustrating, and in professional design room practices of tailoring. A survey of History of Costume, as an inspiration for contemporary design, and an analysis of current fashion trends are included. Facilities will simulate the professional atmosphere of the fashion industry.

Graduates will find employment as couture fashion designers, mass production fashion designers, flat pattern makers, fashion illustrators and fashion co-ordinators. Other areas of employment in the fashion industry include: fashion advertising, fashion promotion, fashion journalism, retailing, buying, window displaying, and other related careers.

Close cooperation between the college and the fashion industry helps to insure the type of training the fashion industry demands. Trips to manufacturers are included.

First Year

FIRST SEMESTER		SECOND SEMESTER	
FAS 101 Flat Pattern Design and Draping I	4	FAS 102 Flat Pattern Design and Draping II	4
FAS 103 Apparel Design I	3	FAS 104 Apparel Design II	4
FAS 105 Fashion Design Illustration I	1	FAS 106 Fashion Design Illustration II	1
FAS 107 Textiles & Apparel Construction I	2	FAS 108 Textiles & Apparel Construction II	2
ENG 101 Composition*	3	ENG 102 Composition*	3
Social Science elective	3	Physical education elective	1
	16		15

Second Year

FIRST SEMESTER		SECOND SEMESTER	
FAS 201 Advanced Flat Pattern Design & Draping I	4	FAS 202 Advanced Flat Pattern Design & Draping II	4
FAS 203 Advanced Diversified Apparel Design II	4	FAS 204 Advanced Diversified Apparel Design II	4
FAS 205 Tailoring Tech. I	2	FAS 206 Tailoring Tech. II	2
FAS 207 History of Costume I	2	FAS 208 History of Costume II	2
Social Science elective	3	Humanities elective	3
Physical Education elective	1		15
	16		

* Students may elect ENG 99, ENG 101 or ENG 102, depending on their test scores and advice of vocational counselor. A journalism course (JNM 131 or JNM 134) may be substituted for the second English course.

FIRE SCIENCE

A two-year program leading to an Associate Degree in Fire Science.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 099 or 101 Composition	3	ENG 103 Report Writing	3
PSY 101 Introduction	3	Approved Elective[1]	3
FIR 102 Introduction	3	FIR 115 Bldg. Const. & Codes	3
MTH 095 Algebra	3	MTH 096 Geometry	3
FIR 110 Tactics & Strategy I	3	FIR 111 Tactics & Strategy II	3
Physical Education elective	1	Physical Education elective	1
	16		16

Second Year

THIRD SEMESTER		FOURTH SEMESTER	
FIR 130 Fire Hydraulics	3	FIR 106 Fire Prevention II	3
FIR 103 Fire Prevention I	3	Approved Elective[1]	3
FIR 101 Tech. Physics	4	FIR 120 Haz. Materials I	3
SPE 101 Speech	3	FIR 201 Fire Admin. II	3
FIR 101 Fire Admin. I	3	FIR 140 Fire Causes & Inves.	3
	16		15

[1] Approved Electives may be selected from the following: FIR 121, PSY 145, PHY 102, PSC 201, SOC 101, ATE 101, LAE 213.

FOOD SERVICE MANAGEMENT

Food Service Management is a two-year program leading to an Associate in Applied Science degree. Emphasis is placed on the techniques and technology of the food service industry from a management point of view, with 15 credits required in the division of business. Graduates will be qualified to assume positions as production supervisors, management trainees, and small unit managers. One-year certificate programs will be offered in Cooking and in Baking.

First Year

FIRST SEMESTER		SECOND SEMESTER	
English[1]	3	English[1]	3
FSM 111 Intro. to Food Service	2	Social Science elective	3
FSM 114 Food Standards & Sanitation	3	FSM 115 Nutrition & Menu Planning	2
FSM 112 Qty. Food Production	4	FSM 112 Qty. Food Production	4
or		or	
FSM 113 Qty. Food Service		FSM 113 Qty. Food Service	4
BUS 111 Intro. to Bus. Org.	3	BUS 099 Bus. Record Keeping	3
Physical Education elective	1	Physical Education elective	1
	16		16

Second Year

FIRST SEMESTER		SECOND SEMESTER	
PSY 101 Intro. to Psychology	3	Humanities elective	3
BUS 265 Personnel Mgt.	3	DPR 101 Intro. to Data Processing	3
BUS 140 Salesmanship	3	FSM 214 Cost Control Sys.	3
FSM 211 Food Purchasing & Storage	3	FSM 215 Restaurant Layout & Equipment	3
FSM 212 Practical Supervision	4	FSM 213 Internship & Seminar	4
or		or	
FSM 213 Internship & Seminar		FSM 212 Practical Supervision	
	16		16

[1] English 130 or English 099, or 101, or 103 may be used in satisfying this requirement under certain conditions. See a counselor for details.

JOURNALISM

Journalism is a two-year program leading to an Associate in Applied Science degree. The curriculum provides intensive study and practical training in all phases of contemporary journalism, including historic, sociologic and realistic situations. Graduates of the program are prepared for positions in newspapers; radio and television newsrooms; wire services; public relations and advertising agencies; and business, industrial and consumer magazines.

First Year

FIRST SEMESTER[1]		SECOND SEMESTER	
JNM 130 Fundamentals of Journalism	3	JNM 131 News Reporting and Writing	3
ENG 101 Composition	3	JNM 133 Feature Writing	3
HST 111 History of the Amer. People to 1865	3	JNM 134 Media Adjuncts	4
PHS 101 Gen. Phys. Science	3	HST 112 History of the Amer. People from 1865	3
ECO 201 Prin. of Economics	3	PSC 201 Amer. Government	3
Physical Education elective	1		16
	16		

Second Year

FIRST SEMESTER		SECOND SEMESTER	
JNM 234 Mass Com.	3	JNM 237 Externship Study	5
JNM 235 Copy Read. & Edit.	4	HST 142 History of Western Civilization from 1815	4
JNM 236 Radio & T.V. News	3	PHI 101 Intro. to Philosophy	3
HST 141 History of Western Civilization to 1815	4	SOC 101 Intro. to Sociology	3
Physical Education elective	1		15
	15		

[1] Students unable to type 40 wpm are required to take BUS 121, Elementary Typing, during their first semester.

LAW ENFORCEMENT

Law Enforcement is a two-year program leading to an Associate in Applied Science degree. It is designed to prepare men and women for careers in law enforcement service at the local, state and federal level, including positions as municipal or state policeman or security officer, technical opportunities in state or federal agencies, and work in crime prevention, probation, records and communication, often with special assignment to detective, and vice units. Special options are available for those students who wish to concentrate on courses in Business and Industrial Security. Also provided are options for students planning to earn a baccalaureate degree at a four year college or university.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101 Composition	3	ENG 103 Report Writing	3
SOC 101 Intro. to Sociology	3	SOC 205 Social Problems	3
PSY 101 Intro. to Psychology	3	PSY 217 Develop. Psychology	3
LAE 101 Intro. to Law Enforcement	3	PSC 201 American Govt. — Org. Powers & Functions	3
LAE 102 Police Org. & Admin.	3	LAE 110 Police Operations	3
Physical Education elective	1	Physical Education elective	1
	16		16

Second Year

FIRST SEMESTER		SECOND SEMESTER	
PSC 202 Amer. Govt.: Functions	3	LAE 202 Criminal Law II	3
SPE 201 Fund. of Speech	3	LAE 211 Criminal Invest.	3
LAE 201 Criminal Law I	3	LAE 212 Traffic Admin.	3
LAE 210 Intro. to Criminology	3	Law Enforcement elective[1]	3
Law Enforcement elective[1]	3	Humanities elective	3
PED 201 First Aid	2	LAE 215 Police Defense Techniques	2
	17		17

[1] Elective must be taken from the following law enforcement offerings:

LAE 205 Juvenile Delinquency & Procedures
LAE 207 Problems of Drug Addiction & Vice Control
LAE 250 Police Field Service
Business and Industrial Security Options:
LAE 103 Industrial Security Administration
LAE 252 Industrial Fire Protection, Disaster Control
LAE 253 Safety Management
LAE 254 Interviewing and Case Preparation

MARKETING MID-MANAGEMENT

(SUPERMARKET MANAGEMENT OPTION AVAILABLE)

A curriculum designed for persons who aspire to mid-management positions in marketing and merchandising. Provides preparation for careers in retailing, wholesaling, transportation, and other service businesses. In the final two terms, formal classroom experience will be supplemented with 15-24 hours per week of work experience related to the student's career objectives. Students interested in **supermarket management** may prefer full time supervised occupational experience in food distribution firms, with supermarket management courses selected as electives.

For students not interested in the cooperative occupational experience, however, degree requirements may be fulfilled by taking additional marketing or business administration electives in place of BUS 281 and BUS 282. BUS 281 and BUS 282 are open only to those students participating in the occupational experience phase of the program.

First Year

FIRST SEMESTER		SECOND SEMESTER	
English elective[1]	3	PSY 145 Psych. in. Bus. & Industry	3
PSY 101 Intro. to Psychology	3	ENG 130 Business Writing[1]	3
BUS 111 Intro. to Bus. Org.	3	Marketing elective	3
Marketing elective	2-3	BUS 270 Prin. of Mgt.	3
BUS 150 Business Math[2]	3	ECO 201 Prin. of Eco. I	3
Physical Education elective	1	Physical Education elective	1
	15-16		16

Second Year

FIRST SEMESTER		SECOND SEMESTER	
SPE 101 Fund. of Speech	3	Humanities elective	3
BUS 211 Business Law I	3	BUS 102 Accounting II or	
BUS 101 Accounting I	3	Business elective[3]	3
Marketing elective	3	Business elective[3]	3
BUS 281 Marketing Mgmt. Seminar & Internship I	3	DPR 101 Intro. to Data Proc.	3
	15	BUS 282 Marketing Mgmt. Seminar & Internship II	3
			15
		Summer Option[4]	6

[1] Students will take English 99, English 101, English 102 depending upon their test scores and the advice of their vocational counselor. Business Writing may be taken as the second English course.

[2] While students may take any mathematics course offered, depending upon their test scores and the advice of their vocational counselor, Business Mathematics is recommended.

[3] Approval of counselor must be sought when business electives are chosen.

[4] The summer option may be taken on a voluntary basis as an optional part of the program. Approval of the program coordinator would be required for courses selected.

MECHANICAL ENGINEERING TECHNOLOGY

Mechanical Engineering is a two-year technical program leading to an associate in applied science degree. The program is designed to train students in the field of mechanical design and drafting. The curriculum includes courses in mechanical design and drafting, mathematics, physics, and general education.

Graduates will be employed in such positions as mechanical designers, mechanical draftsmen, machine designers, tool and die designers, mechanical engineering technicians, and technical salesmen.

First Year

FIRST SEMESTER		SECOND SEMESTER	
MTH 106 Mathematics I	5	MTH 107 Mathematics II	5
MET 101 Elements of Drafting	3	PHY 102 Technical Physics II	4
MET 103 Desc. Geometry	2	ENG 099 Composition	3
MET 108 Mfg. Proc. & Mat.	3	MET 102 Technical Drafting	4
Physical Education elective	1	MET 104 Statics	2
PHY 101 Technical Physics I	4		18
	18		

Second Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 103 Tech. Reporting	3	*ECO 201 Prin. of Economics	3
MET 205 Fluid Power & Systems Control	4	MET 206 Metallurgy & Heat Treatment	3
MET 201 Mechanisms	4	MET 207 Machine Design	6
MET 204 Strength of Mtls.	3	MET 210 Fortran Prog.	3
Social Science elective	3	Humanities elective	3
Physical Education elective	1		18
	18		

* or other Social Science Elective.

NUMERICAL CONTROL TECHNOLOGY

Numerical Control Technology is a two-year technical program leading to an associate in applied science degree. Numerical Control Technology is the application of coded information to the performance functions of machining and drafting. The program is designed to train students for the field of numerical control — machine tools and drafting. The curriculum offers courses in numerical control, mathematics and general education.

Graduates of the program will find employment in such positions as numerical control parts programmer, numerical control coordinator, numerical control computer programmer and numerical control salesman.

First Year

FIRST SEMESTER		SECOND SEMESTER	
MET 101 Elem. of Drafting	3	ENG 101 or ENG 099 Composition	3
MET 105 Basic Mach. Shop	3	MET 102 Technical Drafting	4
MET 108 Mfg. Proc. & Mat.	3	MET 109 Mfg. Proc. & Mat. II	3
MTH 106 Mathematics I[1]	5	MTH 107 Mathematics II[1]	5
NMC 101 Intro. to Num. Control	2	NMC 105 Part Prog. I	3
	16		18

Second Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 103 Report Writing	3	NMC 214 Graph. Display Sys.	3
NMC 201 Num. Control Mach.	3	NMC 216 Part Prog. II	3
NMC 210 Comp. Prog. Fortran	3	NMC 220 Special Problems	3
NMC 215 Part Prog. II	3	Humanities elective	3
Physical Education elective	1	Physical Education elective	1
Social Science elective	3	Social Science elective	3
	16		16

[1] Students may elect MTH 104 and 105, dependent upon meeting the prerequisite of MTH 103 or high school equivalent and advice of the counselor.

NURSING: ASSOCIATE DEGREE

The associate degree nursing program is two years in length and leads to an associate in applied science degree. It is designed to prepare students to become Registered Nurse practitioners. The curriculum includes courses in the sciences and liberal arts plus clinical experiences in a variety of community health agencies.

Graduates, after passing the state board examination for licensure, are qualified for a variety of satisfying and interesting positions as Registered Nurses in hospitals, clinics, nursing homes, rehabilitation centers, and many other specialized care settings.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101 Composition	3	ENG 102 Composition	3
BIO 170 Bio-Physical Sci.[1]	4	BIO 171 Bio-Physical Sci.	4
PSY 101 Intro. to Psych.	3	SOC 101 Intro. to Soc.	3
NUR 101 Found. of Nursing	5	NUR 102 Found. of Nursing	5
Physical Education elective	1	Physical Education elective	1
	16		16

Second Year

FIRST SEMESTER		SECOND SEMESTER	
Humanities elective	3	Elective	3
PSY 216 Dev. Psychology I		Elective	3
or		NUR 202 Phy. & Men. Illness	10
PSY 217 Dev. Psychology II	3		16
NUR 201 Phy. & Men. Illness	10		
	16		

[1] Must be taken concurrently with NUR 101.

SECRETARIAL SCIENCE

Secretarial Science is a two-year program leading to an Associate in Applied Science degree. The curriculum is designed to give the student experience in office practices, secretarial duties, and functions of office administration.

Graduates may be employed in any of a variety of agencies, including manufacturing firms, government agencies, schools, and colleges, insurance companies, banks, and hospitals.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 130 Business Writing	3
SEC 121 Elem. Typing[1]	2	SEC 126 Inter. Shorthand[1,2]	3
BUS 111 Intro. to Bus. Org.	3	SEC 122 Inter. Typing[1]	2
SEC 131 Business Mach.	2	SEC 132 Office Practice	3
Mathematics elective[3]	3	PSY 101 Intro. to Psychology	3
SEC 125 Elem. Shorthand[1,2]	3	SEC 236 Secretarial Proc.[4]	2
Physical Education elective	1	Physical Education elective	1
	17		17

Second Year

FIRST SEMESTER		SECOND SEMESTER	
BUS 101 Accounting I		BUS 211 Business Law	3
or		ECO 115 Consumer Eco.	
BUS 099 Bus. Rec. Keeping	3	or	
SEC 221 Adv. Typing[1]	2	ECO 201 Prin. of Eco.	3
SEC 225 Dict. & Transc.[1,2]	3	Humanities elective	3
SPE 101 Fund. of Speech	3	DPR 101 Intro. to Data Proc.	3
SEC 237 Secretarial Seminar & Internship I[5]	3	SEC 238 Secretarial Seminar & Internship II[5]	3
	14		15

[1] Placement into SEC 121, SEC 122, SEC 221, SEC 125, SEC 126, and SEC 225 is contingent upon previous training and consent of instructor. (See Course Desc.)

[2] Students will take English 101 concurrently with their first shorthand course.

[3] While students may take any mathematics course offered, depending upon their test scores and the advice of their counselor, Business Mathematics (BUS 150) is recommended.

[4] SEC 236 must be taken the semester prior to entering SEC 237.

[5] Enrollment restricted to students in the second year of the program with the consent of the instructor.

CERTIFICATE PROGRAMS

Seventeen certificate programs are also offered. A certificate program is a sequence of courses in a specialized academic and/or technical area requiring approximately two to three years of part-time or one year of full-time course work. Completion of the course work required for a specific program with a grade point average of 2.0 (C) or higher entitles the student to a certificate of achievement in that field of specialization.

Courses in certificate programs are offered in the evening as well as during the day to permit part-time evening students to meet their particular training needs and to reach an obtainable goal within a reasonable period of time. All courses creditable toward a certificate are also applicable toward an associate degree.

While completion of a certificate program may be the primary goal for some adults, for others it may represent their first step toward an associate degree.

Accounting
Architectural Technology
Baking
Business and Industrial Security
Child Service
Clerical Assistant
Cooking
Data Processing
Data Processing Clerical
Fashion Design
Electronics
Fire Science
Law Enforcement
Mechanical Drafting
Mechanical Technician
Numerical Control Technician
Practical Nursing
Secretarial Science
Supermarket Management

ACCOUNTING AIDE

Accounting Aide is a two year program for persons interested in pursuing careers as junior accountants in business, industry and government. Despite the increasing use of data processing in accounting work, there is an acute shortage of persons with the training and basic intellect needed to be successful in accounting.

BUS 101 Accounting I 3
BUS 102 Accounting II 3
BUS 201 Inter. Accounting I .. 3
BUS 098 Tax & Payroll Accounting 4
BUS 202 Inter. Accounting II .. 3
BUS 203 Cost Accounting 3
19

ARCHITECTURAL TECHNOLOGY

Architectural Technology is a technical program leading to a certificate upon completion of any of the following course offerings totaling fifteen credit hours. The curriculum emphasis is on Architecture in the related areas of construction, drafting, computer programming, estimating and specifications.

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

ATE 101 Intro. to Arch. Tech. I. 4
ATE 103 Building Materials I .. 4
ATE 105 Computer Prog. for Arch. Tech. I 3
ATE 102 Intro. to Arch. Tech. II. 4
ATE 104 Building Materials II .. 4
ATE 106 Computer Prog. for Arch. Tech. II 3
ATE 201 Comprehensive Problems I 4
ATE 203 Constr. Problems I ... 4
ATE 205 Computer Concepts I. 3
ATE 202 Comprehensive Problems II 4
ATE 204 Constr. Problems II .. 4
ATE 206 Computer Concepts II. 3
ATE 207 Strength of Mtls. I ... 3
ATE 208 Strength of Mtls. II ... 3

BAKING

The Baking certificate program is a one-year trade oriented course planned to prepare students for entrance into the food service and baking industry.

Graduates may be able to secure positions as qualified bakers and baker's helpers in institutional, retail and commercial bakeries.

FALL		SPRING	
FSM 090 Basic Quan. Baking	10	FSM 091 Adv. Quan. Baking	10
FSM 111 Intro. to Food Serv.	2	FSM 115 Nutrition and Menu Planning	2
FSM 114 Food Standards & Sanitation	3	Elective	3
	15		15

BUSINESS AND INDUSTRIAL SECURITY

This certificate program is designed to provide a specialized group of courses for those presently employed and for those who may wish to have a better knowledge of this employment area when seeking employment in the security field.

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

LAE 103 Industrial Security Administration	3	LAE 254 Interviewing & Case Preparation	3
LAE 252 Industrial Fire Protection Disaster Control	3	LAE 201 Criminal Law I	3
LAE 253 Safety Management	3	LAE 202 Criminal Law II	3
		LAE 211 Criminal Investigation	3
		LAE 210 Police Operations	3

CHILD SERVICE

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

SOC 101 Intro. to Sociology	3	PSY 216 Dev. Psychology I	3
SOC 205 Social Problems	3	PSY 217 Dev. Psychology II	3
SOC 210 Social Institutions	3	LAE 205 Juvenile Procedures	3
PSY 101 Intro. to Psychology	3		

CLERICAL OFFICE OR ADMINISTRATIVE ASSISTANT

A course of study for both men and women who may be interested in obtaining the skills for office or other types of administrative clerical jobs. Program may be completed in one semester of day school, or two semesters of evening school, by successfully completing 15 semester hours of course work selected from the following:

SEC 121 Elem. Typewriting[1] ... 2	SEC 131 Business Machines ... 2
SEC 122 Inter. Typewriting 2	SEC 132 Office Practice 3
SEC 221 Adv. Typewriting 2	SEC 236 Secretarial Proc. 2
BUS 150 Bus. Mathematics ... 3	BUS 099 Bus. Recordkeeping .. 3
BUS 111 Intro. to Bus. Org. ... 3	BUS 098 Tax & Payroll Acctg. .. 4
	15

[1] Placement in typewriting contingent upon evaluation by Business Division faculty.

COOKING

The Cooking certificate program is a one-year trade oriented course planned to prepare students for entrance into the food service industry. Graduates may be able to secure positions as head cooks, assistant cooks, specialty cooks or chefs' assistant.

FALL	SPRING
FSM 095 Basic Quantity Cooking 10	FSM 096 Advanced Quantity Cooking 10
FSM 111 Intro. to Food Serv. .. 2	FSM 115 Nutrition and Menu Planning 2
FSM 114 Food Standards and Sanitation 3	Elective 3
15	15

DATA PROCESSING

A program designed to either familiarize the student with, or to upgrade his knowledge of, the field of data processing. Contingent upon the particular sequence of courses taken, the student may be able to upgrade his current position, or be able to enter the field in a variety of positions.

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

DPR 101 Intro. to Data Proc. . . 3	DPR 203 Sys. Anal. & Des. I . . . 3
DPR 108 Computer Prog. I . . . 5	DPR 204 Sys. Anal. & Des. II . . 3
DPR 150 Data Processing Math I 3	DPR 110 Computer Prog. II . . . 4
DPR 202 Programming Systems. 3	DPR 210 Computer Prog. III . . 5
	DPR 250 Data Proc. Math II . . 3

DATA PROCESSING-CLERICAL

This is a two semester certificate program which includes the study of introduction to data processing, key punching and verifying, business machines operations, and general clerical subjects. Graduates will find employment as key punch operators, verifier operators, or other clerical positions in data processing installations in business, industry, and government.

FIRST SEMESTER		SECOND SEMESTER	
ENG 101 Composition[1]	3	SOC 101 Intro. to Sociology	3
BUS 101 Accounting I	3	SEC 131 Business Machines	2
DPR 101 Intro. to DP	3	Bus. or Data Proc. elective	3-5
DPR 103 K P & Ver.[2]	2	ENG 130 Business Writing	3
BUS 150 Bus. Math	3	Elective	2-3
Physical Ed. elective	1	Physical Education elective	1
	15		14-17

[1] Students not qualifying for ENG 101 may take ENG 099 or RDG 095.

[2] Entry into DPR 103 requires successful completion of a typing course.

ELECTRONICS

Any combination of 16 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

ELT 110 Intro. to Electronics . . . 2	MTH 106 Mathematics I 5
ELT 101 Circuits I 4	MTH 107 Mathematics II 5
ELT 105 Electro-Mech. Drafting. 3	MTH 206 Mathematics III 5
ELT 111 Electronics I 3	ELT 211 Analog Simulation I . . 4
ELT 102 Circuits II 4	ELT 212 Analog Simulation II . . 4
ELT 210 Computer Prog. 3	ELT 207 UHF Com. & Receptn.. 4
ELT 203 Electronics II 4	ELT 206 Electronic Computers . 4
ELT 103 Circuits III 4	ELT 205 Electronic Instru. 4
ELT 204 Electronics III 4	

FASHION DESIGN

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

FAS 101 Flat Pattern Design & Draping I 4	FAS 201 Advanced Flat Pattern Design & Draping I 4
FAS 102 Flat Pattern Design & Draping II 4	FAS 202 Advanced Flat Pattern Design & Draping II 4
FAS 103 Apparel Design I 3	FAS 203 Advanced Diversified Apparel Design I 4
FAS 104 Apparel Design II 4	FAS 204 Advanced Diversified Apparel Design II 4
FAS 105 Fashion Illustration I . 1	FAS 205 Tailoring Tech. I 2
FAS 106 Fashion Illustration II . 1	FAS 206 Tailoring Tech. II 2
FAS 107 Textiles & Apparel Construction I 2	FAS 207 History of Costume I . 2
FAS 108 Textiles & Apparel Construction II 2	FAS 208 History of Costume II . 2

FIRE SCIENCE

The Fire Science certificate program is designed to upgrade people currently employed in the Fire Science field and to enable them to seek more responsible positions within that field by furthering their knowledge in special areas of Fire Science.

Any 6 credit hours may be selected from the courses listed below:

ENG 099 Composition 3	ENG 103 Report Writing 3
ENG 101 Composition 3	SOC 101 Intro. to Sociology .. 3

Any 9 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

FIS 101 Municipal Fire Adm. I.. 3	FIS 115 Bld. Const. & Codes ... 3
FIS 102 Intro. to Fire Science .. 3	FIS 120 Haz. Materials I 3
FIS 103 Fire Prevention I 3	FIS 121 Haz. Materials II 3
FIS 106 Fire Prevention II	FIS 130 Fire Hydraulics 3
FIS 110 Fire Tact. & Strat. I 3	FIS 140 Fire Causes & Inves. ... 3
FIS 111 Fire Tact. & Strat. II 3	FIS 201 Municipal Fire Adm. II. 3

LAW ENFORCEMENT

This certificate program is designed to provide specialized education for those currently employed who wish to obtain a certificate indicating completion of the courses as a group.

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

LAE 101 Intro. to Law Enforcement 3	LAE 210 Intro. to Criminology . 3
LAE 102 Police Admin. & Org... 3	LAE 202 Criminal Law II 3
LAE 110 Police Operations 3	LAE 211 Criminal Investigation. 3
LAE 201 Criminal Law I 3	LAE 212 Traffic Administration . 3

MECHANICAL DRAFTING

The Mechanical Drafting certificate program has been developed in conjunction with the area industries to prepare students for challenging careers in drafting. The program may be completed in one semester of day school or two semesters of evening school.

MET 101 Elements of Drafting. 3	MET 201 Mechanisms 4
MTH 106 Mathematics I 5	16
MET 102 Technical Drafting .. 4	

MECHANICAL TECHNICIAN

The Mechanical Technician certificate program, developed in conjunction with area industries, prepares students for employment as industrial technicians, lab technicians, shop technicians, or engineering assistants. The program may be completed in one semester of day school or two semesters of evening school.

MET 101 Elements of Drafting. 3	Technical elective[1] 3-5
MTH 106 Mathematics I 5	15-17
PHY 101 Technical Physics I .. 4	

[1] Elective to be chosen from the following courses:

MET 102 Technical Drafting 4	MET 201 Mechanisms 4
MTH 107 Mathematics II 5	MET 108 Manufacturing Processes 3

NUMERICAL CONTROL TECHNICIAN

The Numerical Control Technician's certificate program allows for in depth course work in Numerical Control. Such courses should provide an individual with the necessary background to assume a responsible position in this area.

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

NMC 93 Numerical Control Drafting 2	NMC 201 Numerical Controlled Machining 3
NMC 97 ADAPT & APT Part Programming 2	NMC 210 Computer Prog.-FORTRAN 3
NMC 101 Intro. to Numerical Control 2	NMC 214 Graphic Display Sys.. 3
NMC 105 Part Programming I. 3	NMC 215 Part Programming II. 3
	NMC 216 Part Programming III. 3
	NMC 220 Special Problems ... 3

NURSING: (PRACTICAL)

The Practical Nursing certificate program is one full year in length — two semesters and one summer session — and is designed to prepare students to become Licensed Practical Nurses. The curriculum concentrates on practical nursing, vocational relationships, and disaster nursing.

After passing the state board examination for Practical Nursing licensure, LPN's take their place on the medical team, working under the direction of a doctor or registered nurse when caring for acutely ill patients and giving total patient care to convalescing or sub-acute patients in hospitals, nursing homes, and other health care settings.

FIRST SEMESTER		SECOND SEMESTER	
PNR 060	14	PNR 070	13
RDG 099 Developmtl. Rdg.	2	ENG 100	3
	16		16

SUMMER SESSION	
PNR 080	11
	11

SECRETARIAL SCIENCE

Any combination of 15 credit hours may be selected from the courses listed below, providing the combination has counselor approval.

SEC 121 Beginning Typing[1] ... 2	SEC 125 Elem. Shorthand[2] 3
SEC 122 Intermediate Typing .. 2	SEC 126 Inter. Shorthand[2] 3
SEC 221 Advanced Typing 2	SEC 225 Dict. & Transc. 3
SEC 131 Business Machines ... 2	

[1] Students for whom advanced placement is recommended, should substitute SEC 131.

[2] Students for whom advanced placement is recommended, should substitute BUS 150.

Students who can substitute previous training for both SEC 125 and SEC 126 should substitute BUS 150 and SEC 132.

SUPERMARKET MANAGEMENT

The Supermarket Management certificate program has been designed by the college and representatives of the supermarket industry for those students with an interest in careers in the fast-growing and important supermarket industry. Specifically, the program has been designed to provide training and experience that could lead to managerial positions in the industry.

The following courses are required:

BUS 109 The Retail Food Distribution Industry 2	BUS 215 Supermarket Op. .... 3 BUS 216 Supermarket Mdse. .. 3

A minimum of 7 credit hours may be selected from any of the following courses:

BUS 111 Intro. to Bus. Org. ... 3	ECO 201 Principles of Eco. ... 3
BUS 270 Principles of Mgt. 3	ECO 115 Consumer Economics. 3
BUS 150 Business Math 3	DPR 101 Intro. to Data Proc. .. 3
BUS 101 Accounting I 3	PSY 145 Psych. in Bus. & Ind. . 3
BUS 102 Accounting II 3	BUS 130 Business Writing 3
BUS 211 Business Law 3	

TRANSFER PROGRAMS

Harper College offers the first two years of most four year college programs. For example, students interested in the following areas of study can spend their first two years at Harper College qualifying for an associate degree and then transfer to a four-year institution without loss of time or credit:

Business
Accounting
Advertising
Business Administration
Commerce
Finance
Marketing
Retailing
Transportation

Education
Business Education
Education
Library Science
Personnel and Guidance
Physical Education
Special Education

Engineering
Architecture
Chemical Engineering
Civil Engineering
Electrical Engineering
Industrial Engineering
Mechanical Engineering

Humanities
Art
English
Foreign Languages
Journalism
Law
Liberal Arts
Literature

Humanities (con't.)
Music
Philosophy
Speech
Theology

Medicine
Dentistry
Medicine
Nursing
Optometry
Pharmacy
Physical Therapy
Veterinary Medicine

Natural Sciences and Mathematics
Biology
Botany
Chemistry
Geology
Mathematics
Physics
Zoology

Social Sciences
Anthropology
Economics
Geography
History
Political Science
Psychology
Social Work
Sociology

The following programs are designed principally for students desiring to meet the requirements for an associate degree in arts or in science. These programs will, in general, meet transfer requirements to most colleges and universities, but it is important for the student to know that requirements in institutions granting baccalaureate degrees will vary. When the student can inform his counselor exactly which area he wishes to pursue and the institution at which he wishes to complete his work, a program can be arranged to suit his individual needs. In the preparation of his program at Harper College, the student should consult the catalog of the college which he will attend later. Students who have not yet selected the college at which they will complete their work will find the suggested programs good general guides to follow.

Students who enter the University of Illinois without college credit in algebra are required to take the Mathematics Placement Test before registering in the College of Commerce. The student who does not pass the test must take college algebra without credit. The student who has had college algebra or passes the placement test may proceed directly to courses required by the College for graduation.

Foreign Language Requirement. Two years of one foreign language taken in high school is acceptable at the University of Illinois. The foreign language deficiency can be removed by passing an entrance examination or completing one year of foreign language in college without credit.

ARCHITECTURAL DESIGN

First Year

FIRST SEMESTER		SECOND SEMESTER	
ARC 101	3	ARC 102	3
ARC 103	3	ARC 104	3
ART 110	3	ART 111	3
ENG 101	3	ENG 102	3
MTH 105	4	MTH 201	5
Physical Education	1	Physical Education	1
	17		18

SUMMER SESSION

Social Science 6

Second Year

FIRST SEMESTER		SECOND SEMESTER	
ARC 201	4	ARC 202	4
ARC 203	3	ARC 204	3
ARC 205	3	ARC 206	3
ART 105	3	ART 131	3
PHY 121	5	PHY 122	5
	18		18

ART

First Year

FIRST SEMESTER		SECOND SEMESTER	
English Composition	3	English Composition	3
FNA 111	3	FNA 112	3
Phys. or Biol. Science	4	Phys. or Biol. Science	4
ART 110	3	ART 111	3
ART 121	3	ART 122	3
Physical Education	1	Physical Education	1
	17		17

Second Year

FIRST SEMESTER		SECOND SEMESTER	
Foreign Language	4	Foreign Language	4
ART 201	3	ART 202	3
ART 225	3	ART 226	3
ART 236	2	ART 237	2
ART 206 or 296	2	ART 261	2
Social Science	3	ART 291 or 297	2
Physical Education	1	Social Science	3
	18		19

BUSINESS

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 102	3
ECO 201	3	ECO 202	3
Mathematics	3	Mathematics	3
PHI 105	3	Science	3-4
Science	3-4	BUS 101	3
Physical Education	1	Physical Education	1
	16-17		16-17

Second Year

FIRST SEMESTER		SECOND SEMESTER	
BUS 225	3	BUS 226	3
HST 111 or 141	3-4	HST 112 or 142	3-4
BUS 102	3	BUS 201	3
SPE 101	3	PSY 101 or SOC 101	3
Literature or Fine Arts	3	Literature or Fine Arts	3
Physical Education	1	Physical Education	1
	16-17		16-17

CHEMICAL ENGINEERING

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 102	3
CHM 131	5	CHM 132	5
MTH 105	4	MTH 201	5
Social Science	3	MTH 215	3
Physical Education	1	Physical Education	1
	16		17

SUMMER SESSION

Social Science	3

Second Year

FIRST SEMESTER		SECOND SEMESTER	
CHM 204	5	CHM 205	5
MTH 202	5	MTH 212	3
PHY 201	5	PHY 202	5
Foreign Language[1]	4	Foreign Language	4
	19		17

[1] Two years of foreign language, (German, French, or Russian) are required for the Bachelor of Science degree. Two units of high school credit in one of these languages are equivalent to one year of college credit. Check the school to which transfer will be made for foreign language requirements.

CIVIL, ELECTRICAL, GENERAL AND MECHANICAL ENGINEERING

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 102	3
CHM 121	4	CHM 122	4
EGR 120	3	EGR 121	3
MTH 105	4	MTH 201	5
Social Science	3	Humanities elective	3
	17		18

Second Year

FIRST SEMESTER		SECOND SEMESTER	
Social Science	3	MTH 212	3
MTH 202	5	PHY 202	5
PHY 201	5	EGR 211	3
EGR 150	2	Humanities	3
Physical Education	1	Physical Education	1
	16	Technical elective[1]	3
			18

[1] Technical Elective selected from following: EGR 212, EGR 215, MTH 165, MTH 208, MTH 215.

ENGINEERING TECHNOLOGY FOR TEACHERS

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 102	3
CHM 121	4	CHM 122	4
EGR 120	3	EGR 121	3
MTH 103	3	Social Science elective	3
MTH 104	3	MTH 105	4
Physical Education	1		17
	17		

Second Year

FIRST SEMESTER		SECOND SEMESTER	
MTH 201	5	Physical Education	1
PHY 121	5	Humanities	3
EGR 150	2	EGR 211	3
PSY 101	3	MTH 202	5
Humanities elective	3	PHY 122	5
	18		17

LIBERAL ARTS

The Liberal Arts transfer curriculum lays the foundation of a broad general education. It should be followed by those who wish to become lawyers, historians, philosophers, sociologists, English teachers, social workers, anthropologists and political scientists, and for those who have not yet chosen their field of specialization but who wish to satisfy the general education requirements of the university to which they will transfer.

Though the general education requirements of universities vary in some details, in general the student can be sure he will meet them if he takes at Harper two semesters of transfer-level English composition, two semesters of laboratory science, four semesters of foreign language, two semesters of mathematics, and a number of courses in the social sciences and humanities. He can often count each year of successful high school foreign language as one semester of college foreign language, and he may meet the math requirement of some universities by passing their math proficiency test.

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 102	3
Social Science	3	Social Science	3
Laboratory Science[1]	4	Laboratory Science[1]	4
Math or elective	3	Math or elective	3
Foreign Language	4	Foreign Language	4
Physical Education	1	Physical Education	1
	18		18

Second Year

FIRST AND SECOND SEMESTER	
English[2]	6
Social Science	6
Humanities[3]	6
Foreign Language[4]	6-8
Additional electives[5]	6-8
	30-34

[1] Physical or biological science or physics, chemistry, botany, or other lab science.

[2] Advanced English or Literature, or Speech.

[3] Humanities 201-202 are recommended, 3 credit hours each. Other humanities areas include art, music, literature and philosophy.

[4] Consult your counselor for specific foreign language requirements of the university to which you plan to transfer.

[5] Another lab science may be added. Electives may be drawn also from anthropology, art, economics, geology, geography, history, music, political science, philosophy, psychology, sociology and speech.

MUSIC[1]

First Year

FIRST SEMESTER		SECOND SEMESTER	
English 101	3	English 102	3
Science or Math elective	3-5	Science or Math elective	3-5
Physical Education elective	1	Physical Education elective	1
Music 111	3	Music 112	3
Music 115	1	Music 116	1
Group Performance[2]	1	Group Performance[2]	1
Applied Music elective[3]	2-4	Applied Music elective[3]	2-4
	14-18		14-18

Second Year

FIRST SEMESTER		SECOND SEMESTER	
Social Science	3	Social Science	3
Music 211	3	Music 212	3
Music 215	1	Music 216	1
Instrmntl. or Vocal Tech.	2	Instrmntl. or Vocal Tech.	2
Music 121	3	Music 122	3
Group Performance[2]	1	Group Performance[2]	1
Applied Music elective[3]	2-4	Applied Music elective[3]	2-4
L. A. elective	2	L. A. elective	2
	17-19		17-19

[1] All majors in music must demonstrate minimum proficiency on the piano.

[2] To be elected from MUS 130, 136, 140, 145, 150.

[3] To be elected from courses numbered 180-199, 280-299.

SCIENCE AND MATHEMATICS

First Year

FIRST SEMESTER		SECOND SEMESTER	
ENG 101	3	ENG 102	3
Foreign Language	4	Foreign Language	4
Mathematics	3-5	Mathematics	3-5
Laboratory Science	4-5	Laboratory Science	4-5
Physical Education	1	Physical Education	1
	15-18		15-18

Second Year

FIRST SEMESTER		SECOND SEMESTER	
Social Science	3	Social Science	3
Mathematics	3-5	Mathematics	4-5
Laboratory Science	4-5	Laboratory Science	4-5
Elective	3-4	Elective	3-4
Physical Education	1	Physical Education	1
	14-18		15-18

COURSE NUMBERING SYSTEM

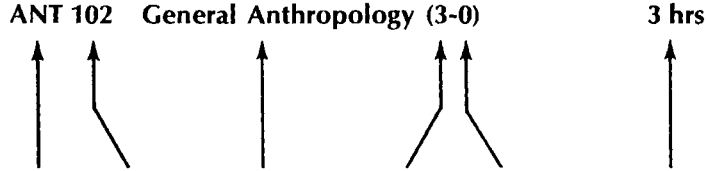
In general, courses numbered below 100 are not intended for transfer credit. These courses may be counted toward the A.A.S. degree but not the A.A. or A.S. degrees.

Courses numbered 100 or above may be expected to fulfill transfer requirements. In some cases the courses designed primarily for vocational programs may not be acceptable in transfer to all four year institutions. Students should see a counselor for clarification on the transferability of these courses.

Courses numbered 200 and above are intended for the sophomore level.

Sample Course Listing

ANT 102 General Anthropology (3-0) 3 hrs.



ANTHROPOLOGY

ANT 201 General Anthropology (3-0) **3 hrs.**
Human origins and early man, race and racism, archeology, and the beginning of early civilization.

ANT 202 Comparative Study of Cultures (3-0) **3 hrs.**
Methods used by anthropologists to gather and interpret cultural materials. Comparison of various cultures, understanding the culture concept, and examination of the relationship between culture and personality.
Prerequisite: ANT 201.

ARCHITECTURE

ARC 101 Basic Design I (0-6) **3 hrs.**
Basic factors in two-dimensional and three-dimensional design. ($10 lab fee).

ARC 102 Basic Design II (0-6) **3 hrs.**
More complex systems of two-dimensional and three-dimensional design. Introduction to color theory.
Prerequisite: ARC 101. ($10 lab fee).

ARC 103 Building Construction I (2-2) **3 hrs.**
Wood and masonry construction and allied materials. ($7.50 lab fee).

ARC 104 Building Construction II (2-2) **3 hrs.**
Steel construction and allied materials.
Prerequisite: ARC 103. ($7.50 lab fee).

ARC 201 Design I (0-8) **4 hrs.**
Architectural design problems; emphasis on development and organization of space.
Prerequisite: ARC 102. ($10 lab fee).

ARC 202 Design II (0-8) **4 hrs.**
Architectural design problems; emphasis on structure.
Prerequisite: ARC 201 and ARC 104. ($10 lab fee).

ARC 203 Statics and Strength of Materials I (3-0) **3 hrs.**
Equilibrium of bodies and systems subjected to parallel, colinear, parallel noncolinear, perpendicular, and general systems of concentrated forces. Distributed bonds, centroids, buoyancy, friction. Stresses and strains in tension and compression; moment of inertia.
Prerequisite: MTH 201.

ARC 204 Statics and Strength of Materials II (3-0) **3 hrs.**
Torsion; bending; shear and moment diagrams; stresses in beams; combined bending and aerial load; deflection of beams; statical indeterminancy; columns variation of stress and strain at a point; ultimate load, failure and safety.
Prerequisite: ARC 203.

ARC 205 Architectural History I (3-0) **3 hrs.**
Introduction to methodology of art and architectural history and criticism. A cultural-historical oriented examination of architecture and art from antiquity through medieval times.

ARC 206 Architectural History II (3-0) **3 hrs.**
Continuation of ARC 205. Cultural-historical examination of architecture from renaissance to present.
Prerequisite: ARC 205.

ARCHITECTURAL TECHNOLOGY

ATE 101 Introduction to Architectural Technology I (1-6) **4 hrs.**
Pragmatic fundamentals of Architecture consisting of general technical procedures; drafting and sketching; working drawing outline; mechanical and electrical services; estimating format; specification format; computer relationships. ($10 lab fee).

ATE 102 Introduction to Architectural Technology II (1-6) **4 hrs.**
Orthographic; oblique, perspective projections; cross referencing; indexing; specifications; cost control budgeting; development of working drawings and specifications.
Prerequisite: ATE 101 or consent of instructor. ($10 lab fee).

ATE 103 Building Materials Technology I (2-4) **4 hrs.**
Typical brick bearing walls and their methods of bonding; wood floor, wall and ceiling construction based on balloon and platform framing. ($7.50 lab fee).

ATE 104 Building Materials Technology II (2-4) **4 hrs.**
Typical column, beam, girder and cladding assemblies based on bolted and welded construction techniques.
Prerequisite: ATE 103 or consent of instructor. ($7.50 lab fee).

ATE 105 Computer Mathematics for Architectural Technologies I (3-0) **3 hrs.**
Basic algebra and an introduction to trigonometry; introduction to Fortran IV; application to architectural area and volume computations for gross floor and exterior wall designs. ($7.50 lab fee).

ATE 106 Computer Mathematics for Architectural Technologies II (3-0) **3 hrs.**
Algebra, trigonometry and analytic geometry related to computer techniques applicable to architectural building materials, SYMAT planning, critical path and building geometry.
Prerequisite: ATE 105. ($7.50 lab fee).

ATE 201 Comprehensive Building Project I (0-8) **4 hrs.**
Architecture as a profession emphasizing computer technology for building project; finish materials; zoning and building ordinance formats; auto specifications; mechanical and electrical equipment coordination; site utilities; working drawings; shop drawing format; building optimization in estimating.
Prerequisite: ATE 102. ($10 lab fee).

ATE 202 Comprehensive Building Project II (0-8) **4 hrs.**
Analysis of zoning and building code requirements applicable to developing and completing building project; architectural practice; construction scheduling; itemized cost estimate; contingency provisions; general conditions; architect-engineer-contractor fee schedule.
Prerequisite: ATE 201. ($10 lab fee).

ATE 203 Construction Problem I (2-4) **4 hrs.**
Detailing; investigation and analysis of fire resistivity of materials; construction type; Underwriters Laboratories hourly ratings; fire proofing; sprinkling; insurance requirements.
Prerequisite: ATE 104. ($7.50 lab fee).

ATE 204 Construction Problems II (2-4) 4 hrs.
Detailing of stairs; glazing; sealants; millwork; suspended ceiling systems, doors; windows; ceramic tile; roofing; investigation of bronze, aluminum, stainless steel, interior terrazzo; granite; marble.
Prerequisite: ATE 203. ($7.50 lab fee).

ATE 205 Computer Graphic and Optimization (3-0) 3 hrs.
Basic principles of differential and integral calculus for computer applications related to graphics, zoning ordinances and building codes.
Prerequisite: ATE 106. ($7.50 lab fee).

ATE 206 Computer Applications in Architecture (3-0) 3 hrs.
Special problems emphasizing actual job conditions using total computer techniques for building specifications, perspectives, working drawings, and optimization programs in estimating.
Prerequisite: ATE 205. ($7.50 lab fee).

ATE 207 Strength of Materials I (3-0) 3 hrs.
Strength of materials with physics integrated. Major concepts in scientific thought, interpretation of physical measurement, and structural development of matter in its various forms applicable to building construction.
Prerequisite: ATE 104.

ATE 208 Strength of Materials II (3-0) 3 hrs.
Continuation of ATE 207. Interactions of matter interpreted through concepts of force, motion and energy, visible and invisible electromagnetic spectrum, and nature of electric fields and forces; Hooke's Law; elasticity, shear and moment diagrams.
Prerequisite: ATE 207.

ART

ART 105 Art Appreciation (3-0) 3 hrs.
Introduction to basic principles in architecture, sculpture, painting, and related art. For non-art students and pre-teachers.

ART 110 Drawing I (0-6) 3 hrs.
Introduction to theory and practice in the elements of drawing. Studio and lecture. ($7.50 lab fee).

ART 111 Drawing II (0-6) 3 hrs.
Continuation of ART 110. Introduction to theory and practice in elements of drawing. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 110.

ART 121 Design I (0-6) 3 hrs.
Introduction to theory and practice in the principles of design. Studio and lecture. ($7.50 lab fee).

ART 122 Design II (0-6) 3 hrs.
Continuation of ART 121. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 121.

ART 180 Interior Design Workshop I (0-4) 2 hrs.
Discussion and studio work based on principles of art, consumer education, and budgets. Color, furniture styles and arrangements; wall, window and floor treatments; fabrics; lighting; accessories; and room planning. Studio and lecture.
Prerequisite: ART 121 or permission of instructor. ($7.50 lab fee).

ART 181 Interior Design Workshop II (0-4) **2 hrs.**
Continuation of ART 108. ($7.50 lab fee).
Prerequisite: ART 180.

ART 201 Drawing III (0-6) **3 hrs.**
Development of interpretive and representational skills through work in a variety of drawing media. Studio and lecture.
Prerequisite: ART 111. ($7.50 lab fee).

ART 202 Drawing IV (0-6) **3 hrs.**
Continuation of Art 201. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 201.

ART 206 Print Making I (0-4) **2 hrs.**
Linoleum, wood block printing, intaglio and collograph. Experimentation with color printing. Studio and lecture.
Prerequisite: ART 111 and 121. ($7.50 lab fee).

ART 207 Print Making II (0-4) **2 hrs.**
Lithography, silk screen, color combinations. Studio and lecture.
Prerequisite: ART 111 and 121. ($7.50 lab fee).

ART 225 Figure Drawing I (0-6) **3 hrs.**
Drawing the human figure in action and from still poses. Rapid sketching, long poses, memory work portraiture. Studio and lecture.
Prerequisite: ART 111.

ART 226 Figure Drawing II (0-6) **3 hrs.**
Continuation of ART 225. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 225.

ART 236 Composition I (0-4) **2 hrs.**
Pictorial composition in line, value, pattern and color. Studio and lecture.
Prerequisite: ART 111, ART 121 and FNA 112. ($7.50 lab fee).

ART 237 Composition II (0-4) **2 hrs.**
Continuation of ART 236. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 236.

ART 261 Painting (0-4) **2 hrs.**
Painting technique, color theory and harmony. Painting and sketching of still life, landscape and figures. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 111, ART 121 or permission of instructor.

ART 262 Advanced Painting (0-4) **2 hrs.**
Continuation of ART 261. Painting techniques offering a wider variety of creative experiences and opportunities. Studio and lecture. ($7.50 lab fee).
Prerequisite: ART 261.

ART 291 Ceramics I (0-4) **2 hrs.**
Basic fundamentals of ceramics: forming and shaping by hand and mechanical means, technical information about clay and glazes, stacking and firing kiln. ($7.50 lab fee).
Prerequisites: ART 111, ART 122 or permission of instructor.

ART 292 Ceramics II (0-4) **2 hrs.**
Continuation of ART 291. ($7.50 lab fee).
Prerequisite: ART 291.

ART 296 Sculpture I (0-4) **2 hrs.**
Development of three-dimensional objective and non-objective form in clay, plaster, wood and metal; introduction to mold making and casting techniques. ($7.50 lab fee).
Prerequisites: ART 111, ART 122 or permission of instructor.

ART 297 Sculpture II (0-4) **2 hrs.**
Continuation of ART 296. ($7.50 lab fee).
Prerequisite: ART 296.

BIOLOGY

BIO 101 Biology Survey (3-0) **3 hrs.**
Survey of science of biology emphasizing chemical and physical properties of living things; over-view of plant and animal kingdoms; systems of control; growth; differentiation; reproduction; genetics; ecology and evolution.

BIO 110 Cellular Biology (3-3) **4 hrs.**
Structure and ultrastructure of cell; surface-volume relationships; cellular metabolism and energetics; DNA, RNA, and protein synthesis; mitosis and meiosis; genetics, gene action and population genetics.
Prerequisite: High school biology with C or better, BIO 101 or consent of instructor. ($5 lab fee).

BIO 120 General Botany (3-3) **4 hrs.**
Survey of plant kingdom emphasizing evolutionary relationships; plants and their growth, structure, physiology, reproduction and ecology.
Prerequisite: High School Biology with C or better, or BIO 101, or consent of instructor. ($5 lab fee).

BIO 130 Microbiology (3-3) **4 hrs.**
Characteristics and importance of microorganisms; emphasis on identification, anatomy and physiology, control, relationship to health and disease, and economic importance.
Prerequisite: High School Biology with C or better, or BIO 101, or consent of instructor. ($5 lab fee).

BIO 140 General Zoology (3-3) **4 hrs.**
Survey of animal kingdom, based on theory of organic evolution; including morphology, histology, physiology, taxonomy, parasitology, embryology and ecology.
Prerequisite: High School Biology with C or better, or BIO 101, or consent of instructor. ($5 lab fee).

BIO 160 Human Anatomy and Physiology I (3-2) **4 hrs.**
Structure and function of cells, tissues, organs, and organ-systems. Skeletal, muscular, circulatory, and digestive systems are studied in detail.
Prerequisite: High School Biology with C or better, or BIO 101, or consent of instructor. ($5 lab fee).

BIO 161 Human Anatomy and Physiology III (3-2) **4 hrs.**
Continuation of BIO 160. Structure and function of the nervous, respiratory, excretory, endocrine, and reproductive systems.
Prerequisite: BIO 160. ($5 lab fee).

BIO 170 Bio-Physical Science I (3-2) **4 hrs.**
Interrelationships of content and application of essential principles from anatomy and physiology, chemistry, microbiology, and basic clinical pathology. (A career course for nurses.) ($5 lab fee).

BIO 171 Bio-Physical Science II (3-2) **4 hrs.**
Continuation of BIO 170.
Prerequisite: BIO 170. ($5 lab fee).

BIO 180 Histology and Embryology (2-2) **3 hrs.**
Minute structure and development of tissue of body with particular reference to teeth and supporting tissues.
Prerequisite: BIO 161. ($5 lab fee).

BIO 190 General Pathology (3-0) **3 hrs.**
Introduction to general pathology; common diseases affecting human body. Diseases of oral cavity emphasized. (NOTE: Offered in second year of dental hygiene program.)
Prerequisite: BIO 180. ($5 lab fee).

BUSINESS

BUS 098 Tax and Payroll Accounting (4-0) **4 hrs.**
An explanation of the Federal tax structure and instruction in the application of the tax principles to specific problems. Also, the preparation of payroll records including tax returns for old-age benefits and employment insurance.

BUS 099 Business Recordkeeping (3-0) **3 hrs.**
Standard bookkeeping procedures for small firms, both business and professional. Journalizing, posting, and preparing trial balances and financial statements. Procedures for handling petty cash and bank deposits and withdrawals.
Formerly BUS 103.

BUS 101 Accounting I (3-0) **3 hrs.**
Basic accounting and business concepts, principles of recording transactions, special ledgers and statements, end-of-period adjustments, and financial statement preparation.

BUS 102 Accounting II (3-0) **3 hrs.**
Continuation of BUS 101 with emphasis on partnerships, corporations, branches, and departments. Interpretation of financial statements, basic valuation and cost concepts, reporting of manufacturing costs.
Prerequisite: BUS 101.

BUS 109 The Retail Food Distribution Industry (2-0) **2 hrs.**
The study of the mass retail food distribution industry with major emphasis on the supermarket. Topics to be included are: history and economic development of retail food distribution, problems and practices in supermarket organization and management, current issues confronting the industry, and the future role of the retail food distribution industry.

BUS 111 Introduction to Business Organization (3-0) **3 hrs.**
Nature of business and environment in which it operates. Forms of business ownership; introduction to operative and facilitating facets of business operation: management, marketing, accounting, statistics, business law, finance, investments, insurance, and labor-management relations.

BUS 140 Salesmanship (3-0) **3 hrs.**
General salesmanship involving factors of successful selling of goods or ideas. Buying motives, sales psychology, customer approach, and sales techniques.

BUS 150 Business Math (3-0) **3 hrs.**
Arithmetic as a tool of business. Topics include fractions, decimals, and percentages, computations of interest, bank discounts, depreciation, commissions, compound interest, payrolls and taxes, and graphs and charts design

BUS 201 Intermediate Accounting I (3-0) **3 hrs.**
Problem solving course in accounting principles begun in BUS 101 and 102. Accounting and reporting process, accounting theory, inventories, tangible and intangible fixed assets.
Prerequisite: BUS 102.

BUS 202 Intermediate Accounting II (3-0) **3 hrs.**
Accounting for corporations including capital stock, retained earnings, bonds payable, income statement and balance sheet analysis, pensions and leases, fund flow analysis, consignments, and installment sales.
Prerequisite: BUS 102.

BUS 203 Introductory Cost Accounting (3-0) **3 hrs.**
Use of costs for control and decision making, with emphasis on determining and reporting overhead variance, product costs (process, job order, and standard cost), by-product costs, joint-product costs, and direct and variable costing.
Prerequisite: BUS 101.

BUS 211 Business Law I (3-0) **3 hrs.**
A general history of the sources of the law, an outline of the Judicial System followed by the Basic Principles of Business Law including contracts, agency and employment, and property.

BUS 212 Business Law II (3-0) **3 hrs.**
Part II of the Basic Principles of Business Law including The Uniform Commercial Code, Business Organizations, and Creditors' Rights.
Prerequisite: BUS 211.

BUS 215 Supermarket Operations (3-0) **3 hrs.**
Operational aspects of the supermarket, including planning, organizing, and controlling the use of capital, personnel, equipment, and facilities; work methods; departmental operations; store security; housekeeping; supply control; sanitation safety; scheduling; front-end management; cash control; and customer service.
Prerequisite: Recommended BUS 109.

BUS 216 Supermarket Merchandising (3-0) **3 hrs.**
Merchandising techniques as applied to the supermarket, including the store manager's merchandising responsibilities; an analysis of profit centers; customer motivation; consumer dynamics; product information; space management in store sales, promotion, and displays; inventory control; pricing; advertising; brand management; creative merchandising in specific departments; and increasing departmental as well as store sales and profits.
Prerequisite: Recommended BUS 109.

BUS 217 Advertising (3-1) **3 hrs.**
Purposes of advertising, how advertisements are prepared and delivered in media, and how effectiveness of advertising is measured and evaluated in relation to the selling and marketing processes.
Prerequisite: BUS 245 or consent of instructor.

BUS 218 Introduction to Finance (3-0) **3 hrs.**
Methods of financing business enterprises and their relationships to personal and company investment policies.
Prerequisite: BUS 111 and BUS 101.

BUS 225 Applied General Statistics (3-0) 3 hrs.
An introduction to both descriptive and inductive statistics. Collection of data; frequency distributions and measures of data; frequency distributions and measures of location (mean, median and mode); measures of variation; probability, theoretical distributions including sampling distributions, estimation, tests of hypotheses; correlation, regression analysis and index numbers; time series.

BUS 226 Elementary Quantitative Methods (3-0) 3 hrs.
An introduction to the new field of quantitative methods as applied to business problems. The standard gamble, the payoff matrix, and problems of uncertainty and risk; formulating and defining business problems for quantitative solutions.

BUS 245 Principles of Marketing (3-0) 3 hrs.
Principles and methods involved in distribution of goods and services Role and functions of marketing institutions in business system. Product, price, promotion, and distribution channel policies.
Prerequisite: BUS 111. Prior or concurrent enrollment in ECO 201 recommended.

BUS 249 Purchasing (3-0) 3 hrs.
Nature and importance of the procurement function in modern business organizations. Principles, tools, methods, and techniques employed for the acquisition of materials, supplies, and equipment.
Prerequisite: BUS 245 and sophomore standing. Sophomore standing may be waived upon consent of instructor.

BUS 250 Retailing (3-0) 3 hrs.
Survey of types of retail institutions, including consideration of store location and organizational procedures, buying and merchandising practices, promotional and personnel policies.
Prerequisite: BUS 245.

BUS 255 Small Business Management (3-0) 3 hrs.
Organization and operation of small-scale retail, trading, service or manufacturing business. Location, financing, marketing, labor, accounting, and, in the case of manufacturing, production, plus related problems of stock control, taxes and insurance.
Prerequisite: BUS 111 or consent of instructor.

BUS 262 Accounting Seminar & Internship (3)
Cooperative work experience in accounting field. Enrollment in this course is restricted to students enrolled in the accounting aid curriculum. Part of the credit for this course will be given for participation in supervised cooperative work experience program wherein an organized training plan will be followed in a college approved training station. One lecture hour per week for seminar.
Prerequisite: Consent of instructor.

BUS 265 Personnel Management (3-0) 3 hrs.
Personnel problems and labor relations. Employment techniques, wages and hours, job evaluation, training, ratings, collective bargaining, pensions and fringe benefits.
Prerequisite: BUS 270 or consent of instructor.

BUS 267 Office and Administrative Management (3-0) 3 hrs.
Application of fundamental management practices to administrative type work both in the "office" and throughout the organization. Planning organizing and controlling business services, systems and procedures, office automation, cost reduction, and human relations practices.
Prerequisite: BUS 270 or consent of instructor.

BUS 270 Principles of Management (3-0) 3 hrs.
Presents the theory and major functions of management and describes the role of the manager. Major concepts in organization are developed along with an understanding of the decision-making process and consideration of the human factors in management.
Prerequisite: BUS 111.

BUS 281 Marketing Management Seminar & Internship I (1-2) 3 hrs.
Principles, practices, and areas of decision-making relative to price, product, promotion, and distribution policies of various types of marketing organizations.
Restricted to students in marketing management occupational programs. Part of the credit given for participation in supervised cooperative work experience in a college approved training station. One lecture hour per week for seminar.

BUS 282 Marketing Management Seminar & Internship II (1-2) 3 hrs.
Continuation of BUS 281.
Prerequisite: BUS 281 or consent of program coordinator.

BUS 283 Marketing Management Seminar & Internship III (1-2) 3 hrs.
Continuation of BUS 281 and BUS 282.
Prerequisite: BUS 282 or consent of program coordinator.

CHEMISTRY

CHM 100 Introductory Chemistry (3-2) 4 hrs.
Introduction to fundamental concepts of inorganic, organic, and biochemistry: matter, solutions, properties of organic compounds and chemical reactions. For students with no credit in high school chemistry. Meets prerequisite for Harper Nursing Program. ($7.50 lab fee).

CHM 101 Survey of Organic & Biological Chemistry (3-3) 4 hrs.
A brief study of the principles of organic chemistry related to body functions: acid base balance, digestion, absorption and metabolism of proteins, lipids, carbohydrates; enzymes, nucleic acids, and of organic compounds, the blood, urine, and saliva. (Restricted to Dental Hygiene Program).
Prerequisite: CHM 100. ($7.50 lab fee)

CHM 110 Chemical Technology Seminar (1-0) 1 hr.
Orientation for chemical technology students, including objectives of program, occupational and professional employment, and career opportunities. Panel discussions, reports, visitations to industrial laboratories, and guest speakers.

CHM 121 General Chemistry I (3-3) 4 hrs.
Fundamentals of inorganic chemistry including chemical arithmetic. For students with no credit in high school chemistry.
Prerequisite: At least one year of high school algebra with a grade of C or better or MTH 95 with a grade of C or better. ($7.50 lab fee).

CHM 122 General Chemistry II (3-3) 4 hrs.
Continuation of CHM 121. Fundamentals and theory: descriptive chemistry of some non-metals and introduction to organic chemistry.
Prerequisite: CHM 121. ($7.50 lab fee).

CHM 131 College Chemistry I (3-6) 5 hrs.
Principles and theories of inorganic chemistry including molecular, atomic, nuclear, and electronic theories of matter and their relations to the periodic table. Oxidation-reduction; chemical thermodynamics; bonding; behavior of gases; kinetics; equilibrium; solutions; etc. are treated quantitatively. Laboratory emphasis upon the interpretation of data. Primarily for students in chemistry, chemical engineering, or physical science curricula.
Prerequisite: One year of high school chemistry with at least a B average and credit or registration in MTH 103. ($7.50 lab fee).

CHM 132 College Chemistry II (3-6) 5 hrs.
Primarily for students in chemistry, chemical engineering, or physical science curricula. Continuation of CHM 131. Lab includes quantitative analysis.
Prerequisite: CHM 131. ($7.50 lab fee).

CHM 204 Organic Chemistry I (3-6) 5 hrs.
Application of modern theories of electronic structures to the study of chemical and physical properties of organic compounds. Laboratory includes syntheses, qualitative organic analyses, IR and visible spectrophotometry, gas chromatography, they layer chromatography, polarimetry, and refractometry. ($7.50 lab fee).
Prerequisite: CHM 132 or CHM 122 and consent of instructor.

CHM 205 Organic Chemistry II (3-6) 5 hrs.
Continuation of CHM 204.
Prerequisite: CHM 204. ($5 lab fee).

CHM 210 Quantitative and Instrumental Analysis I (3-6) 5 hrs.
Chemical methods applied in quantitative analysis; formation and properties of precipitates; theory of neutralization; basic procedures in gravimetric analysis, titrimetry.
Prerequisite: CHM 122. ($7.50 lab fee).

CHM 211 Quantitative and Instrumental Analysis II (3-6) 5 hrs.
Continuation of CHM 210. Emphasis on instrumental methods of performing analyses. Applications, limitations, and treatment of errors stressed.
Prerequisite: CHM 210. ($7.50 lab fee).

CHM 240 Unit Operations I (2-4) 4 hrs.
Fundamental theories of chemical engineering. Fluid flow, flow measurement, fluid transportation, heat flow.
Prerequisite: CHM 122 and enrollment in Chemical Technology program. ($7.50 lab fee).

CHM 241 Unit Operations II (2-4) 4 hrs.
Continuation of CHM 240. Evaporation, distillation, filtration, separations, solid handling and conveying.
Prerequisite: CHM 240. ($7.50 lab fee).

DATA PROCESSING

DPR 101 Introduction to Data Processing (3-0) 3 hrs.
The history of data processing, scope and significance of data processing, mechanical data processing, punched card unit records, punched card machine functions, electronic data processing equipment, and basic computer concepts.

DPR 103 Key Punching and Verifying (1-4) 2 hrs.
Development of high level of skill in programming and operating the IBM key punch and verifier, including speed and accuracy in key punching and verifying. ($5 lab fee).

DPR 108 Computer Programming I (4-4) 5 hrs.
In-depth study of COBOL. Extensive laboratory experience in writing, testing, debugging, and documenting programs for business applications.
Prerequisites: DPR 101 and MTH 103, or consent of instructor.
($5 lab fee).

DPR 110 Computer Programming II (4-4) 5 hrs.
Program writing, testing, debugging, and documentation using an assembler language. Extensive laboratory experience in planning, writing, and testing programs for typical business applications.
Prerequisites: DPR 101 and DPR 108, or consent of instructor.
($5 lab fee).

DPR 150 Data Processing Mathematics I (3-0) 3 hrs.
For data processing students. Concepts of notation, number bases, precision and significance, iterative process, logic, Boolean Algebra, operations research, and FORTRAN for business applications.
Prerequisite: College Algebra or consent of instructor.

DPR 202 Programming Systems (3-2) 3 hrs.
Purpose and function of various programming systems. Program compilers, micro-and macro-generators, utility programs, sort/merges, and job control languages.
Prerequisite: MTH 103 or DPR 150 and either concurrent registration in or completion of DPR 210; or consent of instructor. ($5 lab fee).

DPR 203 Systems Analysis and Design I (3-0) 3 hrs.
Functions and techniques of systems analysis, design, and development. Analysis of information flow, developing, organizing and using management data, establishing system specifications and equipment needs, and implementation of management information systems. Stresses methods and tools used in systems analysis and design.
Prerequisite: DPR 101 and concurrent registration in BUS 101 or consent of instructor.

DPR 204 Systems Analysis and Design II (3-0) 3 hrs.
Continuation of DPR 203. Advanced concepts in management information systems. Source data automation, data capture equipment, teleprocessing equipment, time-sharing systems, and total integrated information systems concepts.
Prerequisite: DPR 203.

DPR 210 Computer Programming III (3-4) 4 hrs.
Continuation of DPR 110. Programming magnetic tape, random storage devices, optical mark readers, and remote terminal systems, including use of IOCS for input-output devices.
Prerequisite: DPR 110. ($5 lab fee).

DPR 230 Field Project and/or Case Study (1-5) 3 hrs.
Application of data processing skills in practical situation. Field project or case study in local data processing installation. Open only to Data Processing degree candidates.
Prerequisite: G.P.A. of 2.0 or higher, plus DPR 203, DPR 250, and concurrent registration in DPR 202 and DPR 210, or consent of instructor.

DPR 250 Data Processing Mathematics II (3-0) 3 hrs.
Continuation of DPR 150. For Data Processing majors. Elementary statistical methods: measures of central tendency; dispersion; probability, confidence intervals, correlation; and FORTRAN; as applied to data processing applications.
Prerequisites: DPR 150 and ECO 201, or consent of instructor.

DENTAL HYGIENE

DHY 101 Pre-clinical Dental Hygiene (1-3) 2 hrs.
Operative procedures consist of instruction and practical work on manikin heads in technique of instrumentation and polishing. Proper manipulation of instruments for removal of calcific deposits and their indications — required for admittance to clinical practice. ($5 lab fee).

DHY 111 Dental Radiology (1-0) 1 hr.
Theory of X-ray radiation and dangers, exposure, and protection are introduced in this sequence. Film placement, exposure times, processing, mounting, and film interpretation are covered.

DHY 150 Clinical Dental Hygiene and Radiology I (0-6) 2 hrs.
Clinical practice on patient in dental hygiene clinic. Recording of patient histories, charting, X-ray, prophylaxis, topical medicinal applications, and dental health education. Improved techniques, skill, and speed emphasized in DHY 251-252. ($7.50 lab fee).

DHY 161 Dental Anatomy (2-4) 4 hrs.
Human dentition and supporting tissues. Penetrating study of oral anatomical structures. Recognize, describe, and reproduce all natural tooth forms. ($5 lab fee).

DHY 170 Orientation to Dentistry and Dental Hygiene (1-0) 1 hr.
Introduction, history, and organization of both the dental and dental hygiene professions. A development of professional attitudes, aims, and objectives of the members of the dental health team.

DHY 201 Seminar (2-0) 2 hrs.
Practice administration, dental ethics and jurisprudence. Orientation in cost accounting and bookkeeping in dental office. Dental office policies and procedures; application of ethics in everyday practice; legal responsibilities of dentist and dental hygienist; jurisprudence; State dental laws governing the practice of dental hygiene.

DHY 220 Community Dentistry I (3-0) 3 hrs.
Preventive Dentistry, Dental Health Education, and Public Health. Preventive aspects of dentistry; emphasis on dental health education, including diet and nutrition, health habits, oral prophylaxis, etiology of caries, dental stains, deposits, and periodontal health. Theories of preventive dentistry, including diseases, their etiology, prevention and cure through public health measures. ($5 lab fee).

DHY 221 Community Dentistry II (2-2) 3 hrs.
Continuation of DHY 220 with field experience in student classroom teaching in district elementary schools. Pursuit of field studies in public health. ($5 lab fee).

DHY 230 Nutrition and Periodontia (2-0) 2 hrs.
Nutritional needs, dietary patterns, selection and preparation of healthful foods and their relation to dental health. Diseases of gingival and periodontal tissues; tissue preservation and cures of diseases.

DHY 240 Dental Pharmacology and Anesthesia (1-0) 1 hr.
Basic dental pharmacopeia, uses of anesthetics, antibiotics, analgesics, hypnotics, and handling of dental office emergencies.

DHY 250 Clinical Dental Hygiene and Radiology II (0-12) 4 hrs.
Continuation of DHY 150. ($10 lab fee).

DHY 251 Clinical Dental Hygiene and Radiology III (0-12) 4 hrs.
Continuation of DHY 250. ($10 lab fee).

DHY 280 Dental Materials and Dental Assisting (2-2) 3 hrs.
Introduction to operations performed, treatments given in dental office, chairside assisting, reception and records. Materials used in restorative dentistry, prosthetic dentistry, and orthodontics, their manipulation and application in dentistry. Product introduction and orientation. ($3 lab fee).

DHY 291 Dental Assisting (1-6) 2 hrs.
Incorporates guest lecture series covering theory and demonstrations in operative dentistry, orthodontics, prosthodontics, oral surgery, pedodontics, endodontics, military dentistry, public health, and allied health services. Field experience through observation and participation in local dental offices, clinics, and military installations. ($5 lab fee).

DRAFTING TECHNOLOGY

DRT 090 Basic Drafting (2-4) 4 hrs.
Basic principles and knowledge of mechanical drafting standards. Develop skill in using drafting equipment in projections, dimensioning, lettering, constructions sectioning, and pictorial drawings.

DRT 091 Engineering Sketching (1-4) 3 hrs.
Principles, techniques, and media of sketching with engineering applications.

DRT 092 Descriptive Geometry (2-6) 5 hrs.
Theory of projections with practical analysis of typical problems involving size, shape, and relative position. Common geometrical magnitudes of points, lines, planes, and curved surfaces.

DRT 093 Graphical Mechanisms (2-4) 4 hrs.
Common mechanisms of motion using a graphical approach to the solution of problems. Detailing of cams, gears, links, and other basic parts of the machine. Introduction to Numerical Control drafting with applications to Numerical Control drafting industries.

DRT 094 Production Illustration (2-4) 4 hrs.
Various phases of production illustration including perspective, descriptive, axonometric, and graphing. Air brush, pencil shading, chalk, and ink-pen drawings required.
Prerequisite: DRT 090.

DRT 095 Tooling Details (2-4) 4 hrs.
Principles of jig and fixture detailing. Covers drilling, milling, inspection, and standard welding fixtures; includes economics of tooling.
Prerequisite: DRT 090.

ECONOMICS

ECO 115 Consumer Economics (3-0) **3 hrs.**
Consumer practices with emphasis on buying of investments, shelter, insurance and basic commodities.

ECO 201 Principles of Economics I (3-0) **3 hrs.**
Economic problems faced by our society. Basic concepts of production, consumption and distribution.

ECO 202 Principles of Economics II (3-0) **3 hrs.**
Continuation of ECO 201. Examination of resource allocation, national income, economic development and international economic relations.
Prerequisite: ECO 201.

EDUCATION

EDU 201 Introduction to Education (3-0) **3 hrs.**
Organization, structure and operation of schools in United States, including elementary, secondary, college and adult education. Evaluation of each student's potential for this occupation.

EDU 211 Educational Psychology (3-0) **3 hrs.**
Psychological principles as applied to education. Assessment of attitudes, capacities, interests and achievements; educational implications of physical, emotional and social development. Student, teacher, school and home as factors in educative process. Classroom observation required.
Prerequisite: PSY 101 or consent of instructor.

ELECTRONICS

ELT 101 Circuits I, Resistive Circuit Analysis (2-4) **4 hrs.**
Resistive circuits with time-varying source voltage. Physics of electricity, plus units, definitions, symbols, and notations for electrical quantities. Circuit properties and their applications to significant circuit configurations.
Prerequisite: High school Algebra or consent of instructor. ($5 lab fee).

ELT 102 Circuits II, Single Time Constant Circuits (3-3) **4 hrs.**
R-C and R-L single time constant circuits. Basic switching, circuitry, circuits with square-wave and step voltages as sources, and sinusoidal voltages as sources.
Prerequisite: ELT 101 or consent of instructor. ($7.50 lab fee).

ELT 103 Circuits III, Networks **4 hrs.**
Networks that will not reduce to simple single-time constant circuits. Only steady-state solutions considered, enabling use of S-plane in circuit analysis.
Prerequisite: ELT 102 or consent of instructor. ($10 lab fee).

ELT 105 Electro-Mechanical Drafting (1-6) **3 hrs.**
Drafting fundamentals and techniques with introduction to electronic and mathematical symbols, basic circuitry, electronic devices and fabrication processes. ($5 lab fee).

ELT 110 Introductory Electronics (0-6) **2 hrs.**
Laboratory instruments, circuit components, basic measuring techniques and basic circuits used as building blocks in any electronics system. ($5 lab fee).

ELT 111 Electronics I, Resistive (2-3) **3 hrs.**
Resistive circuits involving electronic devices. Volt-ampere characteristics and physics of diodes, transistors, multielement vacuum tubes, and practical resistive circuits using these devices.
Prerequisite: ELT 110 or consent of instructor. ($7.50 lab fee).

ELT 203 Electronics II, Pulse (3-4) **4 hrs.**
Electronic circuits in which electronic devices are operated in a switching mode. Practical circuits are involved, such as clippers, clampers, pulse formers, multivibrators, blocking oscillators, logic circuits, and sweep circuits.
Prerequisite: ELT 103, 111 or consent of instructor. ($10 lab fee).

ELT 204 Electronics III, Advanced Electronics (3-4) **4 hrs.**
Electronic circuits in which vacuum tubes and transistors are operated in the linear region of their volt-ampere characteristic such that linear equivalent circuits can be applied in the analysis. Power supplies, amplifiers, feedback circuits, oscillators, modulation systems and detectors.
Prerequisite: ELT 203 or consent of instructor. ($10 lab fee).

ELT 205 Electronic Instrumentation (3-4) **4 hrs.**
Methods of sensing and controlling physical industrial processes. Components involved are transducers, indicators, recorders, and controllers.
Prerequisite: ELT 203 or consent of instructor. ($10 lab fee).

ELT 206 Electronic Computers (3-4) **4 hrs.**
Principles of digital and analog computers. Operating techniques of digital and analog computers.
Prerequisite: ELT 203 or consent of instructor. ($10 lab fee).

ELT 207 UHF Communications and Reception (3-4) **4 hrs.**
Design techniques in UHF circuits, field theory wave equations, and antennas.
Prerequisite: ELT 203 or consent of instructor. ($10 lab fee).

ELT 210 Computer Programming (3-0) **3 hrs.**
FORTRAN programming. Solution of electronic and technical problems using IBM 360 series computer.
Prerequisite: MTH 106 or consent of instructor. ($5 lab fee).

ELT 211 Analog Simulation I (3-4) **4 hrs.**
Analog computing for technologies. Problem preparation and representative solutions of physical problems.
Prerequisite: MTH 206 or consent of instructor. ($5 lab fee).

ELT 212 Analog Simulation II (3-4) **4 hrs.**
Continuation of Analog Simulation I.
Prerequisite: ELT 211 or consent of instructor. ($5 lab fee).

ENGINEERING

EGR 120 Engineering Graphics I (0-6) **3 hrs.**
Graphical methods in orthogonal projections, developments, topographics, sketching, and plotting and charts and curves. Practical and theoretical analysis of common geometrical magnitudes of points, lines, planes, other surfaces, and pictorials. ($5 lab fee.)

EGR 121 Engineering Graphics II (0-6) **3 hrs.**
Graphical methods in mathematical calculations, including vectors, limit dimensioning, forces, tolerances, and nomography. Basic conceptual design through working drawings, assembly views, intersections and developments.
Prerequisite: EGR 120. ($5 lab fee.)

EGR 122 Graphical Display Systems (0-4) **2 hrs.**
Application of graphical principles applied to modern digital computers. Graphical output on current display devices. Application made to graphical display system.
Prerequisite EGR 120 or consent of instructor. ($5 lab fee.)

EGR 150 Analytical Mechanics (Statics) (2-0) **2 hrs.**
Resultants of force systems; algebraic and graphical conditions of equilibrium of force systems; analysis of forces acting on members of trusses, frames, etc.; forces due to friction; centroids.
Prerequisite: MTH 201.

EGR 211 Analytical Mechanics (Dynamics) (3-0) **3 hrs.**
Displacement, velocity, and acceleration of a particle; relation between forces acting on rigid bodies and changes in motion produced; translation; rotation; plane motion; solutions using principles of force, mass and acceleration, work and energy, and impulse and momentum.
Prerequisite: EGR 150

EGR 212 Mechanics of Deformable Bodies (3-0) **3 hrs.**
Elastic and inelastic relationships between external forces (loads) acting on deformable bodies and stresses and deformations produced; tension and compression members; members subjected to torsion and to bending; buckling (columns); combined stresses; repeated loads (fatigue); energy loads, impact; influence of properties of materials.
Prerequisite: EGR 150.

EGR 215 Surveying I (2-3) **3 hrs.**
Use of transit and level, reading verniers and angles, linear measurement, extending straight lines, differential and profile leveling, simple transverse survey, computation and keeping notes.
Prerequisite: MTH 103. ($5 lab fee).

EGR 216 Surveying II (2-3) **3 hrs.**
Route surveying, circular and parabolic curves, spirals, stadia surveying, U.S. Public Land Surveys, elementary land surveying and fundamentals of engineering astronomy used in surveying.
Prerequisite: EGR 215. ($5 lab fee).

ENGLISH

CMN 099 Communications (6-0) **6 hrs.**
Reading, writing, speaking, and listening theory and practice for students whose communication skills are insufficient for success in college level courses.

ENG 099 Composition (3-0) **3 hrs.**
Reading and writing in clear correct English. For students whose linguistic abilities are insufficient for success in college level English.

ENG 101 Composition (3-0) **3 hrs.**
Improvement of communication skills. Understanding and clear expression of written English.
Prerequisite: Satisfactory score on a placement test or ENG 099.

ENG 102 Composition (3-0) **3 hrs.**
Continuation of ENG 101 in the reading and writing of various types of prose. Introduces methods used in writing investigative papers.
Prerequisite: ENG 101 or consent of Department Chairman.

ENG 103 Report Writing (3-0) **3 hrs.**
Fundamental of semantics, syntax, and rhetoric as applied to business, industrial, and governmental report writing.
Prerequisite: ENG 101 or consent of Department Chairman.

ENG 130 Business Writing I (3-0) **3 hrs.**
Formal and psychological aspects of business correspondence. Introduction to various kinds of business letters, memoranda, and reports. Improvement of grammar, spelling, and word usage.

ENG 201 Advanced Composition (3-0) **3 hrs.**
Advanced skills in expository and argumentative writing.
Prerequisite: ENG 102.

ENG 220 Creative Writing (3-0) **3 hrs.**
Guided practice in various types of creative writing, emphasizing skills common to creative expression, description, narration and verse.
Prerequisite: ENG 102 or consent of Department Chairman.

FASHION DESIGN

FAS 101 Flat Pattern Design and Draping I (2-4) **4 hrs.**
Basic industrial techniques of pattern making combined with best features of draping. Variety of slopers (bodices, skirts, sleeves, etc.) developed. Accuracy and professional standards stressed. Patterns tested in muslin for fit. ($5 lab fee.)

FAS 102 Flat Pattern Design and Draping II (2-4) **4 hrs.**
Further development of basic sloper set. Patterns tested in muslin for fit.
Prerequisite: FAS 101 or consent of Program Coordinaor. ($5 lab fee).

FAS 103 Apparel Design I (1-4) **3 hrs.**
Basic principles of using master sloper set to develop patterns for original designs. Trends in fashion and principles of good design covered. ($5 lab fee.)

FAS 104 Apparel Design II (2-4) **4 hrs.**
Development of basic sloper set into patterns. Actual construction of finished garments.
Prerequisite: FAS 103. ($5 lab fee).

FAS 105 Fashion Design Illustration I (0-2) **1 hr.**
Basic fashion sketching — front, back, and side views. Relationship of figure and garment. Sketching of original designs. ($5 lab fee).

FAS 106 Fashion Design Illustration II (0-2) **1 hr.**
Advanced fashion sketching, fabric rendering. Emphasis on development of individual style. Basic layout and presentation.
Prerequisite: FAS 105 or consent of Program Coordinator. ($5 lab fee).

FAS 107 Textiles & Apparel Construction I (0-4) **2 hrs.**
General analysis of fabrics, weaves, printing and dyeing methods, finishes, etc. Professional design room techniques of constructing a garment. ($5 lab fee).

FAS 108 Textiles & Apparel Construction II (0-4) 2 hrs.
Continuation of FAS 107. Tailoring of original designs using design room techniques. Emphasis on styling, fit, and professional finishing.
Prerequisite: FAS 107. ($5 lab fee).

FAS 201 Advanced Flat Pattern Design and Draping I (2-4) 4 hrs.
Continued advanced development of basic sloper set, including coat and suit slopers; basics of grading (sizing); patterns tested in muslin for fit and accuracy.
Prerequisite: FAS 101, FAS 102. ($5 lab fee).

FAS 202 Advanced Flat Pattern Design and Draping II (2-4) 4 hrs.
Continuation of FAS 201.
Prerequisite: FAS 201. ($5 lab fee).

FAS 203 Advanced Diversified Apparel Design I (2-4) 4 hrs.
Development of patterns for the translation of original designs into completed garments. Visits to manufacturers and speakers from industry.
Prerequisite: FAS 103, FAS 104. ($5 lab fee).

FAS 204 Advanced Diversified Apparel Design II (2-4) 4 hrs.
Continuation of FAS 203.
Prerequisite FAS 103, FAS 104, FAS 203. ($5 lab fee).

FAS 205 Tailoring Techniques I (0-4) 2 hrs.
Professional assembling procedures, details, and finishes. Particular emphasis on coats and suits.
Prerequisite: FAS 108 or consent of Program Coordinator. ($5 lab fee).

FAS 206 Tailoring Techinques II (0-4) 2 hrs.
Continuation of FAS 205. Tailoring of original garments.
Prerequisite: FAS 205. ($5 lab fee).

FAS 207 History of Costume I (2-0) 2 hrs.
Survey of costume from early Egyptian to present day. Value of historic costume as inspiration for contemporary design. Trips to Chicago Historical Society.

FAS 208 History of Costume II (2-0) 2 hrs.
Continuation of FAS 207. Contemporary fashion trends analyzed.
Prerequisite: FAS 207

FIRE SCIENCE

FIS 101 Municipal Fire Administration I 3 hrs.
Organization and function for fire protection; personnel management, distribution of equipment, records and fire safety problems.

FIS 102 Introduction to Fire Science 3 hrs.
History and philosophy of fire protection: statistics of loss of life and property by fire; agencies involved in fire protection; current legislation development and career orientation.

FIS 103 Fire Prevention I 3 hrs.
Familiarization with fire prevention organization and the legal aspects of fire prevention. Essential elements of a fire prevention code. Examination of various fire prevention and building codes and their application to existing conditions and new construction.

FIS 106 Fire Prevention II **3 hrs.**
Familiarization with the extensive nature of fire prevention duties and activities. Emphasis on inspection procedure and hazards in specific types of occupancy. Fire prevention educational programs.

FIS 110 Fire Fighting Tactics & Strategy I **3 hrs.**
Review of fire chemistry, equipment, and manpower; basic fire fighting and strategy; methods of attack; preplanning fire problems.

FIS 111 Fire Fighting Tactics & Strategy II **3 hrs.**
Review of fire chemistry, equipment, and manpower; basic fire fighting and strategy; methods of attack; preplanning fire problems.

FIS 115 Building Construction and Codes **3 hrs.**
Fundamental building construction and design; fire protection features; and special considerations.

FIS 120 Hazardous Materials I **3 hrs.**
A review of basic chemistry; storage, handling, laws, standards, and fire fighting practices pertaining to hazardous materials.

FIS 121 Hazardous Materials II **3 hrs.**
A second semester course in hazardous materials covering storage, handling, laws, standards, and fire fighting practices with emphasis on fire fighting and control at the company officer level.

FIS 130 Fire Hydraulics **3 hrs.**
Review of basic mathematics; hydraulic laws and formulas as applied to the fire service; application of formulas and mental calculation to hydraulic problems; water supply problems, underwriters' requirements for pumps.

FIS 140 Fire Causes & Investigation **3 hrs.**
Introduction to arson and incendiarism, arson laws, and types of incendiary fires. Methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses. Procedures in handling juveniles; court procedure and giving court testimony are covered.

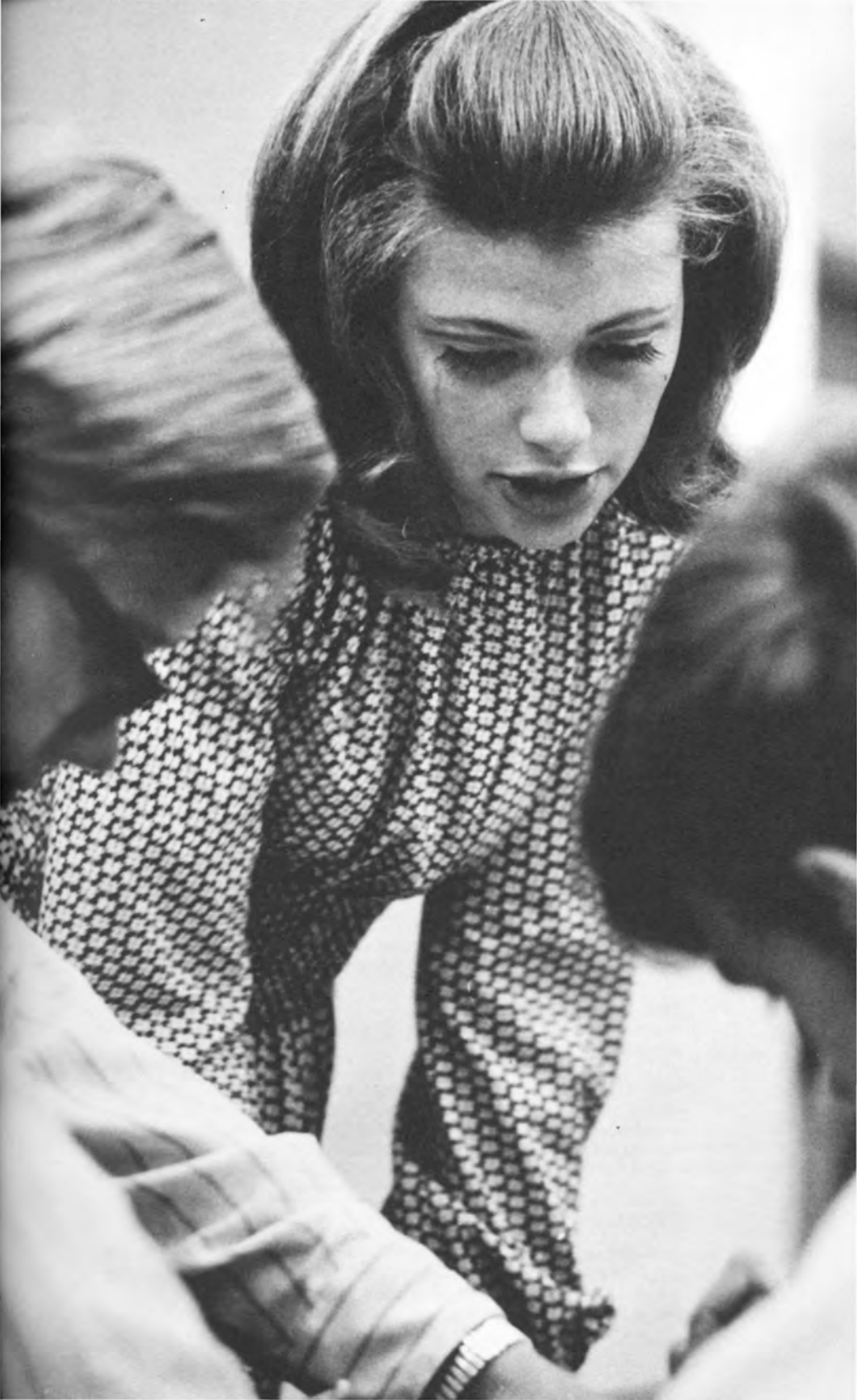
FIS 201 Municipal Fire Administration **3 hrs.**
Advanced course including records and fire safety problems, communications and fire alarm systems, legal aspects of fire protection.

FOOD SERVICE MANAGEMENT

FSM 090 Basic Quantity Baking (0-20) **10 hrs.**
Basic training in the elements of quantity baking under the guidance of a master baker. Students will be exposed to the theory and "hands on" experience of baking through participation in the production of the College Bake Shop and discussion sessions.

FSM 091 Advanced Quantity Baking (0-20) **10 hrs.**
A continuation of FSM 090 with emphasis on more advanced techniques of baking including cake decorating, hotel pastry and display pieces. Some time will be spent in the kitchens to orient the student to cooking.

FSM 095 Basic Quantity Cooking (0-20) **10 hrs.**
Basic training in the elements of quantity food preparation under the guidance of a master chef. Students will be exposed to the theory and "hands on" experience of food preparation through participating in the production of the food service department and discussion sessions.



FSM 096 Advanced Quantity Cooking (0-20) 10 hrs.
A continuation of FSM 095 with emphasis on more advanced techniques of food preparation including culinary art and buffet work. Exposure to bakeshop operations will be integrated into the course.

FSM 111 Introduction to Food Service (2-0) 2 hrs.
History and organization of Food Service hospitality industry including career opportunities in various food fields, organizational structures of food service establishments, and operational considerations and problems.

FSM 112 Quantity Food Production (0-10) 4 hrs.
Theory and practice of quantity food preparation, including actual food preparation and practical application of proper nutrition and sanitation practices.

FSM 113 Quantity Food Service (0-10) 4 hrs.
Theory and practice of food service including practical experience in college cafeterias, dining rooms, and catering service.

FSM 114 Food Standards and Sanitation (3-0) 3 hrs.
Function of food ingredients; evaluation of finished products, including convenience food products and uses; food service sanitation standards and procedures.

FSM 115 Nutrition and Menu Planning (2-0) 2 hrs.
Practical applications of nutrition as related to dietary needs of patients in health care institutions and other food service operations. Menu planning theory and methods for all types of food operations and special events; menu planning as a determination of food cost.

FSM 211 Purchasing and Storage (3-0) 3 hrs.
Standards and identification of quality meats, dairy products, produce, groceries, frozen foods, and supplies. Methods of purchasing, purveyor relations and proper storage techniques; purchase standards for convenience foods.

FSM 212 Practical Supervision (2-8) 4 hrs.
Functions and problems of supervision. Actual supervision of underclassmen and food service employees included.

FSM 213 Seminar (2-8) 4 hrs.
Practice in food service management decision making and supervision through experience related to classroom problems.

FSM 214 Cost Control (3-0) 3 hrs.
Practical applications and theory of various food and beverage cost control systems.

FSM 215 Restaurant Layout and Equipment (3-3) 3 hrs.
Maximizing employee productivity through various types of food equipment and proper equipment arrangement. Effects of use of convenience foods on equipment planning.

FRENCH

FRN 101 Elementary French (4-0) 4 hrs.
Beginning course in the language skills of listening, understanding, speaking, reading and writing in their logical sequence.
Additional time in Lab assigned by instructor.

FRN 102 Elementary French (4-0) **4 hrs.**
Continuation of FRN 101. Situational conversations in French; reading and writing stressed.
Additional time in Lab assigned by instructor.
Prerequisite: FRN 101 or one year of high school French.

FRN 201 Intermediate French (4-0) **4 hrs.**
Conversation with emphasis on pronunciation, intonation, stress and rhythm. Grammar Review.
Additional time in Lab assigned by instructor.
Prerequisite: FRN 102 or two years of high school French or consent of instructor.

FRN 202 Intermediate French (4-0) **4 hrs.**
Continuation of FRN 201, plus accuracy and speed in reading, study of syntax, and extensive composition.
Additional time in Lab assigned by instructor.
Prerequisite: FRN 201 or three years of high school French or consent of instructor.

FRN 205 Intensive Oral Practice (3-0) **3 hrs.**
Conversational practice to develop oral facility; specially designed exercises in pronunciation, stress and rhythm. Individual readings of modern French works discussed in class. Written and oral compositions based on readings.
Additional time in Lab assigned by instructor.

FRN 210 Introduction to Modern French Literature (3-0) **3 hrs.**
Reading of selected 20th century masterpieces. Introduction to poetry and "analyse de Texte." Oral readings stressing pronunciation and diction. Speaking based on discussions of works read. Writing based on readings and class discussion.
Prerequisite: FRN 202 or equivalent, or consent of instructor.

GEOGRAPHY

GEG 101 World Geography (3-0) **3 hrs.**
The economic, political, and cultural geography of the modern world. Raw materials, industrial resources, and trade connections related to war and peace.

GEOLOGY

GEO 101 Physical Geology (2-3) **4 hrs.**
Materials, structure and sculpture of the earth's surface. One-day field trip required. ($10 lab fee — includes field trip cost).

GEO 102 Historical Geology (2-3) **4 hrs.**
Geological history of the earth including principles employed to reconstruct this history. One-day field trip required. ($10 lab fee — includes field trip cost).

GEO 201 Rocks and Minerals (2-3) **4 hrs.**
Physical description of minerals and rocks. Introduction to crystallography, economic minerals, natural resources. Field trip required. ($10 lab fee — includes field trip cost).
Prerequisites: GEO 101 or CHM 121 or consent of instructor.

GEO 202 Paleontology (2-3) **4 hrs.**
Fossil record of life, principles of evolution and ecology. Two-day field trip required. One day field trip required. ($10 lab fee — includes field trip cost).
Prerequisite: GEO 102 or BIO 110.

GERMAN

GER 101 Elementary German (4-0) **4 hrs.**
Beginning course in the language skills of listening, understanding, speaking, reading and writing in their logical sequence.
Additional time in Lab assigned by instructor.

GER 102 Elementary German (4-0) **4 hrs.**
Continuation of GER 101. Situational conversations in German; reading and writing stressed.
Additional time in Lab assigned by instructor.
Prerequisite: GER 101 or one year of high school German.

GER 201 Intermediate German (4-0) **4 hrs.**
Conversation with emphasis on pronunciation, intonation, stress and rhythm. Grammar Review.
Additional time in Lab assigned by instructor.
Prerequisite: GER 102 or two years of high school German or consent of instructor.

GER 202 Intermediate German (4-0) **4 hrs.**
Continuation of GER 201, plus accuracy and speed in reading, study of syntax, and extensive composition.
Additional time in Lab assigned by instructor.
Prerequisite: GER 201 or three years of high school German or consent of instructor.

GER 205 Intensive Oral Practice (3-0) **3 hrs.**
Conversational practice to develop oral facility; specially designed exercises for improvement of pronunciation, stress and rhythm. Individual readings of modern German works discussed in class. Written and oral compositions based on readings.
Additional time in Lab assigned by instructor.

GER 210 Introduction to Modern German Literature (3-0) **3 hrs.**
Reading of selected 20th century masterpieces. Introduction to poetry. Oral readings stressing pronunciation and direction. Speaking based on discussions of works read. Writings based on readings and class discussions.
Prerequisite: GER 202 or equivalent, or consent of instructor.

HISTORY

HST 111 History of the American People to 1865 (3-0) **3 hrs.**
Survey of American Colonial life and institutions of 17th and 18th centuries. Period from 1763 to 1865; special stress on the social, economic, cultural, political and constitutional development of United States.

HST 112 History of the American People from 1865 (3-0) **3 hrs.**
Close of Civil War to present with primary stress on political and economic development, also including social, intellectual and cultural phases. Expanded role of government in national affairs and participation of the United States in international relations.

HST 113 Conference Course (1-0) **1 hr.**
Designed to meet interests and needs of qualified majors in history. Must be taken concurrently with HST 111 or HST 112. Specific topics will vary from semester to semester.
Prerequisite: Consent of instructor.

HST 214 Afro-American History (310) **3 hrs.**
In-depth study of American Negro from African slave trade through slavery, Reconstruction, years of neglect, and Civil Rights Revolution in the United States; and his contributions to American culture.
Prerequisite: HST 112.

HST 141 History of Western Civilization to 1815 (4-0) **4 hrs.**
Political, social, cultural, economic and technological developments from pre-historic times to advent of 1789 French Revolution.

HST 142 History of Western Civilization since 1815 (4-0) **4 hrs.**
Continuation of History 141. Political, social, cultural, economic and technological developments with emphasis on such socio-political-economic concepts as nationalism and social-Darwinism.

HST 243 The Far East in the Modern World **3 hrs.**
The history of East Asia since 1800. The traditional cultures of China and Japan, the western impact, and the Asian response will be covered.
Prerequisite: HST 112.

HUMANITIES

FNA 111 History of Art, I (3-0) **3 hrs.**
Art from ancient times to 1600. Area cultural facilities used, particularly the Art Institute of Chicago.

FNA 112 History of Art, II (3-0) **3 hrs.**
Continuation of FNA 111 from 1600 to the present.

FNA 212 Theatre Arts: Motion Pictures, Drama, Ballet, Opera, and Music (3-0) **3 hrs.**
Interrelationships and synthesis in the arts as exhibited in motion pictures, theatre, ballet, opera, and music for the theatre. Process of bringing together various artistic media such as literary elements, musical devices, and visual effects to produce these art forms.

HUM 101 The Creative Nature of Man I (2-2) **3 hrs.**
Creative personality in Western tradition and the creative process with emphasis upon form, function, influence of the patron, and prevailing attitudes on music, literature and art of representative periods. Lecture-demonstration, discussion, panels and field activity.

HUM 102 The Creative Nature of Man II (2-2) **3 hrs.**
Representative points of view regarding life and death in Eastern and Western worlds; problems in developing a coherent philosophy of one's own. Focus upon 20th century issues as reflected in contemporary art, music, and literature.

JOURNALISM

JNM 130 Fundamentals of Journalism (3-0) **3 hrs.**
History and current role of the newspaper, emphasizing leads, stories, editorials, features and reviews; copyreading and makeup.

JNM 131 News Reporting and Writing (3-0) 3 hrs.
Techniques of gathering and writing news in political, police, social and civic coverage.
Prerequisite: JNM 130 or consent of instructor.

JNM 133 Feature Writing (3-0) 3 hrs.
Specialized news writing stressing human element in news. Techniques, story approaches for individualistic treatment.
Prerequisite: JNM 130.

JNM 134 Media Adjuncts (2-4) 4 hrs.
Planning and production work in advertising, public relations and publications — business, industrial and consumer magazines.

JNM 234 Mass Communication (3-0) 3 hrs.
Impact of modern media, subtle and overt, on affairs of men. Influence of political, social, and commercial campaigns and trends on human beings in settings international, national, regional and local.

JNM 235 Copy Reading and News Editing (2-4) 4 hrs.
Preparing copy for newspaper publication. Headline writing, copy editing, treatment of story placement and effective display of typographically pleasing make-up.

JNM 236 Radio and Television News (3-0) 3 hrs.
Reporting and writing for broadcast news. Emphasis on broadcast style in all phases of newswriting and editing.

JNM 237 Externship Study (0-10) 5 hrs.
Practical reporting practice and observation in professional one-day-a-week assignments at newspapers, news bureaus and television and radio newsrooms.
Prerequisite: Successful completion of three program semesters.

LAW ENFORCEMENT

LAE 101 Introduction to Law Enforcement (3-0) 3 hrs.
History, role, development and constitutional aspects of law enforcement and public safety. Review of agencies and their functions involved in processes of administration of criminal justice.

LAE 102 Police Administration and Organization (3-0) 3 hrs.
Principles of police administration and organization; functions and activities; records; communications; public relations; personnel and training; policy formation; planning, research; inspection, control.

LAE 103 Industrial Security Administration (3-0) 3 hrs.
Organization and management of industrial security units including government security; protection of commercial and industrial manpower, facilities, and installations; security and police operations; administrative, legal and technical problems; specialized programs for factories, railroads, retail stores, insurance firms, credit bureaus, etc.

LAE 110 Police Operations (3-0) 3 hrs.
Administration of police line operations, including patrol as basic operation of the police function, investigation, traffic, juvenile, intelligence and other special operational units. Manpower distribution, analysis of operations, enforcement policy, operations during civil disorders and disasters.

LAE 201 Criminal Law I (3-0) **3 hrs.**
Principles of administration and criminal law, theory, history, and purpose. Substantive crimes and their punishment; rules of evidence and general criminal procedures.

LAE 202 Criminal Law II (3-0) **3 hrs.**
Continuation of LAE 201. Principals of arrest, search and seizure; evaluation of evidence and proof including kinds, degrees, admissibility and competence. Rules of evidence of particular importance at operational level in law enforcement. Courtroom and criminal trial procedures.
Prerequisite: LAE 201 or consent of instructor.

LAE 205 Juvenile Delinquency, Prevention and Procedures (3-0) **3 hrs.**
Organization, jurisdiction and functions of juvenile agencies. Juvenile court movement; juvenile detention; processing and treatment. Statutes and court procedures for juveniles. Problems of juvenile delinquency; theories of causation and prevention programs. Police responsibilities and contacts, current community, state and federal prevention programs.

LAE 207 Vice and Drug Control (3-0) **3 hrs.**
Historical and sociological development of problems in drug addiction and vice control; fundamental understanding of narcotic addiction and effects of hypnotic drugs, the operation of lotteries, bookmaking, and other types of gambling and prostitution as these factors are involved in the daily routine of police work.

LAE 210 Introduction to Criminology (3-0) **3 hrs.**
Crimes and criminals including criminal behavior, explanation of crime, types of crimes and criminals.

LAE 211 Criminal Investigation (2-2) **3 hrs.**
Conduct at crime scenes, collection and preservation of physical evidence; methods used in police science laboratory; fingerprints, ballistics, documents, photography and related forensic sciences.
Prerequisite: LAE 210 or consent of instructor. ($7.50 lab fee).

LAE 212 Traffic Administration (3-0) **3 hrs.**
History and growth of traffic problems; organization for traffic control, accident investigation and analysis and interpretation of accidents. Survey of traffic laws including Illinois Vehicle Code.

LAE 215 Police Defense Techniques (4-0) **2 hrs.**
Principles necessary for self defense and weaponless control. Psychology in use of force, physical and mental preparation and practice in realistic defense and control techniques. Proper arrest and search procedures for police officer.
Prerequisite: Open only to fourth semester students of Law Enforcement or approval of Coordinator.

LAE 250 Police Field Service (2-8) **3 hrs.**
Practicum designed to broaden educational experience through appropriate observation and participation in law enforcement duties. Correlation of theoretical knowledge with practice in participating organizations. Students assigned to local law enforcement agencies for maximum of 10 hours per week in addition to two hour seminar. Open only to fourth semester students.

LAE 252 Industrial Fire Protection, Disaster Control (3-0) 3 hrs.
Administration of fire and accident prevention programs; development of policy, rules and regulations; operations for fire and accident control; equipment facilities, inspections, investigations, and records. Special problems and hazards.

LAE 253 Safety Management (3-0) 3 hrs.
Principles, responsibility, procedures of management for controlling operations to provide safety in business and industry. Anaylsis of accident costs, organization and operation of a safety program, psychological aspects, physical conditions and radiation hazards.

LAE 254 Interviewing and Case Preparation (3-0) 3 hrs.
Interview and questioning of complainants, witnesses, victims, suspects, and informants; statements, mechanical means for the detection of deception, and case preparation.

LITERATURE

LIT 105 Poetry (3-0) 3 hrs.
Analysis and appreciation of poetry of many periods. Diction, themes, symbols, images, rhythm, and meter.

LIT 110 Drama (3-0) 3 hrs.
Analysis and appreciation of representative plays of various types and eras, with attention to origins and trends. Plays read as literature. See Speech 111 for theatrical production.

LIT 115 Fiction (3-0) 3 hrs.
Novel and short story. Structural analysis, understanding and appreciation of various types.

LIT 206 World Literature to 1800 (3-0) 3 hrs.
Selected works of universal significance contributed by peoples and civilizations from ancient times to 1800.

LIT 207 World Literature since 1800 (3-0) 3 hrs.
Continuation of LIT 206. Selected works of universal significance contributed by peoples and civilizations from 1800 to the present.

LIT 221 American Literature from Colonial Days to Civil War (3-0) 3 hrs.
American literature as an expression of American life through early social and political documents, novels, short stories, and poems.

LIT 222 American Literature from the Civil War to 1914 (3-0) 3 hrs.
American prose and poetry to the turn of the century, including regional literature, literary journalism, criticism, social and historical novels. Establishes criteria for judging American literary output.

LIT 231 English Literature to 1800 (3-0) 3 hrs.
Survey of English writers from beginning of English literature to 1880. Reading and interpretation of writers such as Chaucer, Malory, Jonson, Donne, Milton, Dryden, Congreve, Swift, Pope, Johnson, and Boswell.

LIT 232 English Literature 1800-1914 (3-0) 3 hrs.
Survey of English writers from Romantic Period to World War I Reading and interpretation of such writers as Wordsworth, Keats, Byron, Austen, Tennyson, Browning, Dickens, Hardy, Conrad, and Shaw.

LIT 241 20th Century British and American Literature (3-0) 3 hrs.
Survey of important writers and writings in British and American literature since the first world war.

MATHEMATICS

(For all courses numbered "100" and higher, a grade of "C" or higher is required in the prerequisite course.)

MTH 094 Arithmetic (3-0) 3 hrs.
Review of standard arithmetic signs and operations, to establish easy recall of the number relationships. Includes study of the number system as well as theory and drill in addition, subtraction, multiplication, and division of whole numbers, common fractions, and decimal fractions. Percent, measurement, and problem solving may be included.

MTH 095 Elementary Algebra (3-0) 3 hrs.
Signs, symbols, and operations needed for other courses in mathematics and science are introduced. Basic topics, include: introduction to sets, signed numbers, linear equations, exponents, polynomicals, factoring, graphing, and quadratic equations. Equivalent to first year high school algebra.

MTH 096 Geometry (3-0) 3 hrs.
Concepts and constructions of plane geometry including lines, angles, polygons, circles, and loci, with an introduction to coordinate geometry. Equivalent to one year of high school geometry.
Prerequisite: One year of high school algebra with passing grade or MTH 095.

MTH 101 Fundamentals of Mathematics I (3-0) 3 hrs.
Sets, number bases, number systems, review of selected topics in algebra and geometry. A general education course in mathematics.
Prerequisite: MTH 095 and MTH 096 or equivalent with a grade of "C" or better.

MTH 102 Fundamentals of Mathematics II (3-0) 3 hrs.
Continuation of MTH 101 with emphasis on topics usually covered in Intermediate Algebra. Nature of roots of quadratic equations, complex numbers, rational exponents, radicals, logarithms, inequalities, binomial theorem.
Prerequisite: MTH 101 with a grade of "C" or better.

MTH 103 College Algebra (3-0) 3 hrs.
Review of graphs, logic, and set theory. Relations and functions, quadratic equations, determinants, sequences, progressions, probabilities, and an introduction to the theory of equations and modern algebra.
Prerequisite: One and one-half years of high school algebra and one year of plane geometry, or MTH 102 with grade of "C" or better.

MTH 104 Plane Trigonometry (3-0) 3 hrs.
Trigonometric functions and relations, solutions of triangles, logarithms, identities, equations, and applications.
Prerequisite: One and one-half years of high school algebra and one year of plane geometry, or MTH 102 with grade of "C" or better.

MTH 105 Analytic Geometry (4-0) 4 hrs.
Rectangular and polar coordinates, the straight line, graphs of algebraic and transcendental functions, transformation of coordinates, conic sections, parametric equations, higher plane curves, and an introduction to space geometry.
Prerequisite: MTH 103 and MTH 104 with grade of "C" or better.

MTH 106 Mathematics I (5-0) **5 hrs.**
For students in Electronics and Mechanical Design Technology. Topics in algebra, vectors, trigonometry, and vector algebra.
Prerequisite: MTH 095 and MTH 096 or equivalent with grade of "C" or better.

MTH 107 Mathematics II (5-0) **5 hrs.**
Continuation of MTH 106. Topics in trigonometry, analytic geometry, logarithms, differential and integral calculus introduced.
Prerequisite: MTH 106 with grade of "C" or better or consent of instructor.

MTH 111 Pre-calculus Mathematics I (5-0) **5 hrs.**
Unifying concepts of functional representation in algebra, trigonometry, and analytic geometry. Axiomatic approach to real and complex number systems. Equivalent to two hours of MTH 103, two hours of MTH 104, and one hour of MTH 105.
Prerequisite: B or better in MTH 102 or consent of instructor.

MTH 112 Pre-calculus Mathematics II (5-0) **5 hrs.**
Continuation of MTH 111 extending the concept of functional representation of exponential, logarithmic, implicit quadratic functions of two or more variables, and graphical analyses of functions in polar and parametric representations. Introduction to differentiation and integration. Equivalent to one hour of college algebra, one hour of trigonometry, and three hours of analytic geometry.
Prerequisite: MTH 111 with a grade of "C" or better.

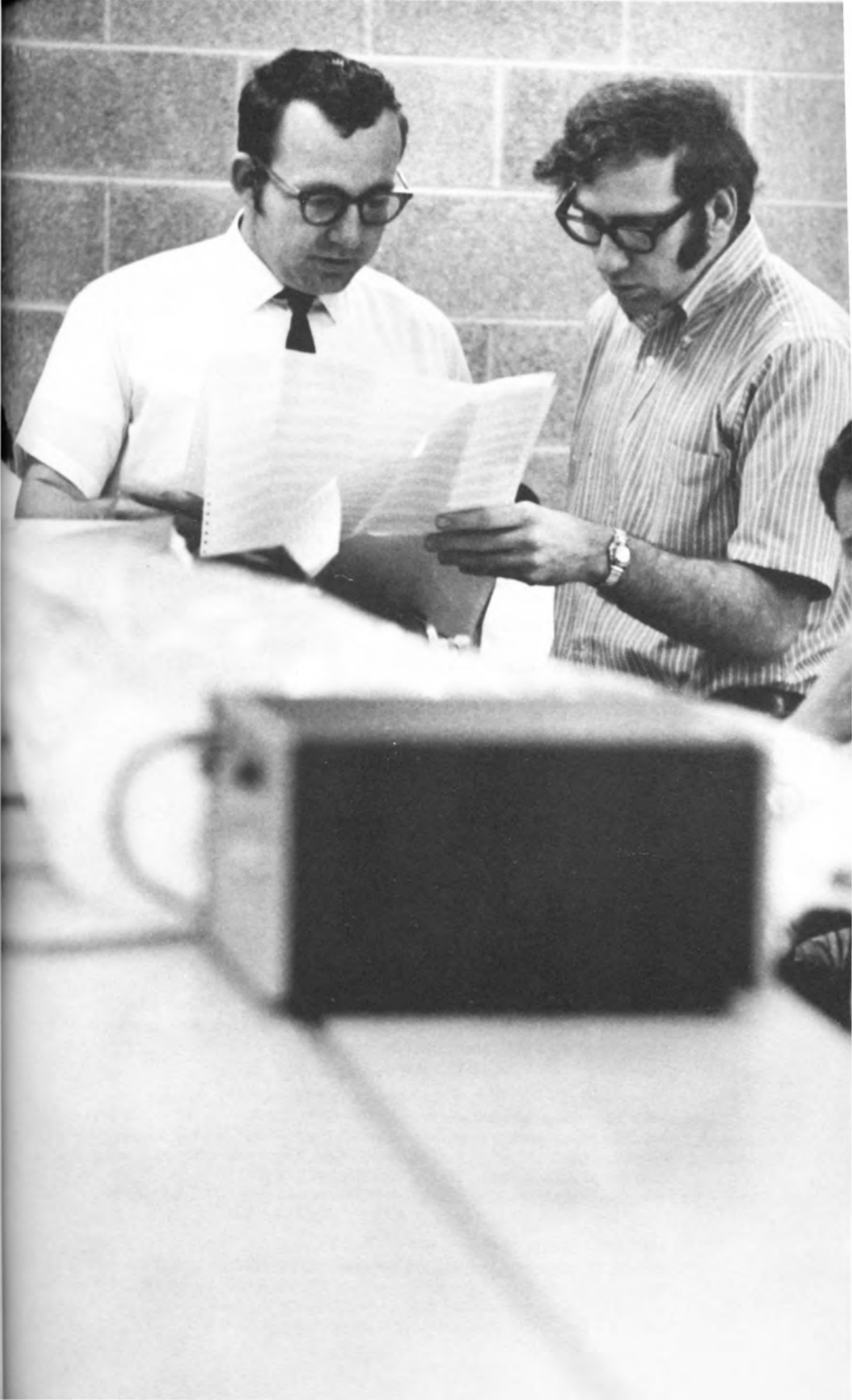
MTH 124 Finite Mathematics I (3-0) **3 hrs.**
Introduction to finite mathematics primarily for students in Social Sciences and Business: basic ideas of logic, set theory, vectors, and matrices. Problems selected from Social Sciences and Business.
Prerequisite: MTH 103 or equivalent with a grade of "C" or better. Offered Fall semester.

MTH 134 Finite Mathematics II (4-0) **4 hrs.**
A continuation of MTH 124 with emphasis on relations, functions, probability and basic concepts of calculus, with application in Social Sciences and Business.
Prerequisite: MTH 124 with a grade of "C" or better. Offered Spring semester.

MTH 165 Statistics (3-0) **3 hrs.**
Tabular and graphic representation; normal distribution, dispersion, statistical inference, sampling, distribution of means, regressional and correlation analysis, probability — including finite probability by use of set theory. Applications in education, business, natural and social science.
Prerequisite: MTH 101 with grade of "C" or better or consent of instructor.

MTH 201 Calculus I (5-0) **5 hrs.**
Differentiation of elementary functions with applications to geometry, physics, and other sciences. Differential, approximation formula of integration and introduction to the definite integral.
Prerequisite: MTH 105 or MTH 112 with grade of "C" or better.

MTH 202 Calculus II (5-0) **5 hrs.**
Continuation of MTH 201 with emphasis on the definite integral. Applications to geometry, mechanics, and physics. Hyperbolic functions, techniques of integration, vectors, parametric equations, partial differentiation, multiple integration, and series.
Prerequisite: MTH 201 with a grade of "C" or better.



MTH 206 Mathematics III (3-0) **3 hrs.**
For students in Electronics Technology. Continuation of MTH 107 with introduction to differential equations and LaPlace transforms.
Prerequisite: MTH 107 with grade of "C" or better or consent of instructor.

MTH 207 Mathematics IV (3-0) **3 hrs.**
For students in electrical technology. Differentiation of transcendental functions; methods of integration; expansion of functions in series; Fourier series; differential equations; applications.
Prerequisite: MTH 206 with a grade of "C" or better.

MTH 208 FORTRAN Computer Programming (3-0) **3 hrs.**
Computer programming using the language of FORTRAN.
Prerequisite: MTH 104 or MTH 107 or MTH 111 with grade of "C" or better.

MTH 212 Differential Equations and Orthogonal Functions (3-0) **3 hrs.**
Solutions of first order and first degree differential equations, linear differential equations with constant coefficients, linear differential equations of higher order, special differential equations of second order, and differential equations of first order but not of first degree LaPlace transforms, matrices and determinants, Fourier series. Offered Spring semester.
Prerequisite: MTH 202 with a grade of "C" or better.

MTH 215 Introduction to Automatic Digital Computing (3-0) **3 hrs.**
Topics in machine organization, problem formulation, automatic programming, and applications to computers.
Prerequisite: MTH 105 or MTH 107 or MTH 111 with a grade of "C" or better.

MECHANICAL ENGINEERING TECHNOLOGY

MET 101 Elements of Drafting (1-5) **3 hrs.**
Lettering, orthographic projection, dimensioning, auxiliary views, shop drawings, free-hand sketching, and methods of reproducing drawings. ($5 lab fee.)

MET 102 Technical Drafting (2-4) **4 hrs.**
Limits and tolerance dimensioning, machine details, pictorial assembly drafting, product illustration and introduction to computer graphics. Instrument drawings and sketches required.
Prerequisite: MET 101. ($10 lab fee).

MET 103 Descriptive Geometry (1-3) **2 hrs.**
Theory of projections with practical analysis of typical problems involving size, shape and relative position. Common geometric magnitudes of points, lines, planes and curved surfaces.
Prerequisites: MTH 106, MET 101 or concurrent enrollment. ($5 lab fee).

MET 104 Statics (2-0) **2 hrs.**
Resultants of force systems; algebraic and graphical conditions of equilibrium of force systems; analysis of forces acting on members of trusses, frames, etc.; forces due to friction; centroids.
Prerequisites: MTH 106, concurrent enrollment in PHY 102.

MET 105 Basic Machine Shop (1-4) 3 hrs.
Fundamentals of machine shop theory and practice. Manufacture of iron and steel. Iron and steel types and classification systems. Machinability, cutting fluids and horsepower requirements. Familiarization with tools, equipment and practices of tool, die, and precision metal working industry. Students make working tools and fixtures.
($10 lab fee).

MET 108 Manufacturing Processes & Materials I (2-4) 3 hrs.
Materials, principles, utilization, expectations and evaluation of principal manufacturing processes.
Prerequisite: MTH 106 or concurrent enrollment.

MET 109 Manufacturing Processes and Materials II (0-6) 3 hrs.
Continuation of MET 108. Emphasis on actual practice in such areas as machining, numerical control, welding and heat treating.
Prerequisite: MET 108. ($10 lab fee).

MET 201 Mechanisms (3-3) 4 hrs.
Fundamentals of displacement, velocity and acceleration of rigid bodies as a basis for the study of the kinematics of mechanisms. Motion analysis of cams, gears and linkages. Study of conjugate shapes and gear tooth development.
Prerequisites: MTH 107, PHY 101. ($5 lab fee).

MET 204 Strength of Materials (2-3) 3 hrs.
Elastic and inelastic relationships between external forces (loads) acting on deformable bodies and stresses and deformations produced; tension and compression members; members subjected to torsion and bending, buckling (columns); combined stresses; influence of properties of materials.
Prerequisites: MTH 107, MET 104. ($10 lab fee).

MET 205 Fluid Power and Systems Control (2-6) 4 hrs.
Technology of the transmission, control and storage of energy by means of pressurized fluids in closed systems; other applications of parallel control technologies.
Prerequisites: MTH 107, PHY 102 ($5 lab fee).

MET 206 Metallurgy and Heat Treatment (2-3) 3 hrs.
Selected principles and concepts of physical metallurgy. Principles are applied to heat treatment of metals.
Prerequisite: MET 108. ($7.50 lab fee).

MET 207 Machine Design (3-6) 6 hrs.
Design principles applied to machine elements with respect to size, shape, material, geometry, environment and economy. Clutches, brakes, belts, chains, fasteners, gear shafts and gears. Emphasis on principles and calculations necessary to determine fits, stresses, loads, deformations, economy and finishes.
Prerequisites: MET 201, 204, 205; concurrent enrollment in MET 206. ($10 lab fee).

MET 210 Computer Programming-Fortran (3-0) 3 hrs.
Fortran computer programming including solution of mechanical and technical problems using modern digital computer techniques.
Prerequisite: MTH 106. ($5 lab fee).

MUSIC

MUS 101 Fundamentals of Music Theory (3-0) 3 hrs.
Suitable for pre-teachers and non-music majors. Provides background to interpret and understand language of music through study of notation, rhythm, scales, intervals, triads, cadences, basic forms, and musical terms. Students prepared for study of harmony and for practical music activity.

MUS 103 Music Appreciation (3-0) 3 hrs.
For non music majors. Music from primitive to modern times through listening to outstanding examples of various periods, with explanations of content and structure. Vocal and instrumental works, examples of folk music, church music, and symphonic forms.

MUS 111 Theory of Music I (3-0) 3-5 hrs.
Intensive training in fundamentals of musicianship, principally with mechanical aspects of music — clefs, notation, scales, intervals, meters, rhythms, etc. Daily practice in sight singing, melodic, harmonic, and rhythmic dictation, and practice at keyboard.
Prerequisite: successful performance on examination. MUS 101 or equivalent. Corequisite: MUS 115.

MUS 112 Theory of Music II (3-0) 3 hrs.
Harmony, counterpoint, and analysis, with emphasis on eighteenth and nineteenth-century techniques; basic principles in art of musical composition. Written assignments, historical examples, individual research problems, and complete process of writing, preparing, and bringing to performance with voices and instruments specific individual and group projects in musical composition.
Prerequisite: MUS 111. Corequisite: MUS 116.

MUS 115 Ear Training, Sight Singing and Keyboard Harmony I (0-2) 1 hr.
Practice in melodic, harmonic, and rhythmic dictation, sight singing, and practice at keyboard.
Corequisite: MUS 111. ($3 lab fee).

MUS 116 Ear Training, Sight Singing and Keyboard Harmony II (0-2) 1 hr.
Practice in melodic, harmonic, and rhythmic dictation, sight singing, and practice at keyboard.
Corequisite: MUS 112. ($3 lab fee).

MUS 121 Survey of Music Literature to 1750 (3-0) 3 hrs.
Primitive Music; music of East and Near East; contribution of Greeks; Middle Ages; Gothic period; Renaissance; Baroque period culminating with Bach, Handel, Rameau, and Scarlatti. Musical illustrations.
Prerequisite for non-majors: MUS 101 or consent of instructor.

MUS 122 Survey of Music Literature since 1750 (3-0) 3 hrs.
Classical period; Romantic period; Impressionism; twentieth century. Musical illustrations.
Prerequisite for non-majors: MUS 101 or consent of instructor.

MUS 130 Choir (0-3) 1 hr.
Mixed-voice chorus for average or above-average ability. Fundamentals of good choral diction and tone developed in choral works of various styles and types.
Prerequisite: Consent of instructor. Maximum of four credit hours.

MUS 136 Community Chorus (0-3) **1 hr.**
Variety of choral experience including larger choral works such as oratorios and cantatas, and selections from grand opera, comic opera, and musical comedy. Maximum of four credit hours.

MUS 140 Band (0-3) **1 hr.**
Open to all students proficient in playing of band instruments. Band music of various types and styles. Sight reading and musicianship stressed.
Prerequisite: Consent of instructor. Maximum of four credit hours.

MUS 145 Instrumental Ensembles (0-3) **1 hr.**
Ensembles such as string quartets, brass ensembles, stage bands, or other combinations. For students with some proficiency in a musical instrument. To further skills, musical understanding, and enjoyment.
Prerequisite: Consent of instructor. Maximum of four credit hours.

MUS 150 Orchestra (0-3) **1 hr.**
Open to all students proficient in playing of orchestral instruments. Orchestral music of various types and styles. Sight reading and musicianship stressed.
Prerequisite: Consent of instructor. Maximum of four credit hours.

MUS 161 Woodwind Instrument Class I (0-4) **2 hrs.**
For students who have had no experience playing an orchestral or band instrument and for instrumentalists already proficient but who desire to play several instruments. Maximum of four credit hours.

MUS 162 Brass Instrument Class I (0-4) **2 hrs.**
For students who have had no experience playing an orchestral or band instrument and for instrumentalists already proficient but who desire to learn to play several instruments. Maximum of four credit hours.

MUS 165 Class Piano (0-4) **2 hrs.**
Similar to MUS 161. For students who desire to learn to play the piano. Maximum of 4 credit hours. ($3 lab fee).

MUS 166 String Instrument Class I (0-4) **2 hrs.**
Similar to MUS 161. For students who desire to learn to play a stringed instrument. Maximum of four credit hours.

MUS 167 Class Guitar (0-4) **2 hrs.**
Similar to MUS 161. For students who desire to learn to play the guitar. Maximum of 4 credit hours.

MUS 180-199 Minor Applied Music Subject **2 hrs.**
Instruction for those majoring in music education, musicology, and for those desiring to improve their skills on a particular instrument. One half-hour lesson per week. Minimum of six hours of practice per week. Jury examination required.

Flute & Piccolo, 180; Oboe & English Horn, 181; Clarinets, 182; Bassoons & Contra Bassoons, 183; Saxophones, 184; French Horn, 185; Trumpet, 186; Trombone, 187; Baritone, 188; Tuba, 189; Percussion, 190; Violin, 191; Viola, 192; Cello, 193; String Bass, 194; Harp, 195; Piano, 196; Organ, 197; Voice, 198; Classical Guitar, 199. ($56 lab fee).

MUS 211 Theory of Music III (3-0) **3 hrs.**
Harmony, counterpoint, and analysis.
Prerequisite: MUS 112. Corequisite: MUS 215.

MUS 212 Theory of Music IV (3-0) **3 hrs.**
Harmony, counterpoint, and analysis.
Prerequisite: MUS 211. Corequisite: MUS 216.

MUS 215 Ear Training, Sight Singing and Keyboard Harmony III (0-2) **1 hr.**
Practice in melodic, harmonic, and rhythmic dictation, sight singing, and practice at keyboard.
Corequisite: MUS 211. ($3 lab fee).

MUS 216 Ear Training, Sight Singing and Keyboard Harmony IV (0-2) **1 hr.**
Practice in melodic, harmonic, and rhythmic dictation, sight singing, and practice at keyboard.
Corequisite: MUS 212. ($3 lab fee).

MUS 280-299 Major Applied Music Subject (2-0) **4 hrs.**
Instruction for those desiring to become professional performers. One hour lesson per week. Minimum of twelve hours of practice per week. Jury examination required.

Flute & Piccolo, 280; Oboe & English Horn, 281; Clarinets, 282; Bassoons & Contra Bassoons, 283; Saxophones, 284; French Horn, 285; Trumpet, 286; Trombone, 287; Baritone, 288; Tuba 289; Percussion, 290; Violin, 291; Viola, 292; Piano, 296; Organ, 297; Voice, 298; Classical Guitar, 299.
Prerequisite: successful audition. ($112 lab fee).

NUMERICAL CONTROL

NMC 093 Numerical Control Drafting (0-4) **2 hrs.**
Programming of numerically controlled drafting machines with and without aid of computer. Applies to problems in manufacturing type industries. Selected problems to be accomplished on Numerical Control Drafting Equipment. Primarily for adults. ($5 lab fee).

NMC 094 Machine Tools — Numerical Control (0-4) **2 hrs.**
Practice and theory in operation of Numerical Control machine tool equipment. Primarily for adults. ($10 lab fee).

NMC 095 Machine Tool — Part Programming I (0-4) **2 hrs.**
Manual programming for Numerical Control machine tools and computer programming for Numerical Control equipment. Students will prepare and verify selected Numerical Control programs on Numerical Control machine tools. Primarily for adults. ($10 lab fee).

NMC 096 Machine Tool — Part Programming II (0-4) **2 hrs.**
Continuation of NMC 095. Basic use of computers in preparing Numerical Control programs, use of the Autospot programming language will be included. Primarily for adults. ($10 lab fee).

NMC 097 ADAPT and APT Part Programming (0-4) **2 hrs.**
Principles and application of APT and ADAPT Numerical Control programming language. Selected problems to be written, run on computer and verified on Numerical Control machines. Primarily for adults. ($10 lab fee).

NMC 101 Introduction to Numerical Control (2-0) **2 hrs.**
Applications and advantages of Numerical Control. Tapes, tape coding, tape readers and formats. Control system theory and standard axis designations in relation to the cartesian and system of dimensioning. Basic understanding of manual and computer programming for numerically controlled machines.

NMC 105 Part Programming I (1-3) **3 hrs.**
Manual programming of point-to-point and contouring systems. Discussion and practice in programming of various manufacturers equipment including the running of programs on lathe and mill. Introduction to computer processing of complex programs.
Prerequisite: MTH 106. ($7.50 lab fee).

NMC 201 Numerical Controlled Machining (1-4) **3 hrs.**
Numerical Control machines, emphasis to be placed upon their application, maintenance and their justification. Practices in process planning, tooling and fixturing techniques will be discussed and applied.
Prerequisite: MTH 106 and MET 105. ($7.50 lab fee).

NMC 210 Computer Programming-FORTRAN (3-0) **3 hrs.**
Familiarization with digital computer. Practical problems will be presented using Fortran IV. Techniques to solve problems involving Numerical Control Manufacturing will be stressed. Students will plan, write, debug and test programs on a digital computer.
Prerequisite: MTH 106. ($5 lab fee).

NMC 214 Graphic Display Systems (1-4) **3 hrs.**
Numerical Controlled Drafting machine with aid of computer used to develop various phases of working drawings. Emphasis on phases of working drawings more efficiently done by Graphic Display equipment.
Prerequisite: MET 102, MTH 106 and NMC 210. ($5 lab fee).

NMC 215 Part Programming II (1-3) **3 hrs.**
Computer Part Programming Language AD-APT and AUTOSPOT. Basic geometric definitions and contouring problems will be stressed. Students will use the following advanced features: MACRO, LOOP, PATTERN, COPY. Application of these features will be to two and three axis machines.
Prerequisite: NMC 105. ($10 lab fee).

NMC 216 Part Programming III (1-3) **3 hrs.**
Continuation of NMC 215, Advanced problems in APT and AD-APT using TRACUT, REFSYS and TABCYL features, multi-axis contouring and efficient use of the languages will be included.
Prerequisite: NMC 215. ($10 lab fee).

NMC 220 Special Problems (0-6) **3 hrs.**
Special project required of all sophomores in this curriculum.
Prerequisite: Must be taken during semester of graduation.
($5 lab fee).

NURSING

NUR 101 Foundations of Nursing I (3-7) **5 hrs.**
Knowledge and skill necessary for giving basic nursing care, including supporting, maintaining, and providing environmental safety, physiologic functioning, comfort, nutrition, and a therapeutic regimen.
($5 lab fee).

NUR 102 Foundations of Nursing II (3-7) **5 hrs.**
Continuation of NUR 101 including maternal and child health. Principles of growth and development and problems of adolescence and young adulthood integrated with clinical experience.
Prerequisite: NUR 101. ($5 lab fee).

NUR 201 Nursing in Physical and Mental Illness I (5-15) 10 hrs.
Basic knowledge and nursing skills needed for giving care to individuals with specific alterations of physiologic function as well as with major health problems.
Prerequisite: NUR 102. ($5 lab fee).

NUR 202 Nursing in Physical and Mentall Illness II (5-15) 10 hrs.
A continuation of NUR 201, including the change from student to practitioner: discussions on modern issues in nursing, legal and moral responsibilities of the nurse practitioner, and functions of professional organizations.
Prerequisite: NUR 201. ($5 lab fee).

PHILOSOPHY

PHI 105 Introduction to Philosophy (3-0) 3 hrs.
Principles and problems of philosophy as seen in different schools of thought. Topics: validity of human knowledge, nature of reality, mind and body, free will and determinism, moral and aesthetic values, religious belief.

PHI 110 Logic (3-0) 3 hrs.
Formal reasoning, including language and meaning, deduction and induction, evidence, and the detection of fallacies. Traditional as well as modern modes of analysis.
Prerequisite: PHI 105 or MTH 103 or consent of instructor.

PHI 115 Ethics (3-0) 3 hrs.
Approaches to problems of values and conduct, including such topics as moral goodness, virtue, right, responsibility, goals, and happiness.
Prerequisite: PHI 105.

PHI 205 Religions of the World (3-0) 3 hrs.
Study of selected major religions: Buddhism, Hinduism, Judaism, Islam, and Christianity; their teachings and histories.
Prerequisite: PHI 105 or PHI 110 or PHI 115 or sophomore standing.

PHYSICAL EDUCATION

100 level courses are service activity courses. Each meets two hours per week for 1 semester hour of credit. These courses satisfy the physical education requirement for graduation. 200 level courses receive 2 semester hours of credit and are designed for students who wish to follow a major, or minor in the fields of physical education.

Physical Education Courses — Men

Developmental Activities:

PED 100 Physical Conditioning (0-2) 1 hr.
Body conditioning through corrective and warm-up exercises, self testing stunts, importance of relaxation and diet, and prescribed practice for further self improvement. ($1.75 lab fee).

PED 102 Adult Fitness (0-2) 1 hr.
A controlled physical fitness and games activity program. This class will develop and motivate the individuals interest in physical fitness activity and the lifetime sports. ($1.75 lab fee).

PED 104 Weight Training — Weight Lifting (0-2) 1 hr.

Weight Training — program of activities for the overweight or underweight leading to the development of strength and maintenance of physical fitness.

Weight Lifting — skills, knowledge and safety standards are taught in accordance with A.A.U. weightlifting rules. ($1.75 lab fee).

Team Sports:

PED 112 Touch Football — Basketball (0-2) 1 hr.

Touch Football — conditioning, team play, ball handling skills, tactics, strategy, officiating procedures and rules; Intramural competition afforded.

Basketball — skills and attitudes involved in shooting, passing, ball handling, and footwork. Application of team play and strategy in practice games and tournaments. ($1.75 lab fee).

PED 114 Volleyball — Softball (0-2) 1 hr.

Volleyball — basic skills, team play, practice games, tournaments, and interclass competition.

Softball — skills, knowledge and attitudes essential in playing 16 inch softball, infield and outfield play, pitching and batting, and interclass competition. ($1.75 lab fee).

PED 116 Team Sports (0-2) 1 hr.

Experience in team sports and games is given according to the season and facilities available. ($1.75 lab fee).

Individual Sports:

PED 130 Tennis — Handball (0-2) 1 hr.

Tennis — theory and practice; rules and scoring. Development of serve, forehand drive, backhand drive, lob, volley and footwork.

Handball — rules, techniques of play in singles, doubles, nomenclature, ethics, sportsmanship, and training methods. ($1.75 lab fee).

PED 132 Golf — Archery (0-2) 1 hr.

Golf — fundamentals of grip, stance, and swing using irons and woods; terminology, etiquette, scoring and safety standards. Intramural competition afforded.

Archery — maintenance of archery tackle; establishing and adjusting point of aim; shooting at 60, 50, and 40 yards, instinctive shooting and field archery fundamentals. ($1.75 lab fee).

PED 134 Tumbling — Gymnastics Apparatus (0-2) 1 hr.

Tumbling — skills and knowledge involved in basic individual and partner tumbling and balancing stunts. Development of tumbling routines.

Gymnastics Apparatus — development of individual stunts and routines on the side horse, long horse, rings, parallel bars and horizontal bar. ($1.75 lab fee).

PED 136 Wrestling (0-2) 1 hr.

Development of basic skills, knowledge, attitudes and conditions of wrestling; offensive and defensive maneuvers, pinning combinations and rules. ($1.75 lab fee).

PED 138 Personal Defense — Badminton (0-2) **1 hr.**

Personal Defense — development of skills in non-weapon defense of rushing, grasping, strangling, fist attacks, and kicking maneuvers. Protection from upright, ground, frontal, rear attacks.

Badminton — recreational and conditioning activity; singles and doubles play, strategy, serving, rules and interclass competition. ($1.75 lab fee).

PED 140 Track and Field (0-2) **1 hr.**

Development of skills, knowledge, and attitudes involved in track and field athletics; sprint start, baton exchange, hurdle form, high jump, long jump, shot put, discus. Intramural competition afforded. ($1.75 lab fee).

PED 142 Fencing (0-2) **1 hr.**

Development of skills, knowledge, and attitudes involved in foil fencing. Practice in fundamental positions, footwork, attacks, defensive action, counter and compound attacks. Intramural competition afforded. ($1.75 lab fee).

PED 149 Restricted Activities (0-2) **1 hr.**

For students restricted by health limitations; individual programs adapted to meet specific requirements. Required for students with medical excuses. ($1.75 lab fee).

Physical Education Courses — Co-ed

PED 150 Bowling (0-2) **1 hr.**

All-levels class with beginners grouped separately for special attention. Etiquette, scoring, and techniques according to present ability. Intramural competition afforded. ($1.75 lab fee).

PED 152 Small Craft Boating — Fly & Bait Casting (0-2) **1 hr.**

Small Craft Boating — skills and safety practices in handling small craft; practical experience in canoeing, rowing and small sail craft rigging.

Fly & Bait Casting — skills in casting and angling; practical experience in nearby waters. ($1.75 lab fee).

PED 154 Swimming (0-2)

All-levels class with beginners grouped separately for special attention. Red Cross standards of achievement are followed. ($1.75 lab fee).

PED 156 Folk and Square Dance (0-2) **1 hr.**

Folk Dance — folk dances from foreign countries and America; including basic steps and history.

Square Dance — typical steps and figures used throughout the country. ($1.75 lab fee).

PED 160 Modern Dance I (0-2) **1 hr.**

Opportunity to explore movement potential, increase technical proficiency, broaden rhythm background; skills in technique and composition stressed. ($1.75 lab fee).

PED 162 Modern Dance II (0-2) **1 hr.**

Intermediate techniques and composition; performance ability and skill tested. ($1.75 lab fee).

Physical Education Courses — Women

Developmental Activities:

PED 170 Conditioning (0-2) **1 hr.**

Body conditioning through corrective and warm-up exercises self testing stunts, importance of relaxation and diet, and prescribed practice for further self improvement. ($1.75 lab fee).

PED 172 Gymnastics & Free Exercise (0-2) **1 hr.**

Gymnastics — basic skills on side horse, uneven parallel bars, balance beam, and trampoline.

Free Exercise — study of skills and stunts necessary to perform a routine of free exercise. ($1.75 lab fee).

Individual and Team Sports:

PED 180 Field Hockey — Basketball (0-2) **1 hr.**

Field Hockey — fundamentals of team play based on development of individual game skills; including rules, strategy, history and officiating.

Basketball — skills and attitudes involved in shooting, passing, ball handling, and footwork. Team play and strategy applied in practice games and tournaments. ($1.75 lab fee).

PED 182 Tennis — Recreational Games (0-2) **1 hr.**

Tennis — theory and practice, rules of scoring and strategy, development of individual game skills — serve, forehand, backhand, lob, volley and footwork.

Recreational Games — skills of shuffleboard, table tennis, deck tennis and other game activities. ($1.75 lab fee).

PED 184 Softball — Badminton (0-2) **1 hr.**

Softball — fundamental skills, rules and strategy in team play.

Badminton — skills of serving, strategy, play, rules of game and history; practice games and tournaments. ($1.75 lab fee).

PED 186 Soccer — Badminton (0-2) **1 hr.**

Soccer — fundamental skills, rules, strategy, and officiating techniques in team play.

Badminton — skills of serving, strategy, play, rules of game and history; practice games and tournaments. ($1.75 lab fee).

PED 188 Golf — Volleyball (0-2) **1 hr.**

Golf — fundamentals of grip, stances, and swing using irons and woods; terminology, etiquette, scoring and safety precautions.

Volleyball — basic skills, history, importance of team play and strategy; practice games and tournaments. ($1.75 lab fee).

PED 190 Track and Field (0-2) **1 hr.**

Development of skills, knowledge, and attitudes involved in track and field athletics. Intramural competition afforded. ($1.75 lab fee).

PED 192 Archery (0-2) **1 hr.**

Maintenance of archery tackle; establishing and adjusting point of aim; shooting at 30, 40, and 20 yards, instinctive shooting and field archery fundamentals. ($1.75 lab fee).

PED 194 Fencing (0-2) **1 hr.**
Development of skills, knowledge, and attitudes involved in foil fencing. Practice in fundamental positions, footwork, attacks, defensive action, counter and compound attacks. Intramural competition afforded. ($1.75 lab fee).

PED 199 Restricted Activities (0-2) **1 hr.**
Physical education activities for students restricted by health limitations, adapted to specific requirements of students with medical excuses. ($1.75 lab fee).

Physical Education Courses — Theory — For Major and Minor Students

PED 200 Introduction to Physical Education (2-0) **2 hrs.**
Orientation and history of physical education from ancient times to present day. Objectives and aims of physical education and their applications.

PED 201 First Aid (2-0) **2 hrs.**
Regulation American Red Cross instruction in First Aid; principles and practices; immediate and temporary treatment in case of accident or sudden illness before physician arrives. Official certification given to students who qualify.

PED 203 Health (2-0) **2 hrs.**
Problems involved in personal and community health; study of the maintenance of a high degree of individual mental and physical health. Prerequisite: BIO 102 or BIO 112 or consent of instructor.

PED 210 Sports Officiating (2-0) **2 hrs.**
Comprehensive instruction on rules and officiating techniques in interscholastic sports; practical experience required in the College intramural program.

PED 220 Track and Field (2-0) **2 hrs.**
Development and understanding of strategy and rules of track and field. Basic skills of running, jumping, and throwing as performed in track and field; emphasis on knowledge and techniques essential to teaching track and field.

PED 222 Football (2-0) **2 hrs.**
Analysis, instruction and theories of coaching fundamental skills, coaching and officiating styles, play and team strategy.

PED 224 Basketball (2-0) **2 hrs.**
Knowledge and skill in fundamentals and in techniques of team organization; skills of each position, offensive and defensive skills and team play, strategy and officiating.

PED 226 Baseball (2-0) **2 hrs.**
Analysis, instruction and demonstration of fundamental skills; theory of coaching and officiating; styles of play and team strategy.

PED 228 Aquatics (2-0) **2 hrs.**
Introduction to skills and safety standards invoved in swimming, life saving and survival in water; study of the recreational value of water sports. Certification in Red Cross Lifesaving programs may be attained. Prerequisite: ability to swim 100 yards.

PHYSICAL SCIENCE

PHS 101 Physical Science Survey (3-0) 3 hrs.
A course designed to give the non-science major an understanding and appreciation of the universe, earth, energy, and matter. (FOR STUDENTS IN CAREER PROGRAMS ONLY.)

PHS 111 Physical Science I (3-2) 4 hrs.
Motion, structure of matter, electricity and magnetism, waves and particles, and the atom. Course for non-science majors fulfilling laboratory science requirements. ($5 lab fee).
Prerequisite: High school chemistry or physics or consent of instructor.

PHS 112 Physical Science II (3-2) 4 hrs.
Continuation of PHS 111 considering basic chemistry, materials of the earth, earth forms and history, sun and stars, the universe.
Prerequisite: PHS 111. ($5 lab fee).

PHYSICS

PHY 101 Technical Physics I — Mechanics and Heat (3-2) 4 hrs.
Statistics, dynamics, energy, specific gravity, electricity, calorimetry, gas laws, waves and sound. FOR STUDENTS IN CAREER PROGRAMS ONLY. (See PHI 121). ($5 lab fee).
Prerequisite: MTH 106 or concurrent enrollment.

PHY 102 Technical Physics II — Electricity, Light and Sound (3-2) 4 hrs.
Electricity and magnetism: fields, induction, capacitance, direct and alternating current theory and circuits, elements of electronics. Light: reflection, interference, resonance, lenses, diffraction, polarization and Doppler Effect. Introduction to atomic and nuclear theory. Previously for career program students. ($5 lab fee).
Prerequisite: PHY 101.

PHY 121 Introductory Physics I (4-3) 5 hrs.
Mechanics, heat and sound. Lectures, demonstrations, and laboratory. For students in Arts, Sciences, and Architecture. Others see PHY 201.
Prerequisite: Trigonometry. ($5 lab fee).

PHY 122 Introductory Physics II (4-3) 5 hrs.
Electricity, magnetism, and light. Continuation of PHY 121.
Prerequisite: PHY 121.

PHY 201 General Physics I — Mechanics, Heat, and Sound (3-5) 5 hrs.
Foundations of statics, dynamics, hydraulics, thermodynamics, wave motion. For science, engineering, architecture, and university transfers.
Prerequisite: MTH 201 or concurrent enrollment. ($7.50 lab fee).

PHY 202 General Physics II — Electricity, Magnetism, Light (3-5) 5 hrs.
Electric and magnetic fields, potentials, geometrical and physical optics.
Prerequisites: PHY 201, MTH 202. ($7.50 lab fee).

PHY 210 Introduction to Modern Physics (3-0) 3 hrs.
Wave-particle duality, "old" and "new" quantum theory, scattering, elementary particles.
Prerequisite: PHY 202. ($5 lab fee).

POLITICAL SCIENCE

PSC 201 American Government: Organization, Powers and Functions **3 hrs.**
Institutional structure and organization of main parts of national, state (Illinois) and local government in modern America.

PSC 205 Comparative Government (3-0) **3 hrs.**
Important governments of Europe, such as France, Germany, Italy, Russia, and England. Essential features of parliamentary and presidential systems as in England and United States. Broad understanding and appreciation of the common governmental problems of the world.

PSC 206 International Relations **3 hrs.**
Critical analysis of international problems of our day — power, role of American foreign policy, and proposals for substitute for war. Emphasis on principles underlying international relations and on locating reliable sources for making informed opinions.

PRACTICAL NURSING

PNR 060 Practical Nursing I (25-10 1st 9 weeks 8-27 2nd 9 weeks) **14 hrs.**
Designed to acquaint the student with the nursing theory and to develop nursing skills necessary for giving simple nursing care. Includes basic concepts of body structure and function, human development, nutrition, personal and community health and an introduction to patient care. Identification of the role of the student practical nurse and other members of the health team, as well as standards of conduct in vocational nursing are explored. ($5 lab fee).

PNR 070 Practical Nursing II (8-27) **13 hrs.**
This course stresses application of scientific principles learned in PNR 060 with progressive complexity of vocational nursing skills and function. In accordance with specified objectives, students are given selected patient care experiences in the nursing home and hospital setting. ($5 lab fee).

PNR 080 Practical Nursing III (8-32) **11 hrs.**
Provides content in the area of maternal and child health. Classroom instruction and clinical experience in care of the mother, before, during, and after delivery is included. Theory and practice in the care of the newborn and an introduction to health deviations in children comprise part of this course. Also, the legal aspects of practical nursing are examined, practical nursing organizations identified and career opportunities are presented. ($5 lab fee).

PSYCHOLOGY

PSY 099 Learning and Adjustment to College (3-0) **3 hrs.**
Designed for developmental students; covers topics essential to successful college adjustment — study techniques, educational and vocational planning, social adjustment, and general aspects of college life.

PSY 101 Introduction to Psychology (3-0) **3 hrs.**
Human behavior with reference to perception, learning, individual differences, intelligence, and personality. Developmental method stressed rather than experimental. Reference made to daily life and everyday problems.

PSY 102 Conference Course **1 hr.**
Designed to meet interests and needs of qualified majors in psychology. Must be taken concurrently with PSY 101. Specific topics will vary from semester to semester.
Prerequisite: Consent of instructor.

PSY 145 Psychology in Business and Industry (3-0) **3 hrs.**
Human behavior and its practical applications in business. Psychological applications in personnel and marketing problems, employee selection, morale, and supervisory practices.
Prerequisite: PSY 101 or consent of instructor.

PSY 216 Child Psychology I (3-0) **3 hrs.**
Individual child from conception to fetal development, infancy, and latency. Emphasis placed on child rearing practices and techniques that appear beneficial in creation of independent and well-adjusted personality. Child's interaction with parents, siblings, peers, and greater community considered in the formation of the integrated self.

PSY 217 Adolescent Psychology (3-0) **3 hrs.**
Continuation of development of the human through adolescence into middle and later life. Emphasis on continual adjustment required to master new developmental tasks. Importance of fixated behavior stressed where personality growth is arrested. Emphasis on manifested behavior in attempt to understand fellow man in our complex society.
Prerequisite: PSY 101.

READING

RDG 099 Development Reading (2-0) **2 hrs.**
Individualized work towards improvement of comprehension and rate in reading, through practice materials, timed essays, films, and mechanical aids.

RDG 104 Reading Acceleration (2-0) **2 hrs.**
Survey of basic reading techniques designed to accelerate reading rates. Emphasis placed on comprehension drills, skimming, and critical reading. Mechanical aids used to eliminate fixations, remove vocalizing habits, and accelerate present reading rates through perceptual training.

RUSSIAN

RUS 101 Elementary Russian (4-0) **4 hrs.**
Beginning course in the language skills of listening, understanding, speaking, reading and writing.
Additional time in Lab assigned by instructor.

RUS 102 Elementary Russian (4-0) **4 hrs.**
Continuation of RUS 101. Situational conversations in Russian; reading and writing stressed.
Additional time in Lab assigned by instructor.
Prerequisite: RUS 101 or one year of high school Russian.

RUS 201 Intermediate Russian (4-0) **4 hrs.**
Conversation with emphasis on pronunciation, intonation, stress and rhythm. Grammar review.
Additional time in Lab assigned by instructor.
Prerequisite: RUS 102 or two years of high school Russian or consent of instructor.

RUS 202 Intermediate Russian (4-0) **4 hrs.**
Continuation of RUS 201, plus accuracy and speed in reading, study of syntax, and extensive composition.
Additional time in Lab assigned by instructor.
Prerequisite: RUS 201 or three years of high school Russian or consent of instructor.

RUS 205 Intensive Oral Practice (3-0) **3 hrs.**
Conversational practice to develop oral facility; specially designed exercises in pronunciation, stress and rhythm. Individual readings of modern Russian works discussed in class. Written and oral compositions based on readings.
Additional time in Lab assigned by instructor.

RUS 210 Introduction to Modern Russian Literature (3-0) **3 hrs.**
Reading of selected 20th century masterpieces. Introduction to poetry. Oral readings stressing pronunciation and diction. Speaking based on discussions of works read. Writing based on readings and class discussions.
Prerequisite: RUS 202 or equivalent or consent of instructor.

SECRETARIAL SCIENCE

SEC 121 Elementary Typing (4-0) **2 hrs.**
Operation use and care of the typewriter. Typing by the touch system, emphasizing basic typing problems. Drills for speed and accuracy building will be used throughout the course. ($5 lab fee).

SEC 122 Intermediate Typing (4-0) **2 hrs.**
Development of production work in typing manuscripts, business letters, forms and tables.
Prerequisite: SEC 121 with a grade of "C" or 1 year of high school typing. Minimum speed of 40 net words per minute. ($5 lab fee).

SEC 125 Elementary Shorthand (3-2) **4 hrs.**
Theory leading to development of skill in reading and fluency in writing Gregg shorthand. ($3 lab fee).
Prerequisite: Prior or concurrent enrollment in ENG 101 and Typing.

SEC 126 Intermediate Shorthand (4-0) **3 hrs.**
Continued development of skill and speed dictation with emphasis on vocabulary development, mechanics of English, and transcription techniques. ($3 lab fee).
Prerequisite: SEC 125 or equivalent, SEC 121 or equivalent, and ENG 101, with a grade of "C". If advanced placement is given in shorthand, prior or concurrent enrollment in ENG 101 is required.

SEC 131 Business Machines (2-0) **2 hrs.**
Development of skill necessary to operate the 10-key adding machine, rotary calculator, printing calculator, and the keypunch. ($5 lab fee).

SEC 132 Office Practice (3-0) **3 hrs.**
Designed to acquaint the student with those duties usually given to new office workers, such as preparation of stencils and the operation of duplicating machines; use of the transcribing machine; records management; and switchboard (PBX).
Prerequisite: SEC 121. ($5 lab fee).

SEC 221 Advanced Typing (4-0) **2 hrs.**
Development of high speed and proficiency in typing from rough drafts, tabulations, and statistics.
Prerequisites: SEC 122 with a grade of "C" or proficiency test with instructor. ($5 lab fee).

SEC 225 Dictation and Transcription (4-0) **3 hrs.**
Strengthening of the dictation speed and developing competence in transcribing mailable letters.
Prerequisite: SEC 126 and SEC 122 or proficiency test with instructor and ENG 101. ($3 lab fee).

SEC 235 Legal Dictation and Procedures (3-2) **4 hrs.**
Development of speed and facility with legal terminology and legal forms and procedures.
Prerequisite: SEC 225 or equivalent with a grade of "B" or higher. Shorthand speed of at least 110 words per minute and typing speed of at least 70 words per minute. ($3 lab fee).

SEC 236 Secretarial Procedures (2-0) **2 hrs.**
Secretarial responsibilities in the office, grooming, human relations, office ethics and business etiquette, exploring job opportunities, and interviewing.
Prerequisite: Consent of instructor.

SEC 237 Secretarial Seminar and Internship I (1-2) **3 hrs.**
Cooperative work experience in Secretarial Science. Enrollment in this course is restricted to students in the secretarial science program. Part of the credit for this course will be given for participation in supervised cooperative work experience programs wherein an organized training plan will be followed in a college approved training station. One lecture hour per week for seminar.
Prerequisite: Consent of instructor.

SEC 238 Secretarial Seminar and Internship II (1-2) **3 hrs.**
Continuation of SEC 237.
Prerequisite: Consent of instructor.

SOCIOLOGY

SOC 101 Introduction to Sociology (3-0) **3 hrs.**
Introductory analysis and description of structure and dynamics of human society. Application of scientific methods to the observation and analysis of social norms, groups, intergroup relations, social change, social stratification, and institutions.

SOC 102 Conference Course **1 hr.**
Designed to meet interests and needs of qualified majors in Sociology. Must be taken concurrently with SOC 101. Specific topics will vary from semester to semester.
Prerequisite: Consent of instructor.

SOC 120 Social Patterns of Courtship and Marriage (3-0) **3 hrs.**
Courtship, marriage, rearing the family, and various factors contributing to changes in family organization or disorganization.
Prerequisite: SOC 101 or consent of instructor.

SOC 205 Social Problems (3-0) 3 hrs.
Analysis of contemporary social problems. Investigation of theories dealing with conformity and deviance, racial and minority group prejudice, crime and delinquency, personality problems, urbanization, and fundamental institutional problems due to social change.
Prerequisite: SOC 101.

SOC 210 Social Institutions (3-0) 3 hrs.
Primary social institutions: family, religious, educational, economic, and political. Questions considered: who participates, what are the functions, what are the consequences, and an evaluation of the effects of the institution on the society.
Prerequisite: SOC 101 and Sophomore standing.

SPANISH

SPA 101 Elementary Spanish (4-0) 4 hrs.
Beginning course in the language skills of listening, understanding, speaking, reading and writing.
Additional time in Lab assigned by instructor.

SPA 102 Elementary Spanish (4-0) 4 hrs.
Continuation of SPA 101. Situational conversations in Spanish; reading and writing stressed.
Additional time in Lab assigned by instructor.
Prerequisite: SPA 101 or one year of high school Spanish.

SPA 201 Intermediate Spanish (4-0) 4 hrs.
Conversation with emphasis on pronunciation, intonation, stress and rhythm. Grammar review.
Additional time in Lab assigned by instructor.
Prerequisite: SPA 102 or two years of high school Spanish or consent of instructor.

SPA 202 Intermediate Spanish (4-0) 4 hrs.
Continuation of SPA 201, plus accuracy and speed in reading, study of syntax, and extensive composition.
Additional time in Lab assigned by instructor.
Prerequisite: SPA 201 or three years of high school Spanish or consent of instructor.

SPA 205 Intensive Oral Practice (3-0) 3 hrs.
Conversational practice to develop oral facility; specially designed exercises in pronunciation, stress and rhythm. Individual readings of modern Spanish works discussed in class. Written and oral compositions based on readings.
Additional time in Lab assigned by instructor.

SPA 210 Introduction to Modern Spanish Literature (3-0) 3 hrs.
Reading of selected 20th century masterpieces. Introduction to poetry. Oral readings stressing pronunciation and diction. Speaking based on discussions of works read. Writing based on readings and class discussions.
Prerequisite: SPA 202 or equivalent or consent of instructor.

SPEECH

SPE 101 Fundamentals of Speech (3-0) **3 hrs.**

Theory and practice of oral communications. Development of poise, confidence, and skill in speech organization and delivery. Emphasis on frequent speaking, development of standards of criticism, and selection and organization of material.

SPE 102 Public Speaking (3-0) **3 hrs.**

Development of proficiency in the logic of argument and skill in speaking. Psychological principles underlying successful platform behavior; forms of public address. Analysis and delivery of one such form as a semester assignment.
Prerequisite: SPE 101 or consent of instructor.

SPE 107 Oral Interpretation (3-0) **3 hrs.**

A performance course offering opportunities for selection, preparation and presentation of various types of literature; development of facility in use of body and voice in oral reading.
Prerequisite: SPE 101 or consent of instructor.

SPE 111 Introduction to the Theatre (3-0) **3 hrs.**

Introduction to theatrical and dramatic art. Emphasis on providing the student with the tools of analysis which give him insight into the total imaginative process that makes up the art of the theatre.

SPE 205 Discussion and Debate (3-0) **3 hrs.**

Principles, techniques and types of discussion and debate; experience in various types of discussion and debate activities.
Prerequisite: SPE 101.

SPE 212 Acting (3-0) **3 hrs.**

Methods used in the art of acting; stress on practical acting situations.
Prerequisite: SPE 111 or consent of instructor.

HARPER COLLEGE CALENDAR 1970-71

First Semester

New Faculty Orientation ..... September 1-4
Labor Day ..... September 7
All Faculty Report ..... September 8, 9
Registration ..... September 10-12
Classes Begin ..... September 14
Last Day for Late Registration ..... September 18
Last Day for Adding Classes ..... September 18
Last Day for Refunds ..... October 9
Columbus Day ..... October 12
Veterans Day ..... October 26
Mid-Term ..... November 6
Last Day for Withdrawals ..... November 20
Thanksgiving Vacation ..... November 26, 27
Classes Resume ..... November 30
Christmas Vacation Begins.... December 18 (11:00 p.m.)
Classes Resume ..... January 4
Final Examinations ..... January 18-22

Second Semester

Registration ..... January 27-29
Lincoln's Birthday ..... February 1
Classes Begin ..... February 2
Last Day for Late Registration ..... February 5
Last Day for Adding Classes ..... February 5
Last Day for Refunds ..... February 26
Mid-Term ..... March 26
Good Friday ..... April 9
Easter Sunday ..... April 11
Spring Vacation ..... April 12-16
Last Day for Withdrawals ..... April 16
Classes Resume ..... April 19
Memorial Day Holiday ..... May 31
Final Examinations ..... June 1-5
Graduation ..... June 6

Summer Session (8 Weeks)

Registration ..... June 10, 11
Classes Begin ..... June 14
Last Day for Late Registration ..... June 16
Last Day for Refunds ..... June 25
Independence Day ..... July 4
Classes Resume ..... July 6
Mid-Term ..... July 9
Last Day for Withdrawals ..... July 16
Final Examinations ..... August 5, 6

ADMINISTRATION

Lahti, Robert E.	President
Schauer, Clarence H.	Vice-President of Academic Affairs
Mann, William J.	Vice President of Business Affairs
Harvey, James	Vice-President of Student Affairs
Cormack, Robert B.	Dean of Career Programs
Olson, Omar L.	Dean of Evening and Continuing Education
Fischer, Guerin	Dean of Guidance
Voegel, George H.	Dean of Learning Resources
Birkholz, John R.	Dean of Transfer Programs
Falk, Charles F.	Chairman of Business Division
Bartos, Michael W.	Chairman of Communications Division
Warren, John T.	Chairman of Engineering and Technology Division
Thobe, Urban	Chairman of Humanities Division
DePalma, Rosario L.	Chairman of Life and Health Sciences Division
Collister, Larry M.	Chairman of Mathematics and Physical Sciences Division
King, Larry S.	Chairman of Social Sciences Division
Stansbury, Donn B.	Director of Admissions and Registrar
Gelch, John A.	Director of Athletics
Hughes, Robert J.	Director of Buildings and Grounds
Misic, Donald M.	Director of Business Services
Andries, Donald	Director of Community Relations
Sedrel, Roy A.	Director of Computer Services
Goodwin, Edward A.	Director of Food Services
Stockman, Calvin L.	Director of Instructional Services
Easterly, Ambrose	Director of Library Services
Von Mayr, Wilfred E.	Director of Personnel
Vaisvil, Fred A.	Director of Placement and Student Aids
Lucas, John A.	Director of Planning and Development
Borelli, Frank A.	Director of Student Activities
Rankin, Garry	Director of Testing
Miller, Richard L.	Assistant Director of Admissions
Fuller, Jack W.	Assistant to the Dean, Continuing Education
Groth, David A.	Assistant to the Dean, Continuing Education
Dolejs, Anton A.	Comptroller
Klingenberg, Walter D.	Bookstore Manager
Herron, Suzanne	Catering Manager
Januszko, John	Food Services Manager
Parker, Kenneth W.	Manager of Systems and Operations
Vander Haegen, Peter P.	TV Producer/Director
Vandever, Frank A.	Supervising Dentist, Dental Hygiene Program

FULL-TIME FACULTY

ALTER, SHARON Z., Instructor
History
B.A., University of Illinois
M.A., University of Illinois

ANDRIES, DONALD, Instructor
Director of Community Relations
B.S., Marquette University

ARNS, KATHLEEN L., Instructor
Coordinator of Licensed Practical Nursing Program
B.S.N.E., College of Mt. St. Joseph on the Ohio

BARTON, CHARLES KELLY
Associate Professor, Engineering
B.S., University of Tulsa
M.S., Case Institute

BARTOS, MICHAEL W., Associate Professor
Chairman of Communications Division
Ph.B., DePaul University
M.Ed., DePaul University
M.A., Northwestern University

BAUER, JOSEPH M., Assistant Professor
Chemistry
B.S., Loyola University
M.S., Loyola University

BERNSTEIN, RICHARD M., Assistant Professor
Electrical Engineering & Physics
B.S., University of Illinois
M.S.E.E., University of Illinois

BESSEMER, RONALD N., Instructor
Physical Education
B.S., Illinois State University
M.S., Illinois State University

BEST, JUDITH ANN, Instructor
Counselor
B.A., Coe College
M.A., University of Iowa

BIRKHOLZ, JOHN R., Associate Professor
Dean of Transfer Programs
B.S., Wisconsin State
M.S., Northern Illinois University
C.A.S., Northern Illinois University

BOEKE, ROBERT M., Instructor
Mathematics and Physical Science
B.S., University of Dayton
M.A.T., Northwestern University

BOLT, MARTHA LYNN, Instructor
Physical Education
B.S., Eastern Illinois University
M.S., Eastern Illinois University

BORELLI, FRANK L., Assistant Professor
Director of Student Activities
B.A., University of Minnesota, Duluth
M.S.E.D., Southern Illinois University

BUSH, WILLIAM R., Instructor
Physical Science and Geology
B.A., University of Chicago
M.A., University of Chicago

BUSS, PAULINE, Instructor
English
B.A., Mundelein College
M.A., Northwestern University

BUTZEN, THERESE, Instructor
Mathematics
B.S., Western Illinois University
M.A.T., University of Illinois, Chicago Circle

CALLIN, DIANE T., Instructor
English
B.A., University of Illinois
M.A., Northwestern University

CARROLL, MICHAEL W., Assistant Professor
B.S.M.E., Tri-State College
M.S., Western Michigan University

CHRISTENSEN, FRANK, Instructor
Developmental Counseling
B.S., Morningside College
M.S., Kansas State College

CLOUSER, JOSEPH L., Associate Professor
B.S., Northern Illinois University
M.S., University of Wisconsin

COHEN, DANIEL J., Assistant Professor
Psychology
B.A., Roosevelt University
M.A., University of Utah

COLLINS, DONALD W., Assistant Professor
Architecture
B. of Arch., Virginia Polytechnic Institute

COLLISTER, LAREW M., Associate Professor
Chairman of Mathematics and Physical Sciences Division
B.S., Iowa State University
M.A., University of Chicago

CONNOLLY, PATRICIA L., Instructor
Dental Hygiene - Life Sciences
B.S., University of Michigan

CORMACK, ROBERT B., Associate Professor
Dean of Career Programs
A.A., Wright Junior College
B.S., Northern Illinois University
M.S., Indiana University
Ed.D., Indiana University

CUNNINGHAM, HAROLD C., Professor
Mathematics
B.S., Wayne State University
M.S., Wayne State University

DANIS, DANIEL M., Assistant Professor
Accounting & Business Law
B.S., University of Notre Dame
M.B.A., DePaul University
Juris Doctor - DePaul University
C.P.A. State of Illinois

D'AVERSA, ANGELA J., Instructor
Political Science
B.A., Georgian Court College
M.A., Northern Illinois University

DAVIDSON, JERRY F., Instructor
Music
B.Mus., University of Arkansas
M.S.M., Union Theological Seminary
A.A.G.O., American Guild of Organists

DAVIS, JOHN WILLIAM, Assistant Professor
Spanish
B.A., University of Illinois
M.A., Loyola University

DeGEETER, DARRELL W., Instructor
Data Processing and Business
B.S.E., Northern Illinois University

DePALMA, ROSARIO L., Associate Professor
Chairman of Life & Health Sciences Division
B.S., Rocky Mountain College
M.S., Northwestern University

DIONISIO, FRANCES L., Instructor
Assistant Librarian
B.A., University of Minnesota
M.A., Rosary College

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