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C O L L E G E



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William Rainey Harper College
1990-91 Bulletin
Volume 24
January, 1990

Accreditation

North Central Association of Colleges
and Secondary Schools

International Association of
Counseling Services

Commission on Dental Education
of the American Dental Association

Community/Junior College Member of the
National Association of Schools of Music

American Bar Association

Certificate of Real Estate School,
Department of Registration and Education
School Approval #46

Council on Medical Education of the
American Medical Association in
collaboration with the American
Association of Medical Assistants

National League for Nursing

American Dietetic Association Approval

Harper College reserves the right to change all
or part of this catalog without prior notice.

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Palatine, Illinois 60067-7398
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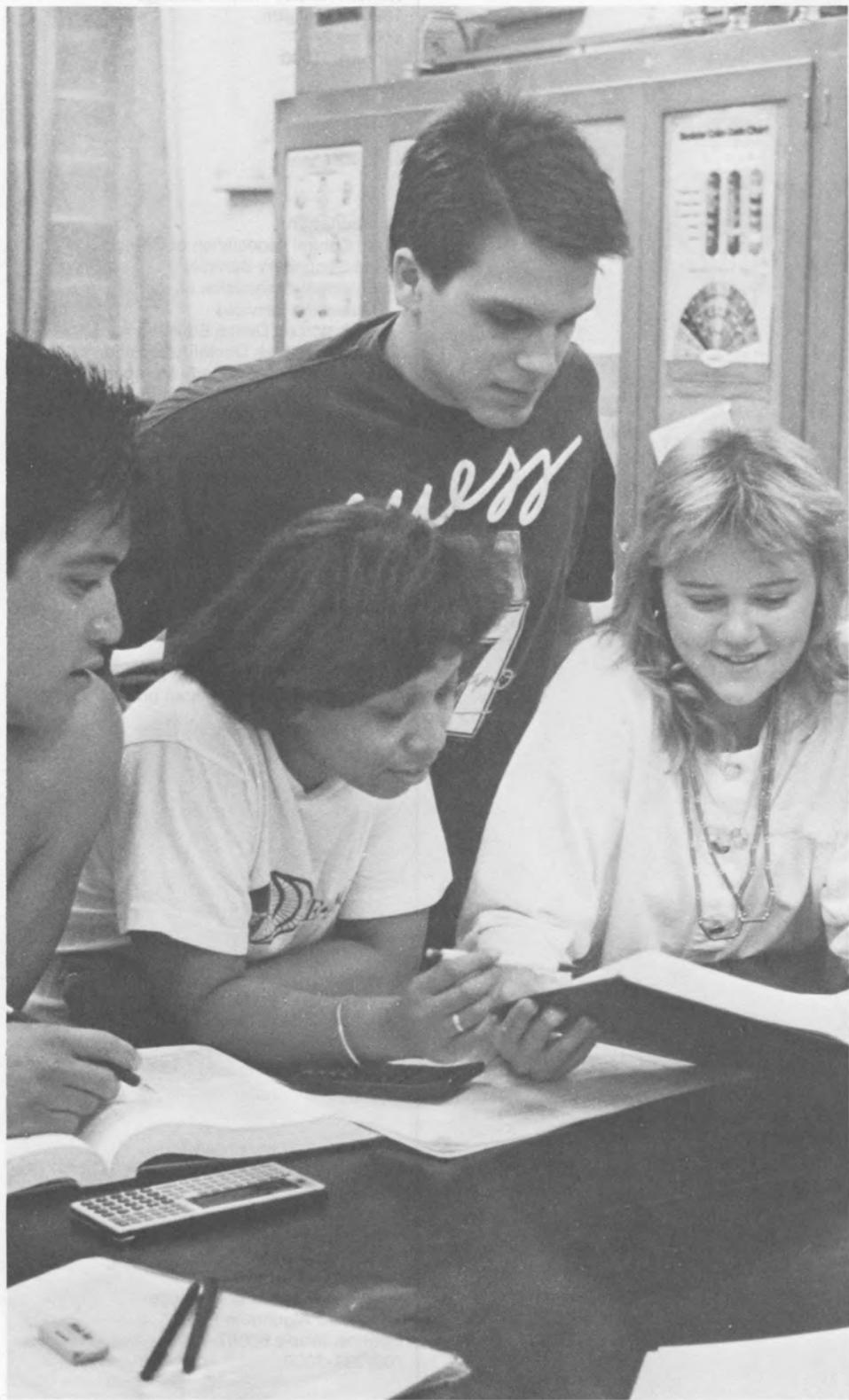
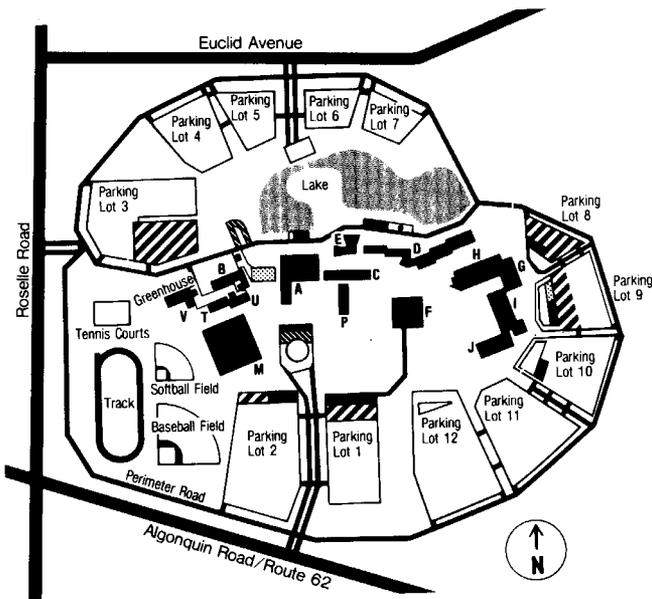


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Campus Map

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- P Music, Women's Center
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	Parking Student		Buildings, Roads and Athletic Structures
	Medical Permit		
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	Administrators		
	Faculty and Staff		
	Dental Hygiene		

Communities served by Harper College District No. 512

- 1 Arlington Heights
- 2 Barrington
- 3 Barrington Hills
- 4 Inverness
- 5 Buffalo Grove*
- 6 Carpentersville*
- 7 Deer Park*
- 8 Des Plaines*
- 9 Elk Grove Village
- 10 Fox River Grove*
- 11 Hanover Park*
- 12 Hoffman Estates
- 13 Lake Barrington
- 14 Mount Prospect
- 15 North Barrington
- 16 Palatine
- 17 Prospect Heights
- 18 Rolling Meadows
- 19 Roselle*
- 20 Schaumburg
- 21 South Barrington
- 22 Tower Lake
- 23 Wheeling

*Portions of these communities are included in the district.



Harper College Off-Campus Course Locations

Arlington Heights Memorial Library
500 North Dunton Avenue
Arlington Heights

Barrington High School
616 West Main Street
Barrington

Clearbrook Center
3201 Campbell
Rolling Meadows

Conant High School
700 East Cougar Trail
Hoffman Estates

Friendship Village of Schaumburg
350 West Schaumburg Road
Schaumburg

Golden Acres Golf Courses
162 North Roselle Road
Schaumburg

Highland Woods Golf Course
2775 North Ela Road
Palatine

Hoffman Bowling Lanes
Higgins and Roselle Roads
Hoffman Estates

Humana Hospital
1555 North Barrington Road
Hoffman Estates

Mt. Prospect Senior Center
50 South Emerson
Mt. Prospect

Northeast Center
1375 South Wolf Road
Prospect Heights

North Suburban Library System
200 West Dundee Road
Wheeling

Palatine Public Library
500 North Benton Street
Palatine

Poplar Creek Country Club
1400 Eric Drive
Hoffman Estates

Rand Grove Village Apartments
773 East Rand Grove Road
Palatine

Schaumburg High School
1100 West Schaumburg Road
Schaumburg

Schaumburg Township Building
25 Illinois Boulevard
Hoffman Estates

St. John United Church of Christ
308 North Evergreen Avenue
Arlington Heights

Wheeling Senior Center
199 North First
Wheeling



First Semester — Fall, 1989	
Registration as scheduled	April through August 16
Faculty Report	August 15
Open Registration	August 16, 17, 19
Classes Begin	August 21
Last Day for Late Registration	August 25
Last Day for Adding Classes	August 25
Last Day for Refunds*	September 2
Labor Day (Classes Not in Session)	September 4
Midterm	October 14
Veterans' Day Observed (Classes Not in Session)	November 10
Last Day for Withdrawals	November 11
Thanksgiving Vacation (Classes Not in Session)	November 23-26
Classes Resume	November 27
Final Exam Week	December 11-16
Semester Break Begins	December 17

Second Semester — Spring, 1990	
Registration as scheduled	November through January 9
Faculty Report	January 10
Open Registration	January 10, 11, 13
Martin Luther King's Birthday (Classes Not in Session)	January 15
Classes Begin	January 16
Last Day for Late Registration	January 19
Last Day for Adding Classes	January 19
Last Day for Refunds*	January 27
Lincoln's Birthday (Classes Not in Session)	February 12
Midterm	March 9
Spring Vacation	March 18-25
Classes Resume	March 26
Last Day for Withdrawals	April 12
Good Friday (Classes Not in Session)	April 13
Final Exam Week	May 14-18
Graduation	May 20

Summer Session, 1990	
Open Registration	May 31, June 1
Classes Begin	June 4
Last Day for Late Registration	June 5
Last Day for Adding Classes	June 5
Last Day for Refunds*	June 8
Midterm	July 2
Independence Day (Classes Not in Session)	July 4
Last Day for Withdrawals	July 12
Final Exams	July 25-26

*See refund policy on page 21 of Bulletin

First Semester — Fall, 1990

Registration as scheduled	April through August 13
Faculty Report	August 14
Open Registration	August 15, 16, 18
Classes Begin	August 20
Last Day for Late Registration	August 24
Last Day for Adding Classes	August 24
Last Day for Refunds*	September 1
Labor Day (Classes Not in Session)	September 3
Midterm	October 13
Veterans' Day Observed (Classes Not in Session)	November 9
Last Day for Withdrawals	November 10
Thanksgiving Vacation (Classes Not in Session)	November 22-25
Classes Resume	November 26
Final Exam Week	December 10-15
Semester Break Begins	December 16

Second Semester — Spring, 1991

Registration as scheduled	November through January 8
Faculty Report	January 9
Open Registration	January 9, 10, 12
Classes Begin	January 14
Last Day for Late Registration	January 18
Last Day for Adding Classes	January 18
Martin Luther King's Birthday (Classes Not in Session)	January 21
Last Day for Refunds*	January 25
Lincoln's Birthday (Classes Not in Session)	February 12
Midterm	March 9
Spring Vacation	March 29-April 7
Classes Resume	April 8
Last Day for Withdrawals	April 13
Final Exam Week	May 13-18
Graduation	May 19

Summer Session, 1991

Open Registration	May 30, 31
Classes Begin	June 3
Last Day for Late Registration	June 4
Last Day for Adding Classes	June 4
Last Day for Refunds*	June 7
Midterm	July 1
Independence Day (Classes Not in Session)	July 4
Last Day for Withdrawals	July 11
Final Exams	July 24, 25

*See refund policy on page 21 of Bulletin



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William Rainey Harper **Father of the Community College**

The spirit of Harper College is reflected in its name. William Rainey Harper was a scholar, teacher, writer and administrator who devoted his life to the pursuit of excellence in education. He accomplished so much in his lifetime that he is counted among the intellectual giants of his day.

A man of vision and an innovator, Dr. Harper was handpicked by John D. Rockefeller to become the first president of the University of Chicago before the turn of the century. During his 15-year presidency, that university emerged as one of the leaders in a movement to reform higher education.

Dr. Harper is recognized as the father of the two-year college, which he initiated at the University of Chicago in 1896. At that time the university was divided into two divisions — the academic college for freshmen and sophomores and the university college for juniors and seniors. Full-fledged emergence of this concept came almost 70 years later with the community college as we know it today.

In Illinois alone there are 39 public two-year community college districts serving more than 760,000 citizens each year through a full range of transfer, career-vocational and continuing education programs on both a daytime and an evening basis.

The President's Message

Harper has a real difference to offer you — a difference that can be important to you in your college years, your career and your personal interests for years to come.

During your time at Harper, you will find that all of us here share a commitment to helping you achieve success in your classes. Faculty members make time to meet with students outside of class, counselors are always available to assist with educational and career planning, the Learning Assistance Center will help you develop the learning skills you need for college

level work, and the Tutoring Center staff will work with you to help you stay on top of difficult courses. This commitment to each student's success is a difference in which we take great pride — and one we think will be most important to you in your college studies.

Another difference at Harper is the wide variety of options available to the student. Some of our students come to Harper for the first two years of study toward a four-year degree, some to earn a two-year degree preparing them for immediate entry into a career field and still others to take specific credit or non-credit classes for career advancement or for their own personal enjoyment. Students here also have the choice of attending college full time or part time, scheduling classes during day or evening hours. There are also opportunities for improving basic skills or learning English as a Second Language, preparing for a mid-life career change or enriching leisure hours. In fact, there are almost as many reasons for coming to Harper College as there are students of all ages attending our classes, seminars and cultural events.

Within these pages, you will find the program, classes and other services that will match your own particular educational needs and desires. If you have further questions about Harper College, you will also find information about contacting us for the answers. We are here to help you take advantage of the many opportunities available at your community college. We look forward to working with you at Harper.

Sincerely,

Paul N. Thompson
President, Harper College



The College

William Rainey Harper College in Palatine, Illinois is a public community college, an integral part of the Illinois system of higher education. The College, established in 1965 by voter referendum, is governed by an elected board of trustees. Harper serves high school districts 211 (Palatine and Schaumburg Townships), 214 (Elk Grove and Wheeling Townships), as well as Barrington Unit School District 220.

The Harper College district (512) covers an area of about 200 square miles. Communities within the College district are Arlington Heights, Barrington, Barrington Hills, Elk Grove Village, Hoffman Estates, Inverness, Lake Barrington, Mount Prospect, North Barrington, Palatine, Prospect Heights, Rolling Meadows, Schaumburg, South Barrington, Tower Lake and Wheeling. Also included are portions of Buffalo Grove, Carpentersville, Deer Park, Des Plaines, Fox River Grove, Hanover Park and Roselle.

Board of Trustees

The board of trustees is composed of seven elected individuals who represent the voters of the district and one student representative, who has an advisory vote, elected by the student body for a one-year term.

Meetings of the board of trustees, which are open to the public, are held on the fourth Thursday of each month at 8:00 pm in the Board Room of the administrative wing of the College Center (Building A) on the Harper campus at Algonquin and Roselle Roads in Palatine.

Compliance Actions

Harper College does not discriminate on the basis of race, color, religion, sex, age, national origin, veteran's status, marital status or physical or mental handicap. This policy governs the recruitment and admission of students, the recruitment and employment of faculty and staff and the operation of any of the College's programs and activities as specified by federal laws and regulations. It is also the policy of Harper College that no student, faculty or staff member shall be subjected to sexual harassment, which is regarded as a form of discrimination.

Inquiries regarding Affirmative Action should be directed to the Personnel Specialist. Inquiries regarding College compliance with Section 504 of the 1973 Rehabilitation Act should be directed to the Dean of Academic Enrichment and Language Studies.

Accreditation

All courses and educational programs, including counseling services, are fully accredited by the North Central Association of Colleges and Secondary Schools. In addition, the Student Development Center at Harper is accredited by the International Association of Counseling Services; the Harper Dental Hygiene career program is accredited by the Commission on Dental Education of the American Dental Association; the Harper Music Department is accredited as a Community/Junior College Member of the National Association of Schools of Music; the Harper Legal Technology Program is accredited by the American Bar Association; the Harper Real Estate Program holds a Certificate of Real Estate School, Department of Registration and Education School Approval #46; the Medical Office Assistants Program at Harper is accredited by the Council on Medical Education of the American Medical Association in collaboration with the American Association of Medical Assistants; the Harper Nursing Program is accredited by the National League for Nursing and the Illinois Department of Registration and Education; and the Harper Dietetic Technician Program is approved by the American Dietetic Association.

History

The story of William Rainey Harper College parallels the history of the community college movement in Illinois, an educational phenomenon in the late 1960s.

Late in 1964, while legislators in Springfield were adding the final revisions to the Illinois Community College Act enabling citizens to form their own college districts, concerned citizens in Chicago's northwest suburban communities petitioned for a referendum to vote on the establishment of a college. Within a matter of days after the legislation passed, voters in the four-township area of Elk Grove, Palatine, Schaumburg and Wheeling approved a referendum establishing the Harper district — on March 27, 1965.

Groundwork for the referendum to establish a two-year college had been laid early in the 1960s with a survey of student needs and the establishment of a concerned Citizens' Committee. The success of the committee was exhibited in a 3-2 margin at the polls. Voters returned to the polls 34 days after approving the referendum to elect seven citizens, from among 48 candidates, as the first board of the new college.

Two years later, Barrington School District 224 (now Unit School District 220) annexed to the Harper district, and the boundaries of Harper's 200-square-mile-constituency were established to become Illinois Community College District 512.

Since its inception, Harper College has been most fortunate in having trustees possessing the capacity to work together in planning programs, solving problems and establishing goals unique in the annals of the northwest suburbs. The first board meeting was held in May, 1965. The College had no name, no staff and no facilities, but it did have seven dedicated individuals determined to establish a community college worthy of the area it serves.

During the first year, a president was hired, architects were selected to design and plan a campus, the campus site was chosen and a decision was made to adopt the name of William Rainey Harper College in honor of the "father" of the two-year-college concept.

Voters in the district approved a \$7,375,000 building referendum 4-1 to begin Harper's second year. By September, 1967, the College was staffed and operating with more than 1,700 students attending evening classes in Elk Grove High School, and ground had been broken for a new campus. Harper College was a reality, and the northwest suburbs had the first college in a 125-year history.

Harper serves as a cornerstone in Illinois educational history as the first two-year institution to complete Phase I of its building construction and the first to receive unqualified full accreditation — only six years after its founding — in the shortest possible time in 1971.

Throughout its brief history, Harper has had a record of monumental growth. The 1967 enrollment of 1,725 students jumped to 3,700 in one year, double the projections. When the doors opened on Harper's new campus in fall, 1969, 5,350 students were enrolled. Enrollment topped 20,000 for the first time in fall, 1975.

The College employed numerous off-campus locations, instituted a Weekend College program, and opened an extension campus at Willow Park Center in 1975 to provide additional classroom space for day and evening offerings. The Northeast Center subsequently moved to the Hawthorne School in Wheeling, and in the fall of 1982, to the Stevenson School in Prospect Heights.

A successful referendum held in September, 1975 provided funds for the College to proceed with completion of the present campus, purchase land for a second site, and construct the first phase of buildings on that site when required by enrollment increases.

Buildings G and H were completed and classes begun in the facilities in 1977. Building M, the physical education, athletics and recreation facility, and Buildings I and J opened to classes in the 1979-80 academic year. All plans were subject to approval by the Illinois Community College Board and the Illinois Board of Higher Education.

In 1982, the College established a training center in cooperation with high technology firms in the area. The center was designed to provide instruction and resource materials relating to computer aided design and manufacturing. The innovative educational program of the CAD/CAM Center was structured to assist high technology firms in training their employees, as well as to provide some instruction in this developing technology to students in Harper programs. In 1986, the CAD/CAM Center was relocated from a Schaumburg office to Building H at the campus.

In February 1985, residents of the college district approved a tax rate increase for operation of the College. This was the first increase in tax support for the educational programs, services and operating expenses of Harper College in the 20 years since the College was established.

Changes in population trends over the past ten years indicated that a second campus would not be needed to accommodate projected enrollments, and the decision was made to sell the property which had been purchased in 1975 at Palatine and Schoenbeck Roads in Arlington Heights. The sale was finalized in 1986.

Community Orientation and Involvement

From the beginning, College supporters have been committed to the concept of an institution oriented to its community. Harper has enjoyed a heartening involvement and interest by members of the community who continue to give countless hours to accomplish key phases of the College's programs.

Advisory committee members selected from the community for their expertise and knowledge give support to Harper on career programs, management training seminars for business and industry, women's programs, senior citizens' program, public relations, the College's long-range plan and fund raising.

Community leaders serve as directors of the Harper College Educational Foundation, which provides scholarships and supports special projects to enhance the educational programs of the College. In 1981, the Friends of Harper organization was formed as a support group for the College by citizens interested in promoting awareness of programs and services offered by Harper.

Harper continues to evaluate itself as it plans for the future. Will planned classroom space be adequate? Is Harper meeting community needs in the career/vocational fields? How well is the College serving its constituency in terms of preparing students to meet their future educational and career requirements? Is Harper College, in

fact, continuing to provide an outstanding program of higher education?

As Harper plans for the future, answers to these questions will be sought constantly and reevaluated to enable the College to continue to be accountable to the community it serves.

College/Community Programs

A student-faculty Cultural Arts Committee provides the College and community with programs representative of the various arts —dance, drama, exhibits, film, music, and a lecture series for discussion of relevant issues. These programs are sponsored by the Student Activities Office and financed by student activity fees.

Philosophy

An outstanding program of higher education for the community it serves is the guiding philosophy of William Rainey Harper College.

Created by a community responsive to contemporary insistence on more education for more of its citizens, the College is determined to meet the 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 needs for two years of high quality transferable collegiate credit, the College recognizes 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 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 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.

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 or she can make for himself or herself in today's world and to provide the necessary training for his or her social and personal goals. To this end, the College must provide those cultural experiences which will open to the student the heritage of the educated person.

Mission

The mission of William Rainey Harper College, as part of the system of public community colleges in Illinois, is to provide to District No. 512 residents a comprehensive postsecondary education which includes transfer, career and continuing education programs. In addition to fulfilling this primary mission, Harper College also offers specialized programs and services in cooperation with local school districts, area business and industry and other community colleges. The educational and cultural opportunities offered to students and community residents are developed and enhanced within the Harper College philosophy of academic excellence, service to the community and innovative educational leadership.

Programs developed to meet the needs of the community are offered at reasonable cost to students, district taxpayers and the State of Illinois. The ultimate goal of Harper College is to provide an educational environment that allows the individual the maximum opportunity to develop through successful learning experiences.

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 information in particular subject fields but contributes toward an enlightened and integrated view of life. General education serves to complement specialized training designed to prepare the student for an occupation, whether 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 the power to communicate them. Thus, efforts to assume the role of a citizen and to earn a livelihood are set in a value perspective 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.

Objectives

Specific objectives of the College are:

1. To provide the first two years of baccalaureate education which will offer students opportunities to pursue liberal arts, sciences and preprofessional curricula designed to prepare those students to transfer to four-year colleges and universities and/or to satisfy individual educational goals;
2. To provide educational opportunities in occupational, vocational, technical and semi-technical fields which will enable students to acquire the skills and knowledge necessary to enter a specific career;
3. To offer appropriate general education opportunities to assist individuals in participating more effectively in a free society as well as providing those individuals with personal and cultural enrichment;
4. To provide opportunities for training, retraining and upgrading of skills in order to facilitate adjustments in a work environment that is undergoing rapid technological change;
5. To provide adult education and remedial instruction;
6. To provide community education, including continuing education designed to meet various individual goals;
7. To provide services designed to support the programs and direction of the institution, including, but not limited to, admissions, counseling, testing, tutoring, placement, financial aid and special assistance for the disadvantaged student;
8. To provide educational resources for the use of students and community residents through learning resources and library services;
9. To provide selected public services which employ the available resources of the College and utilize the talents of faculty and staff in such a manner as to make significant and substantive contributions to the community; and
10. Whenever available, to provide and encourage the use of the College's facilities and services for educational and cultural purposes by community members, under certain provisions and controls established by the College.

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 provides 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 a summer session. Day and evening classes are conducted throughout the College year. The College also offers a sequence of transfer courses and selected occupational and continuing education courses during the weekends of the fall and spring semesters.

College Hours

Business Hours: Offices will be open for business Monday through Thursday from 8:00 am to 8:00 pm and on Friday from 8:00 am to 4:30 pm. The Bursar's Office is open Monday through Thursday from 8:00 am to 8:00 pm and Friday from 8:00 am to 4:30 pm. The Registrar's Office is open Monday through Thursday from 8:00 am to 8:00 pm, Friday from 8:00 am to 4:30 pm and Saturday from 9:00 am to 12:00 noon.

Class hours are scheduled Monday through Friday from 7:00 am until 11:00 pm and on Saturday from 7:00 am until 12:00 noon. The campus is closed on Saturday afternoon and Sunday.

Summer hours may differ from those listed above.

Campus Facilities

With the completion of the initial buildings, the Harper campus was opened to 5,400 students in September, 1969. Additional facilities were needed in order to keep up with the increasing enrollment which eventually led to a complex of 15 informal contemporary buildings totaling 733,990 square feet nestled in the rolling terrain of 200 rural acres. On-time delivery of the buildings marked 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 complex; a vocational-technical center; a park management and greenhouse facility; a College Center for student-related activities; an administrative wing including registrar's and business offices and data processing center; and a central utility facility serving the entire campus.

Since the first phase of the campus was completed, additions to the science complex, fine arts wing, and central utility facility have been made. Buildings G and H were completed in 1977, and the physical education building plus two other classroom-specialized career program buildings (I and J) were opened in 1980.

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

The 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 streets, "earthtone" 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.

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.

The Harper campus is an exciting environment for learning, complete with the latest educational tools. Students, alumni and community residents find pride in a local campus which provides educational and cultural opportunities as well as a conference center for clubs and civic organizations.

College Accessibility

Harper College programs and facilities are accessible to handicapped persons.

Complete College services may not be available at all off-campus or extension locations.

Parking

All members of the College community, including students, faculty and staff, are required to display their Harper parking permit decal, and park in the area designated for them. The speed limit in all parking lots is 15 miles per hour, and Illinois Motor Vehicle Laws will be enforced on the campus.

The Public Safety Office in Building B issues parking permits.

Persons with disabilities may apply for special permits in Health Services, A362. Senior citizens over 65 and other students needing special parking arrangements should contact Health Services, A362, extension 2268.

Bookstore

The Bookstore, located on the second floor of the College Center, offers a full range of new and used textbooks, current paperbacks, magazines, newspapers, student supplies, educational aids and sundries.

Current textbooks which will be used in the next semester will be purchased from students each semester during the week of final examinations. Certain study materials are not eligible for buyback.

Full refunds for Bookstore purchase will be given on presentation of receipt. Returns are accepted during the first two weeks of classes in the fall and spring semesters and the first week of classes in the summer session.

Convenient store hours are posted near the entrance to the Bookstore.

Learning Resources Center

The function of the Learning Resources Center is to support the instructional program of the College by providing appropriate services to faculty and students. The staff is ready to help in the development, acquisition and use of a variety of print and media materials. The LRC collection contains about 100,000 volumes, more than 900 magazines, and extensive back issues of the *Chicago Tribune* and *New York Times* on microfilm, as well as tapes, records, slides, films, videotapes and film strips.

LRC Library Services

Library Services oversees all circulation of the LRC materials in the collection. Reference service, including arrangements for bibliographic instruction and online searching, College archives, reserve materials and copy machines are available on the second floor. The technical services area oversees the acquisition and cataloging by Library of Congress classification of all material added to the LRC collection.

LRC Media Services

The media services area provides materials and equipment aimed at making instruction more effective. Located in the middle and south side of the first floor, the television studio is available for staff and student productions. Also adjacent to this area is media distribution and engineering/maintenance service.

Flexible Facilities for Instruction

The library has a computerized, on-line catalog which can be accessed through strategically placed terminals on the first and second floors of the LRC. To augment manual methods of research, five computerized indexes (CD-ROM) are also available for patron use.

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

Other self-instructional spaces and the LRC independent study area, each equipped with a variety of media, are used to support individualized instruction.

Harper College cable TV channels reach 12 communities, enabling students to view telecourses and other programs in their homes. Teleconferences and a variety of national and international programs are available via a satellite antenna system located on the Harper campus.



Admission Information, Tuition and Fees

Program Offerings

Admission

General Admission Requirements

Additional Admission Information

Readmission

Assessment and Placement

Residency

Tuition and Fees

Chargeback Tuition

Tuition Refund Policy

Withdrawals

Enrollment Status Verification

Program Offerings

Students may select one of the following options and should follow the procedures identified:

Baccalaureate Transfer Program

This option is available to students interested in selecting courses transferable to institutions offering baccalaureate degrees.

Individuals seeking admission to the transfer program should see the "additional information section" below for information regarding this program.

Career Programs

These sequences of courses are designed for individuals who desire to pursue a specific curriculum to prepare them for a particular career.

Other Offerings

Courses in developmental English and mathematics, study skills, and English as a Second Language are available for students who need to improve these skills in order to succeed in college studies. Students are admitted to these courses based on placement test scores.

In addition, the Adult Educational Development Department offers instruction in reading, writing, mathematics and nonnative literacy as well as preparation for GED and citizenship tests.

Continuing Education (Non-Credit Program)

Continuing Education courses have been established to provide an educational service to the public and are not a part of college credit programs. Students need not apply for admission and should register according to registration procedures as outlined in the current course schedule.

Admission

Eligibility

All high school graduates or the equivalent (GED) are eligible for admission to the College. A non-graduate 16 or 17 years of age who has severed his or her connection with the high school system, as certified in writing by the chief executive officer (or designee) of the high school district in which the student has legal residence, or a non-graduate 18 years of age or older, may be admitted if he or she demonstrates the capacity to benefit from programs and courses offered by the College. High school students may be admitted to selected courses upon the written approval of their high school principal (or designee) and the designated College admissions official.

To be placed in some programs in the College, the applicant may have to meet additional requirements as specified by that program and/or the Illinois Public Community College Act.

General Admission Requirements

Upon application to the College, students are

asked to indicate their enrollment plans and should note the following guidelines to assist them in making their decisions.

Full-time students enroll in at least 12 semester hours of credit courses. *Part-time students* enroll in less than 12 semester hours of credit courses. *Degree-seeking students* plan on pursuing a College degree.

Full-time applicants will be required to:

- A. Complete a Harper College application.
- B. Pay a \$15.00 nonrefundable application fee.
- C. Submit an official copy of their final high school transcript. Students who are enrolled in high school at the time of application must, in addition, submit a current high school transcript. Students who completed the GED must submit an official copy of GED results.
- D. Submit official transcripts from all colleges attended.
- E. Submit an official copy of ACT results. (This requirement will be waived for students who have completed 12 or more semester hours of college level credit at a C or above level.)

Degree seeking part-time applicants will be required to:

- A. Complete a Harper College application.
- B. Pay a \$15.00 nonrefundable application fee.
- C. Submit an official copy of their final high school transcript. Students who are enrolled in high school at the time of application must, in addition, submit a current high school transcript. Students who completed the GED must submit an official copy of GED results.
- D. Submit official transcripts from all colleges attended.

Non-degree-seeking part-time applicants will be required to:

- A. Complete a Harper College application.
- B. Pay a \$15.00 nonrefundable application fee.

Students who do not fulfill the appropriate admission requirements will be permitted to register for the semester for which they are applying, but will be prohibited from registering for subsequent semesters until all admission requirements have been fulfilled.

Additional Admission Information

Students Applying For Admission to Baccalaureate Transfer Program

The Illinois Board of Higher Education has approved minimum high school subject requirements for admission to public universities and community college baccalaureate transfer programs effective in 1993. Although these requirements do not go into effect until 1993, the following subject pattern is recommended for students planning to transfer to a public university in Illinois:

- Four years of English (emphasizing written and oral communications and literature)
- Three years of social studies (emphasizing history and government)

- Three years of mathematics (introductory through advanced algebra, geometry, trigonometry, or fundamentals of computer programming)
- Three years of the sciences (laboratory sciences)
- Two years of foreign language, music, or art

Students Applying to Limited Enrollment Programs

The following career programs have been identified as limited enrollment programs: Dental Hygiene, Dietetic Technician, Emergency Medical Training, Nursing (RN and LPN) and Operating Room Technician. Each of these programs has special admission requirements.

Consult the curriculum section of this Bulletin to determine the specific admission requirements of a particular limited enrollment program.

Selection for these programs is determined by the following: Residents of the Harper College district who complete the application process by the program's application deadline will receive preferential consideration in the selection process. If, on that deadline date, more completed applications have been received than space available, those students with the highest qualifications will be selected.

The Interpreter Training and Legal Technology Programs are also limited enrollment programs and also have special admission requirements. Contact the Admissions Office for additional information.

International Students

Students from other countries attending Harper College are termed "international" students, according to the following definition: "A person who is a citizen of a country other than the United States who has a visa for educational purposes with an intent to return to his homeland upon completion of his educational program."

International students must carry a minimum of twelve (12) semester hours. Because no scholarships or grants are available to international students, it is essential that students from outside the United States have sufficient funds to cover their expenses while in this country. The international student tuition is \$144.28 per semester hour (subject to change without notice).

International students are not considered residents of the College district for purposes of admission to Limited Enrollment Programs.

International students will be required to submit the following to the Admissions Office at least three weeks prior to the beginning of the semester or summer session in which they intend to begin their studies:

1. A completed Harper application with a non-refundable \$15.00 application fee.

2. Official transcripts for at least the last four years of secondary school study and any university-level or postsecondary school work that has been completed or attempted. All these records must list all subjects taken, grades earned or examination results in each subject, minimum and maximum grades possible and all diplomas and certificates awarded. If these documents are not in English, they must be accompanied by authorized English translations.

3. An official Test of English as a Foreign Language (TOEFL) score report. To be considered for admission, students must receive a minimum converted score of 500.

4. An affidavit of support signed by the party who will be supporting the student. The affidavit must be accompanied by statements from the bank and employer of the party who will be supporting the student. (If students are able to document sufficient financial resources to support themselves, this will be considered adequate.)

5. A written statement regarding what the student plans to study at Harper.

6. A Harper College "Educational Background Information Sheet."

Early Admission Program

High school students age 16 and over may enroll concurrently at the College if they obtain written approval of their high school and of the designated College admissions official. These students should follow the appropriate general admission requirements as stated above.

Summer School Students

Students who apply for summer school only should submit an application form and an application fee. Students starting first with summer session and planning to continue should follow the guidelines for full-time or part-time students, as appropriate, as outlined in the General Admission Requirements section of this Bulletin.

Readmission

A student who has previously attended Harper College and who is returning after an absence of one semester or more does not need to complete an application for readmission. (An exception to this is a student who is applying for admission to a Limited Enrollment Program. Contact the Admissions Office for details.) If a student has attended any other educational institution since attending Harper, official transcripts from each college attended should be submitted to the Admissions Office. Students dismissed from Harper for disciplinary reasons must be reviewed by Harper's vice president of student affairs.

Assessment and Placement

Harper College welcomes all who can benefit from the courses and programs offered. An assessment policy has been initiated to help students enter courses in which they have the best chance for success. The assessment battery is required of all new full-time students and any student entering his/her first college-level English or math course. The results of these tests are used to determine course placement.

Residency

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

Resident

A student whose residence (legal domicile) has been determined to be within the William Rainey Harper College District (Illinois Community College District 512) at the start of the term. Final determination is made by the dean of admissions and registrar.

*Resident tuition is also available to persons who reside outside the district but are employed full time by companies within the Harper College district, through an agreement between the College and the company. Information is available from the Admissions Office.

Non-Resident

A student whose legal domicile is in Illinois but outside Community College District 512.

Out-of-State

A student whose legal domicile is outside the state of Illinois.

International

A student whose legal domicile is outside the U.S. and is attending Harper College on a student visa.

Tuition and Fees (subject to change without notice)

Tuition

Resident Tuition — *(includes employees of companies within Harper district)	\$30.00 per semester hour
Non-Resident Tuition (see Chargeback) —	\$111.89 per semester hour
Out-of-State Tuition —	\$145.54 per semester hour
International Student Tuition —	\$145.54 per semester hour

Senior Citizen Tuition (Resident) — (60-64)	\$6.00 per semester hour
Senior Citizen Tuition (Resident) — (65 and older)	Free

All tuition and fees are due and payable during registration unless arrangements are made at the Office of Financial Aid or the Office of the Registrar, A213. Failure to do so may result in being withdrawn from classes.

A one-time application fee of \$15.00 is charged to each new student applying for admission for credit courses. The fee, which is nonrefundable, covers the cost of processing the application.

Activity Fee

Students enrolled for 12 or more credit semester hours will pay a \$15.00 activity fee for each semester; students enrolled for less than 12 hours will pay a \$7.50 activity fee. Students enrolled for summer school credit hours will pay a \$7.50 activity fee. No activity fee is charged for students enrolled only in credit-free (Continuing Education) courses or Harper classes taught off-campus (extension courses). However, students enrolled only in credit-free and extension courses may pay the activity fee and obtain an activity card (see: Student Activities).

Special Music Fee

Students enrolled in minor applied music will pay \$76.00 per semester. This entitles the student to one private lesson per week. Major applied music students will pay \$152.00 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 \$15.00 includes the cost of the diploma (see: Graduation Requirements).

Laboratory and Music Fees

Laboratory and music fees will be indicated at time of registration.

Parking Fees

Parking fees will be assessed as follows:

\$3.00 for fall semester
\$3.00 for spring semester
\$1.50 for summer session

No parking fee is required for one- or two-day Continuing Education seminars or workshops.

Chargeback Tuition

Resident Students desiring to pursue a certificate or degree program not available through Harper College may apply for chargeback tuition if they attend another public community college in Illinois which offers that program. (See section on cooperative programs.)

Students approved for chargeback 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 chargeback tuition is made in the Office of the Registrar 30 days prior to the beginning of the term for the college in which the student wishes to enroll.

Non-Resident Students approved for chargeback tuition from their resident district will pay Harper's resident tuition and their district will reimburse Harper for the balance of the non-resident tuition. Non-resident students attending Harper without chargeback will pay the non-resident fees (see: Tuition and Fees).

Tuition Refund Policy

Tuition refund requests shall be made to the Office of the Registrar. Refunds will be made according to the following schedule:

<u>Regular Credit Courses</u>	<u>Percent of Refund</u>
During first week of class*	100%
During second week of class	75%
No refund after second week of class (Eight-week classes prorated, including summer session.)	

Any extraordinary circumstances involving tuition refund shall be brought to the attention of the dean of admissions and the registrar.

*First week of class is defined as the first 6 calendar days of the term for 16-week classes and the first 3 calendar days of the term for 8-week classes. Other classes not following the regular schedule will be prorated based on the length of the course. First day of semester of term is defined as the day when "classes begin" according to the official College calendar at the beginning of this Bulletin.

Withdrawals

If students wish to withdraw from a class after regular registration, they must withdraw officially by submitting the appropriate forms to the Office of the Registrar. A student who does not withdraw officially from a class is subject to an "F" grade.

Procedures for a medical withdrawal are available in the Health Services Office.

The following guidelines determine grades for an official withdrawal from a 16-week course; the timetable for withdrawing from other courses (8-week, 4-week, etc.) will be determined on a pro rata basis according to these guidelines:

1. Classes dropped prior to the third week will not become a part of the student's permanent record.
2. A "W" grade will be assigned to a class dropped after the beginning of the third week and prior to the thirteenth academic week.
3. A grade of "F" will be assigned to a class dropped after the twelfth week of a full semester course.
4. The deadline to withdraw from 16-week classes is printed in the official College calendar for the year in question.

Enrollment Status Verification

Students may have current or previous enrollment verified by the Registrar's Office, A213.

- Full-time Status**—a student is considered full-time if he/she is enrolled in twelve or more credit hours (six credit hours for the summer term).
- Part-time Status**—a student is considered part-time if he/she is enrolled in less than twelve credit hours (less than six credit hours for loan deferments).
- Half-time Status**—a student is considered half-time if he/she is enrolled in six or more credit hours but less than twelve credit hours (three credit hours for the summer term).

A current semester verification is based on the enrollment status of the student on the first day of the second week of classes (after late registration.) A previous semester verification is based on the actual dates of attendance.



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Grading

At the end of each semester, the student will receive a grade for each class in which he or she was enrolled at the beginning of the third week of the semester. The official grade point average is computed on the basis of final grades awarded at the end of each semester or term.

Grade Points

Grade points are numerical values which indicate the scholarship level of the 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
K	Unfilled audit	.0
P	Pass	.0
W	Withdrawal	.0
X	Incomplete	.0

The following classes are not computed in the cumulative grade point average:

- Communication Skills — all courses
- English as a Second Language — all courses
- Math — below 100 level
- Reading — below 100 level
- English — below 100 level
- All "P" graded courses

Academic Honors*

Trustees' Honor List

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

Dean's Honor List

Each semester, students achieving a grade point average of 3.50 to 3.74 are placed on the Dean's Honor List.

Honors List

Each semester, students with a grade point average of 3.25 to 3.49 are given recognition on the Honors List.

*Students must have accumulated 12 semester hours at Harper to be eligible for an academic honor.

Standards for Academic Achievement

Rationale for Standards

The Standards of Academic Achievement at Harper College have been established in order to:

-guide the student in pursuit of academic success.

The Standards assure the availability of services which can help students reach success as well as clearly notify them of their progress.

-maintain an academic environment that clearly defines expectations for progress.

The Standards communicate the College's definition of academic progress. The Standards clarify College expectations and afford the student a guideline for setting realistic goals.

-clarify the roles and responsibilities of students, faculty and administrators.

The Standards define the role of the student in terms of academic performance and responsibility as well as the role of College personnel in evaluating academic performance and intervening with special assistance at specific intervals.

-allow the institution to maintain its academic integrity.

Categories of Standards

Academic Caution — Students who have attempted* seven and not more than 15 credit hours and have received a cumulative grade point average (GPA) of less than 2.0 will receive a caution notice and the recommendation to take advantage of various programs and services designed to help them achieve success.

Academic Warning — Students who have a cumulative GPA of less than 2.0 and have attempted* 16 or more credit hours, or have completed their second successive semester with a cumulative GPA of less than 2.0, are given academic warning. These students will be advised to restrict their enrollment to a maximum of 12 credit hours and may have restrictions imposed upon them.

Probation — Students who were academically warned the previous semester and have both a semester GPA and a cumulative GPA of less than 2.0 will be placed on probation. These students will be restricted to a maximum of 12 credit hours and will be required to participate in success-oriented strategies.

Suspension — Students who have attempted* 40 or more credit hours and have had three successive semesters with a cumulative GPA of less than 2.0 are placed on suspension. These students will be suspended from the College for one full semester (fall or spring). Students must be involved in success-oriented strategies upon their return.

Dismissal — Students who have returned to the College after one semester of suspension and who receive a semester GPA of less than 2.0 will be dismissed for a minimum of two full semesters (fall/spring or spring/fall). After this dismissal period, these students must petition the vice president of student affairs for reinstatement.

*Refers to receipt of grades A, B, C, D and F.

Status	Category	Result
Academic Caution	Attempted 7+ credit hours and cumulative GPA less than 2.0	Caution and recommendations of success-oriented strategies
Academic Warning	Attempted 16 or more credit hours with cumulative GPA less than 2.0 or second successive semester with cumulative GPA less than 2.0	Recommend restriction to maximum 12 credit hours. May have restrictions imposed.
Probation	Previous semester with Academic Warning and both semester GPA and cumulative GPA less than 2.0	Mandatory restriction to maximum of 12 credit hours. Required success-oriented strategies.
Suspension	Attempted 40 or more credit hours and at least three successive semesters with cumulative GPA less than 2.0	One semester suspension. Required success-oriented strategies upon return.
Dismissal	One semester after suspension with semester and cumulative GPA less than 2.0	Dismissal of two semesters. Must petition for reinstatement.

In addition to the Standards for Academic Achievement, federal and state financial aid recipients must also comply with the satisfactory academic progress requirements for financial aid as follows:

1. A student must be enrolled as a regular student in a program of study leading to a degree or certificate or in a transfer program leading to a baccalaureate degree.
2. Except for Illinois Veterans Grant recipients, a student must enroll for a minimum of six (6) credit hours per semester.
3. A student must complete fifty percent (50%) of the cumulative hours enrolled in for two consecutive semesters.
4. A student must complete his/her educational objective, degree or certificate within a specified maximum time frame.

Contact the Office of Financial Aid and Veterans' Affairs for complete details of this requirement.

Repeat Policy

Students will be allowed to repeat courses and attempt to earn a higher grade. When a course has been attempted more than once, only the highest grade received for that course will be used to compute the cumulative GPA. The lower grade(s) will remain on the transcript but will not be used to compute the Harper College cumulative GPA. A student transferring to another college should check that school's repeat policy; it may differ.

Forgiveness Policy

Under limited circumstances, a student may petition to have previously earned "F" grades removed from the cumulative grade point average but not from the student record. Eligibility guidelines and procedures are available in the Student Development Centers.

Attendance Policy

Each instructor or program has the responsibility to establish the attendance requirements which best suit the educational goals of that class or program.

Plagiarism and Cheating

Plagiarism, which is the illegitimate use of source materials in written work, and cheating are fundamental offenses against the integrity of an academic institution and are serious threats to the academic standards of the College and its student body. Disciplinary measures for a student guilty of plagiarism or cheating may be determined by the instructor or the vice president of student affairs according to the seriousness of the offense.

Incomplete Grades

A student may be assigned a grade of "X" for unfinished work in a course provided the work was incomplete because of circumstances deemed to be unavoidable or uncontrollable (to be determined by the instructor). The work to be completed will be assigned by the instructor. The unfinished work must be satisfactorily completed by the midterm of the following 16-week semester. Failure to do so will result in a grade of "F."

Auditing a Course

A student who wishes to audit a course will be required to pay full tuition and fees and must obtain approval from the instructor, department chair or dean prior to enrollment in the course. At that time, a mutual set of expectations will be determined.

Registration for audit status may be completed only during late registration (during the first week of the term) and must be the original enrollment in the class. Changes from credit to audit are not permitted. All students taking a course for credit are given priority in registration.

Upon completion of the course, the instructor will assign an "H" grade if the agreed upon expectations are met, and a "K" if they are not.

Transcripts

Official transcripts of a student's academic record will be issued and sent, upon written request, to other educational institutions and prospective employers. A fee of \$2.00 is charged for each copy. The College reserves the right to withhold transcripts of persons who have past due monetary obligations such as tuition, fees or materials.

Transfer of Credit to Harper College

A student who has attended any other college(s) must have an official transcript from each college attended sent to the Admissions office immediately upon making application. A student may transfer credit to William Rainey Harper College according to the following conditions:

1. The collegiate institution previously attended must be a regionally accredited institution awarding college credit.
2. Credit may be transferred to Harper College for courses earning credit and successfully completed with a grade of "D" or above if the student's cumulative grade point average (GPA) is 2.0 or above ("C" average) at the previously attended institution. If the student's cumulative GPA is less than 2.0 at a previously attended institution, credit may be transferred for courses earning credit and successfully completed with a grade of "C" or above. The student's work at each institution is evaluated independently if several institutions were attended. A student must petition for evaluation of transfer credit through the Registrar's Office.

3. Credit may be transferred, but the grades earned at other institutions are not transferred, nor are the grades included in computing the cumulative GPA at Harper College. Elective credit may be awarded for transfer course work with no direct equivalency at Harper College.

4. Courses which are a part of a department or program of study not offered by Harper College are considered nontransferable.

5. Evaluation of credentials from a foreign country may be requested through the Registrar's Office.

Student Records Policy

The Student Records policy at Harper College is governed by the Family Education Rights and Privacy Act of 1974. The law and the guidelines for its use at Harper College are available in the Office of the Registrar (See Student Handbook).

Student Complaint Process

A Student Grievance policy and procedure is available for students who feel improper, unfair, arbitrary or discriminatory judgments or improper use of procedures have been applied to them directly by the college or a college representative. A copy of the procedure can be obtained in the Student Senate office, Student Activities office, or office of the vice president of student affairs.

Student Services

Student Development

Student Development Counseling Centers

Center for New Students

Career Planning Center and Placement Office

Disabled Student Services

Assessment and Testing Offices

Alternative Credit Programs

Open Test Center for GED

Learning Assistance Center

Tutoring Center

Financial Aid

Veteran Services

Student Activities

Health Services

Conduct

Athletics

Food Service

Student Senate

Child Learning Center

Student Development

Student Development Counseling and Educational Centers
Center for New Students and Orientation
Career Planning Center and Placement Office
Disabled Student Services
Assessment and Testing Offices
Alternative Credit Programs
Open Test Center for GED

This area of the College is designed to assist students in assessing, identifying and achieving their goals. Various professional services and programs are offered to maximize responsible student decisions relating to education, career, social and personal issues.

The offices and centers listed below are all a part of this division and together offer programs for the development of all students at Harper College.

Student Development Counseling and Educational Centers

Two centers, located in D142 and I117, are specifically designed to help students with their educational plans. This includes course scheduling and transfer information regarding four-year schools, as well as information on Harper's career programs.

The Student Development centers maintain a collection of information on college selection as well as college catalogs for personal use by students. Up-to-date transfer information on area colleges and universities is available, including specific information on program requirements for transfer to these institutions. In addition, the library maintains a subscription service with current copies of all U.S. college catalogs on microfiche.

Students having personal, social or emotional concerns which may impede their satisfactory progress and success as students at Harper College are encouraged to consult with Student Development counselors. These highly-trained professionals are available to help students or to make referrals as necessary.

In addition, these centers offer special counseling for adult students on campus. Student Development staff will provide counseling geared especially to meet the needs of adult students. Individual, as well as group counseling is available.

Center for New Students and Orientation

Another Student Development Center, located in F132, is available to students entering the College for the first time. The purpose of the center is to assist all entering students in becoming familiar with the College and to provide preliminary information which will assist students in their transition to Harper College.

This center specializes in assisting the returning

adult student as well as the traditional student. Individual and group counseling is available. A major function of this Center is to organize New Student Orientation programs prior to the beginning of each semester. Orientation programs are designed to help the new student make a smooth transition into the college setting. It is an opportunity to meet other students as well as to become familiar with the campus. Students begin setting goals and are assisted in the selection and registration of courses.

Career Planning Center and Placement Office

This Student Development Center, located in A347, assists students in making career and life planning choices. Students wishing assistance in their career choice or in gaining skills which will aid them in the job hunting process may visit the Career and Life Planning Center. A variety of career information is available, including DISCOVER, a computerized guidance program. Student Development faculty are available to assist in the decision-making process through individual counseling and testing as well as career planning courses and seminars.

The Harper Placement Office is located in this Center. The Placement Center helps students with their employment needs (full-and part-time). The Placement personnel serve as liaisons between Harper College students, faculty/staff and potential employers. This service is designed to help the Harper student acquire the skills necessary for successful job searching as well as connect the student with potential employer contacts.

Disabled Student Services

An orientation program, academic advising, counseling and support services are available to students with disabilities. All new students will be interviewed and will participate in the College assessment program. Testing can be adapted to meet individualized needs (materials in Braille, large print or audio format), and extended time can be allowed. New students should identify themselves, apply for supportive services and furnish the D.S.S. office with pertinent information about the nature and extent of their disability. This information will be kept confidential and will be used to plan for appropriate services and accommodations. Students are expected to take responsibility for the management of their services. Besides providing services, the D.S.S. office offers students the use of a wide variety of specialized equipment (Kurzweil Reading Machine, Phonic Ear FM Transmission System, a computer with large print, speech output, etc.). Some equipment may be borrowed for personal use. The D.S.S. office works closely with the faculty and staff of other departments at Harper to insure that the campus is physically and programmatically accessible to disabled students. Students are integrated into the

mainstream of College life and resolve problems through the ordinary channels as much as possible.

Students interested in securing these services should contact the Disabled Student Services Office at the earliest possible date. To receive services, students must turn in a D.S.S. schedule form with requests for services noted. Availability of some services may be limited for students who turn in schedules after the last full day of open registration, prior to the beginning of a semester. The D.S.S. office will assist students in choosing their courses, setting career goals, maintaining good academic standing and planning for after college. The mission of D.S.S. is to enable students to reap the full educational and social benefits of college.

Assessment and Testing Services

This Student Development office is located in Building A, Room 148 and is responsible for the coordination and administration of academic assessment and other testing programs available to Harper College students and community members. All new students are required to participate in an orientation program that includes academic assessment testing. New students assess their academic strengths in English, reading and mathematics through a battery of tests. Tests for telecourses, independent study programs, proficiency and CLEP testing and entrance examinations for limited enrollment programs are coordinated in this office. Harper College also participates in national testing programs, either as a test center or as a source of information.

A Student Development program consisting of vocational/interest tests and/or personality measures is available without charge to students enrolled in at least six (6) credit hours (three credit hours in an eight-week term). Students must first meet with a counselor to determine which tests are most appropriate. Test results will be interpreted later by counselors and can give students valuable information in making decisions about plans and courses.

Alternative Credit Programs

Students with wide varieties of educational experience may convert this experience into college credits on the basis of satisfactory performance on proficiency examinations. A person who has been officially accepted as a Harper student may apply for and receive college credit by meeting the course objectives for no more than one-half of the academic program required for graduation at Harper. This could include Advanced Placement (AP) credit, College Level Examination Program (CLEP) credit, Harper College Proficiency Examination credit, the American Council on Education recommendations for Defense Activity of Non-Traditional Educational Support (DANTES, previously USAFI) and the Program on Noncolle-

giate Sponsored Instruction (PONSI).

Guidelines, policies and procedures for these programs are available from the Office of Assessment and Testing Services.

Advanced Placement Program (Offered Only in High School) Credit and placement will be awarded to students with adequate Advanced Placement (AP) examination grades in areas comparable to the Harper curriculum. The granting of credit and/or advanced placement will be determined following the guidelines listed in the Assessment and Proficiency Examination bulletin available in the Office of Assessment and Testing Services.

College Level Examination Program Credit through the College Level Examination Program (CLEP) is available to all students who feel they have acquired the necessary proficiency level to meet the requirements in a variety of subjects not covered by Harper College proficiency tests. A student who has previously completed CLEP tests should request that the scores be sent to the Office of Assessment and Testing Services. Information regarding CLEP examination may be obtained by requesting a copy of the "Moving Ahead with CLEP" and Harper CLEP schedule from the Office of Assessment and Testing Services. Criteria for granting credit have been determined by each academic division. Granting of CLEP credit by Harper College is contingent upon completion of application procedures.

Harper College Proficiency Examination Program Departmental proficiency tests have been created by Harper College faculty for many courses not available through the CLEP program. Written permission to take a proficiency test must be received from the appropriate program coordinator or department chairman and brought to the Office of Assessment and Testing Services. Permission forms are available in the office of each academic division.

American Council on Education Credit Recommendations Credit will be granted for extra-institutional educational experience earned through formal military training and the Program on Noncollegiate Sponsored Instruction (PONSI) and recommended by the Office on Educational Credit and Credentials of the American Council on Education. Veterans must submit the DD Form 214, Armed Forces of the United States Report of Transfer or Discharge, a transcript of in-service training from the appropriate service, or an official report of educational achievement through Defense Activity for Non-Traditional Education Support (DANTES, previously USAFI) for credit evaluation. DANTES tests equivalent to College Level Examination Program (CLEP) tests will be evaluated using Harper College CLEP standards. Students with credits from the Program on Noncollegiate Sponsored Instruction (PONSI) must submit a transcript from the

business corporation, government agency or professional association where the credit was completed. The American Council on Education recommendations for these extracurricular credits will be considered only if the courses are equivalent to the courses offered by the College.

Open Test Center for GED

Harper College is an approved test center for the General Educational Development test. Upon passing the GED test, a high school equivalency certificate will be issued by the Cook County Superintendent of Schools. Tests are offered monthly at Harper.

Learning Assistance Center

The Learning Assistance Center (LAC) offers students academic support by providing tutoring in most academic courses and providing courses in basic skills to those who need to prepare for college level work.

Tutoring Center

Academic assistance at no charge is provided to students in most subject areas. Students must be registered for the course for which they are seeking help. Tutoring is available on an appointment and a limited walk-in basis. Further information can be obtained from the Tutoring Center, F132, extension 2539.

LAC Courses

The LAC offers the following courses which are designed to increase each student's opportunity for success:

- CMN 097¹ Spelling Improvement
- CMN 098¹ Vocabulary Improvement
- ENG 098^{1,2} Composition
- RDG 098^{1,2} Fundamentals of Reading
- RDG 099^{1,2} Developmental Reading
- RDG 105³ College Reading
- PSY 106³ Practical Psychology (Learning Skills)
- RDG 100³ Reading for the Technologies

¹Non-degree credit. Does not transfer. Does not count toward graduation.

²Mandatory enrollment based on Harper assessment test.

³Transfer credit in some programs. Check with college to which you intend to transfer.

Financial Aid

Harper College offers a diversified and comprehensive financial aid program. Harper participates in the following:

Federal Programs

- College Work Study (on and off campus)
- Perkins Loan
- Armed Forces Tuition Assistance
- Supplement Educational Opportunity Grants
- Pell Grant

State-Sponsored Aid Programs

- Illinois State Scholarships and Monetary Awards
- Illinois Guaranteed Loans

- Illinois Military Scholarships
- Department of Rehabilitation Services
- Illinois National Guard Scholarships

Scholarships

Each year the Board of Trustees of Harper College offers to graduates of high schools within the Harper district a series of scholarships called Trustee Scholarships. The Trustee Scholarship will also be awarded to four students selected from the general College in-district population who are not recent graduates from one of the district high schools.

During the 1980-81 academic year, several scholarships for Harper students were established based primarily on academic achievement. The Harper College Educational Foundation "Award for Excellence" is the highest honor a Harper student can achieve. Application for this scholarship is open to students from all college degree programs who meet criteria of grade point average, service and faculty recommendation.

Students in the Technology, Mathematics and Physical Sciences Division may apply for scholarship awards from a fund established by the Division. Additional scholarships in this area of study have been provided by UOP, Square D Foundation, Northrop Corporation and Amersham Corporation. Academic achievement is a major qualification for these scholarships.

In addition, many private and public agencies are ready and able to assist the worthy college student. Funds are also available through local organizations such as women's clubs, Rotary and chambers of commerce.

Endowments/Scholarships

- Amersham
- Robert R. Randall
- Kathleen Fagan Memorial
- Glenda F. Nuccio Memorial
- Donald G. Albrecht Memorial
- Michael LaVanway
- Executive Secretary Scholarship
- UOP Scholarship
- Square D 2+1
- Northrop 2+1
- Fine Arts Scholarship
- HEBA Music Scholarship
- Borg-Warner Transfer
- Outstanding Nursing Student Scholarship
- American Can Scholarship
- Cunningham Memorial Mathematics Scholarship
- Rotary Scholarship Fund
- Motorola Scholarship for Excellence
- Lou Buchenot Scholarship
- Building Codes Scholarship
- Displaced Homemaker

Scholarships that are available to transfer students are listed after the section entitled "Transfer to a Senior Institution."

There are many ways to put together needed college funds. Some students receive outright grants or scholarships for a portion of their expenses. Loans up to \$2,625 each academic year (interest free and no payments while the student is in college) can be obtained. Last but not least, jobs for students under work-study or other employment programs can be obtained to assist with College financing.

Many students utilize a package aid program combining funds from two or three sources to pay for their college education — in addition to what they can expect to receive from their parents. More than 1,600 Harper College students are receiving some form of assistance in programs administered by the Office of Financial Aid.

Students who plan to attend Harper College and have a need for financial assistance should take the following steps:

1. Submit an application for admission to Harper College.
2. Complete the following applications for financial assistance:
 - A. Financial Aid Form
 - B. Harper College Financial Aid Application

It is important to complete all these forms, as financial assistance can be received from several sources simultaneously. State and federal financial aid programs have specific standards for academic progress which the student must meet in order to maintain eligibility. Contact the Office of Financial Aid for academic requirements.

Information on all scholarships, grants and loans may be obtained from the Office of Financial Aid.

Veteran Services

Harper College maintains a full-time Veterans' Affairs Office which has responsibility for veteran enrollment, certification, special education programs and tutorial programs.

Eligible veterans and servicepersons receive a monthly educational allowance to attend school. Development courses are designed to satisfy education needs or prepare the veteran for more advanced training. Pre-college courses are not charged toward the veteran's entitlement time although they will be paid by the Veterans Administration. Full-time veteran students are also eligible for Veterans' Work-Study. Others who may be in doubt as to whether or not they are eligible under the Veterans Administration Widows' Compensation, Vocational Rehabilitation and other special programs should contact the College veterans' coordinator.

Illinois veterans who served on active duty for at least one year are eligible for the Illinois State Veterans Grant.

Additional benefits are available to the veteran who is experiencing difficulty in completing educational objectives. The Veterans Administration will pay supplementary benefits (up to \$69 per month for a maximum of \$828) for individual tutoring.

Harper has been designated as a Serviceperson's Opportunity College by meeting or exceeding the following criteria:

Uncomplicated and non-restrictive admission policies; providing for servicemen or women to pursue educational programs through courses offered on weekends, evenings and other non-traditional times; and offering maximum credit for educational experiences obtained in the Armed Forces.

The Veterans' Outreach Division actively seeks out "returning" veterans in the College district and provides veterans with information concerning College programs and curricula. Veterans are also assisted in securing rights, benefits and services available to them.

Questions concerning veterans' affairs should be directed to the veterans' coordinator.

Student Activities

A comprehensive activities program is available which includes a college/community program series of lectures, concerts, films, art exhibits and theater productions sponsored by a student-faculty Cultural Arts Committee; social programs of concerts, films, special events and other programs of interest sponsored by the student College Center Program Board; student publications including the College newspaper, *Harbinger*, and a literary and visual arts publication, *Point of View*; a closed circuit student radio station, WHCM; an academic competition activity called College Bowl; speech activities; a student travel program; free legal and medical advice; student government; and a program for student leadership development. These programs are financed by student activity fees.

Numerous clubs are active, and students are encouraged to begin other organizations within the established guidelines. Among the clubs recognized are: Association of Legal Students, Astronomy Club, Brothers and Sisters in Christ, The Newman Association, Cheerleaders, Data Processing Club, Engineering Club, Future Secretaries Association, Geology Club, Harper's Bizarre (Fashion Design), Illinois Association of the Deaf, International Students Club, Junior American Dental Hygienists Association, Junior Branch of the Food Service Executives Association, the Newman Association, Phi Theta Kappa (Honorary Scholastic Society), Physics Club, Political Science Club, Pom Pon Squad, Program Board, Psychology Club, Nursing Club, Spread Eagle Ski Club, Student Nurses Association of Illinois and Young Corporate Achievers.

Health Services and Wellness Programs

Academic achievement and a choice of educational goals are largely dependent upon the physical and emotional well-being of the student. The College's acceptance of this fact has meant the recognition of its responsibility to provide a health program equal to the health needs of the students.

The health service is directed by a registered nurse. A part-time physician is available on selected days in the health service to diagnose, treat and refer students as necessary. There are also medications available for treating minor illnesses, as well as testing for strep throat, mononucleosis, pregnancy, tuberculosis and sexually-transmitted diseases. Students are encouraged to use health service facilities when ill or injured as well as for confidential counseling and care regarding personal health issues. A rest area is available to students, faculty and staff. Community health resources are utilized for referral when necessary.

This office coordinates campus wellness activities including an annual community Wellness Week, various health-related programs and speakers and a college-wide drug education program.

Conduct

Harper College respects the civil rights and liberties of each member of the College community. A student conduct code has been established to insure these rights and responsibilities. All students are held to be informed of the rules pertaining to these rights and responsibilities which are printed in the *Student Handbook*.

Athletics

Harper College is a member of the North Central Community College Conference (N4C), which includes Triton, DuPage, Moraine Valley, Illinois Valley, Rock Valley and Joliet Junior College for the total membership of the conference.

In addition, Harper College is a member of the National Junior College Athletic Association (NJCAA), which has a membership of approximately 560 junior and community colleges throughout the United States.

Harper College participates in football, cross-country, women's tennis, basketball, women's basketball, wrestling, track, tennis, baseball, women's volleyball, women's softball, men's and women's swimming, and women's track and field.

An extensive intramural program is also available for the Harper students. Activities are promoted both on and off campus. To name a few, activities include flag football, bowling, tennis, water polo, billiards, track, wrestling, weight lifting, softball and floor hockey.

Food Service

The Harper Food Service offers breakfast and lunch Monday through Friday and dinner Monday through Thursday in the Dining Hall in Building A. Operating hours are as follows:

Monday through Thursday . . . 7:30 am-7:00 pm
Friday 7:30 am-3:00 pm

Food service also maintains food vending machines located in buildings throughout the campus.

Food Service also does on-campus catering for breakfasts, luncheons, dinners and special events. This service is available to faculty, staff and students. Call 397-3000, extension 2250 or 2253.

Harper operates a mini-bakery in the Dining Hall, where a variety of bakery products is available several days per week.

Student Senate

The Student Senate is the student government body through which students are represented to the Board of Trustees, administration and faculty. Members are responsible for budgeting the student activity fee to provide for a variety of social, cultural and recreational activities as well as special programs and services. They also act upon student concerns, appoint students to College committees, review and recommend changes in College policy, recognize student clubs and organizations, and in general promote student welfare.

Child Learning Center

The Child Development Program offers:

Child Care Room with flexible hours (7:15 am-4:45 pm) for a fee for parents who are on campus attending a class or workshop.

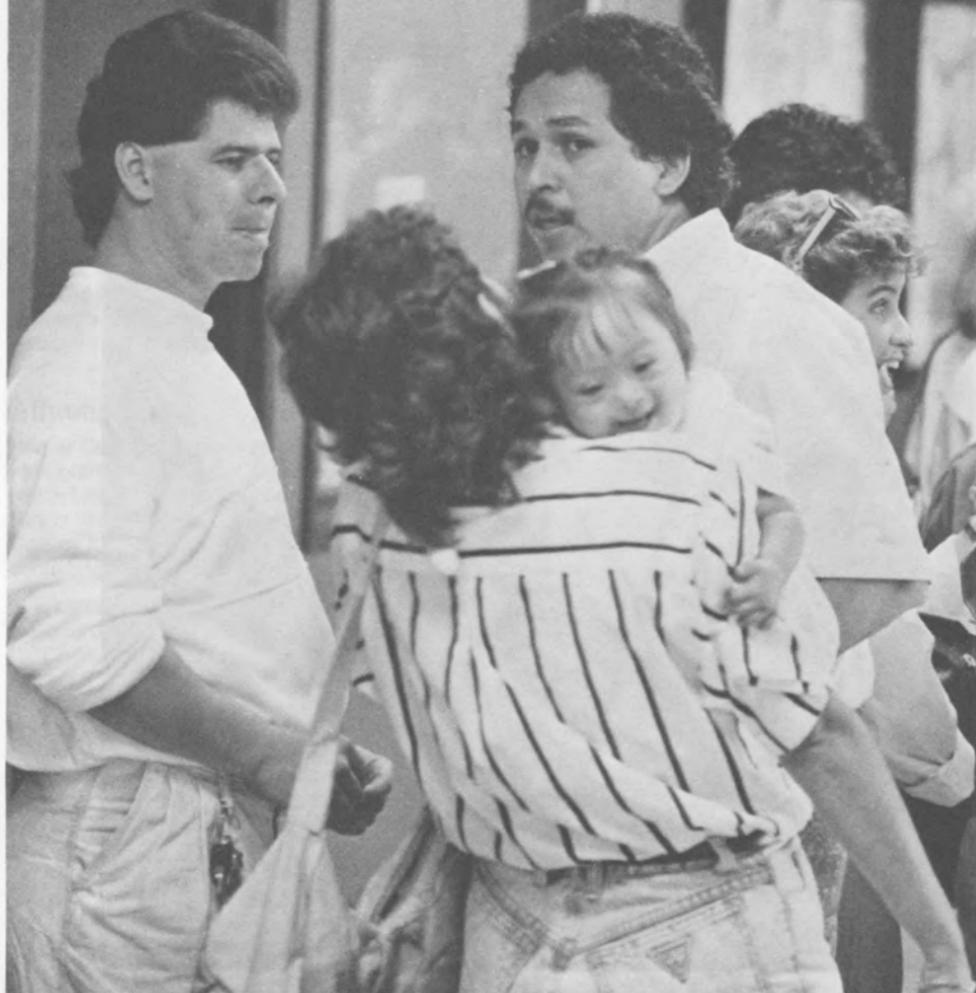
Preschool program for children of students, faculty and the community at large. The children are registered for set sessions which coincide with Harper's calendar.

Advance registration is required for both programs, and early registration is advised as the centers often reach capacity. For more information, call 397-3000, extension 2262.

The Northeast Center Campus offers a child care room with flexible hours daily when College is in session, if there is enough enrollment to maintain staffing, for parents attending a class or workshop. Morning preschool for the community is also available. For more information, call 537-8660.



Continuing Education and Program Services Division



Continuing Education and Community Services

Continuing Education

Northeast Center

Employer Based Program

University Extension Courses

Community Counseling Center — A Service for
Non-Harper Clients

Job Skills Training

General Studies Certificate Requirements

Vocational Skills Certificate

Continuing Education

At Harper College, educators believe that education must be a lifelong pursuit to keep abreast of the knowledge explosion and the influence of social and cultural changes. The continuing education programming makes available to the community a rich array of continuing education courses and short-term programs encouraging lifelong learning and designed to help students meet their professional, career, civic and personal development goals.

Harper extends offerings in many forms and at many sites. Adults may continue their studies in a formal or informal setting. They may select from courses, seminars and conferences. They may elect to attend at the main campus in Palatine, the satellite centers at Barrington High School and the Harper College Northeast Center in Prospect Heights, as well as at on-site locations in local businesses and the community.

Every effort is made to provide course offerings that respond to community and business needs and that meet the need for both practical and personal benefits.

In addition, the Program Services Department assists other divisions and departments in meeting community needs as they arise by matching College and community resources and by initiating and fostering economic development programs and activities.

Personal and Cultural Enrichment

Continuing Education courses are offered in the general areas of personal finance, life enrichment, real estate, insurance, photography, fine arts, law, foreign languages, career enrichment, home and family living, tours and creative writing.

About 300 community program class sections are offered each semester. Enrollment generally exceeds 6,000 students of all ages per semester. Program and course offerings are designed to provide immediate training, education and recreation for residents of the Harper College communities.

Business and Professional Development

Center for Small Business Preparation and Development

This center was organized to develop studies for the person interested in starting or developing a business. The offerings are suggested by an advisory committee composed of local business persons and are presented by local business persons currently working in their field of expertise. Offerings include everything an individual needs to know including startup procedures, making a business plan, recordkeeping, bookkeeping, legalities and related topics. Each semester, offerings are also included on

international business in both exporting and importing. Other more specific offerings include sales, patent and trademark protection, home-based business development and other topics.

Institute for Management Development

The Institute was developed through a joint effort of the College and area business representatives. The program of study is continuously updated to meet current needs for supervisory and management training. All of the instructors are practicing business persons with current knowledge in their fields of expertise. Studies include such basics as fundamentals of management, leadership training, finance and accounting procedures for the non-financial manager, business writing, interpersonal skill development and the key area of computer training.

A special Continuing Education Management Certificate is available to participants who have completed three required and three elective offerings. Many students have taken advantage of this opportunity to study toward job advancement and enhancement of management skills.

Material Management Seminars

The purpose of these offerings is to provide training and enriching educational experiences for business professionals in material requirement planning, just-in-time procedures, inventory control, production control, physical distribution, receiving and shipping, warehousing and purchasing. Certificates are awarded for completion of each offering.

Office Personnel Seminars

Frequently the people most needed to support the primary functions of a business are most neglected in terms of updating their knowledge and skill. These seminars are designed to keep the administrative/secretarial and clerical personnel current in such areas as word processing, management skills that are used at the administrative/secretarial level, business correspondence stylistic and technical changes, interpersonal skills and other support functions. Certificates are awarded for completion of each offering.

Test Reviews

These seminars are presented to assist the professional or the potential student to prepare for specific entrance exams or professional designation examinations. Included in this series are the LSAT, GMAT, CPA, SAT and ACT reviews, as well as offerings related to test anxiety.

Finance Personnel Seminars

These seminars are designed to upgrade the skills of the lower echelon support personnel in the banking and savings and loan industry. Offerings include teller effectiveness training and customer service training as well as current topics of interest to the financial community. Certificates are awarded on completion of each offering.

Building Inspection Seminars

For professionals in the building trades and those who work for building departments in towns and villages, this series serves as an update on new laws, specifications and materials that they will be required to use. Topics include updates on the building codes, handicap standards, underground tank removal and other timely topics. Certificates are awarded on completion of each offering.

Library Support Staff Updates

Topics are selected that are timely and relevant to the support staff in libraries. Selection of each topic is made by an advisory committee composed of library support personnel and some library professionals.

CAD/CAM Center

The Computer Aided Design and Computer Aided Manufacturing (CAD/CAM) Center was established to offer opportunities and resources for area industries to develop high technology skills and capabilities. The goals of the CAD/CAM Center are to provide management with awareness of the role of CAD/CAM technology in modern industry, to encourage and provide continuing professional training for engineers, designers and technicians in the applications of CAD/CAM systems, to provide a professional forum and resource center for the examination of trends and new concepts in high technology and to help provide a work force in high technology fields to fulfill the employment needs of existing industries and to attract new industries to the area.

The CAD/CAM Center's curriculum includes basic awareness seminars, management topics related to the selection and implementation of CAD/CAM systems and technical system user courses for electrical/electronic, architectural, mechanical and manufacturing applications.

For more information, contact the CAD/CAM Center, 397-1640.

The Northwest Cardiac Rehabilitation Center

The Northwest Cardiac Rehabilitation Center (NCRC) on Harper's campus is designed to offer a comprehensive rehabilitation for individuals with heart disease and other cardiovascular limitations. The primary purpose of the center is to support the private physician in safely and effectively returning the cardiac patient to a productive and enjoyable lifestyle.

The program is designed for individuals recovering from a heart attack or bypass surgery, as well as individuals with diagnosed heart disease (but no evidence of a heart attack). Individuals exhibiting only multiple risk factors for heart disease will also be considered.

The NCRC program is comprehensive in its approach, combining exercise therapy with strong educational and nutritional components. The rehabilitative approach is divided into separate Supervised Therapeutic Exercise Programs (STEPs). All participants in the center will progress through the STEPs based upon their individual health status.

STEP I is an individualized health and fitness consultation which includes an analysis of the participant's medical and exercise histories, risk factors and dietary intake. An exercise prescription will be formulated and exercise guidelines will be established.

STEP II is a laboratory-based, highly-monitored exercise program. This includes direct physician and exercise physiologist supervision while exercising on bicycle ergometers, upper body ergometers, rowers and motorized treadmill. This phase includes continuous telemetry monitoring of the electrocardiogram and blood pressure evaluations both at rest and during exercise training. Educational seminars on risk factors, nutrition and stress reduction will be included. Upon recommendation of the Medical Director, individuals will be advanced to STEP III.

STEP III is a long-term phase designed to continue to improve and maintain each individual's cardiovascular fitness as well as promoting healthy lifestyle changes. The program offers flexible hours and a variety of fitness and recreational activities. All activities will be individualized to be consistent with each participant's exercise capacity. The sessions are supervised by professionally trained staff and monitoring equipment is available if needed.

The center is under the professional supervision of a cardiologist nurse, and several physiologists specializing in cardiovascular medicine. All program staff members are certified in cardiopulmonary resuscitation and trained in emergency procedures. Emergency life support equipment is on hand at all exercise sessions.

The fees for the above services are variable depending upon the phase of the program in which the individual is enrolled. Reimbursement for all laboratory evaluations and STEP II sessions is generally available through the participant's health insurance.

Interested individuals are encouraged to contact the NCRC office at 397-3000, extension 2281 or 2486 for further information. Enrollment into the program must be made through the NCRC office located in Building M.

Senior Citizen Program

Objectives of the Senior Citizen Program are to make Harper's existing services and programs available to older persons and to conduct continuing education and credit classes especially for them.

District residents ages 60-64 are eligible for reduced tuition rates for all courses and workshops offered by the College. District residents 65 and older may attend tuition-free when space is available. Senior citizens will be charged for material and lunch fees when applicable. Some programs are placed at locations in the community, including senior citizen centers, churches and nursing homes, so that transportation problems are minimized. The services of the College, including the Student Development Center, Dental Hygiene Clinic, Cardiac Rehabilitation Center and Learning Resources Center are all open to senior citizens. Older persons are welcome and encouraged to attend cultural events sponsored by the Student Activities office.

For further information, please contact the Coordinator of Continuing Education, Life Science and Human Services Division, 397-3000, extension 2687.

Health Care Program

In an age of rapid medical advances and an ever-increasing expansion of careers, career advancement and increased responsibilities within the health care delivery system, the Health Care Program has been designed to play a vital role in assisting health care professionals and allied health care personnel to meet the challenges of today.

The program endeavors to meet the needs of individual health care workers and employers of health care personnel by offering courses, seminars and workshops that provide current knowledge of practice theory, develop additional skills, prepare for new career roles and provide an opportunity to share experiences and expertise in a learning environment.

The Health Care Program works cooperatively with individuals, agencies and professional organizations to identify and provide for the learning needs of those providing health care. It functions within the guidelines of each professional association. Offerings carry professional association education credit when indicated.

The program includes basic courses for beginning health workers in the continuing education mode and learning experiences beyond basic educational programs for professionals. In addition to courses, seminars and workshops, the following specific programs are available:

The Basic Nurse Assistant Training Program
Physical Rehabilitation Aide Training
Occupational Rehabilitation Aide Training.

For further information, please contact the Coordinator of Continuing Education, Life Science and Human Services Division, 397-3000, extension 2687.

Landscape, Garden and Floral Program

The objective of the continuing education offerings in the Landscape, Garden and Floral Program is to present to the homeowner, hobbyist and those currently employed in the green industry information about floral designing, caring for plants, gardening and landscaping. There is emphasis on the correct selection and use of tools, planting techniques, landscape preparation, foliage, plant care, pest control, and fertilization. Floral design courses and workshops demonstrate the use of live and artificial flowers for decoration. In an informal setting, topics are explored through discussion, questions and answers and hands-on experience.

For further information, please contact the Coordinator of Continuing Education, Life Science and Human Services Division, 397-3000, extension 2687.

Women's Program

At a time when questions of optional lifestyles are being raised, the Women's Program attempts to help women know themselves better, to understand their relationships within their society and to participate more effectively in their chosen roles. Workshops, continuing education offerings, credit program offerings and referral services are designed to provide women with information, skill development and personal guidance in the areas of individual growth and awareness, interaction and communication with others, career development, community awareness and involvement and women's studies. A special effort has been made to schedule programs at convenient times for women.

Project Turning Point is a state funded program for the displaced homemaker, any woman forced to become the main breadwinner of her family through divorce, death of her spouse, loss of employment or illness of her spouse; victims of domestic violence, women on welfare and potential welfare recipients; single parents and single teen-aged parents. Through Project Turning Point, the women are given career counseling, job readiness seminars, vocational-technical training and assistance in job placement. Since Project Turning Point is an integrated part of the Women's Program, participants can attend courses and workshops offered by the Women's Program which enhance their self-confidence and ability to achieve gainful employment.

For further information, please contact the Coordinator of the Women's Program, 397-3000, extension 2560.

Physical Education Program

Harper College offers more than 100 continuing education courses which provide specialized opportunities for individuals to learn and improve their physical lifestyles. They can further refine their favorite activity or engage in the challenge of learning a new skill. Whatever the choice, participants will find the courses enjoyable and rewarding.

Each semester there are approximately 1,500 enrollees in the continuing education/physical education program. Participants join this group by selecting a class and registering through one of the enrollment sources made available to the community. Necessary information on classes and registration procedures can be easily obtained from the College.

In addition, the programs and services of the Human Performance Department are highly recommended for those who desire a more prescribed approach to fitness. Both preventive and rehabilitative services are available with an excellent trained staff of exercise physiologists to assist individuals in determining their appropriate fitness training needs.

Vocational and Technical Skills

Vocational Educational Skills

These offerings provide short-term intensive job training to meet local labor market needs plus courses designed for persons looking for a new or second career and for those who wish to upgrade or enhance their current job skills.

Intensive Job Skills Program

The Intensive Job Skills Program consists of offerings especially designed to prepare the participants for a specific job entry within a relatively short time. Research is conducted with representatives from a selected occupational group to determine the job skills that beginning employees are expected to demonstrate. Those skills form the basis for job skills training. Participants are counseled into the offerings individually, and job placement assistance is provided upon completion of the program. Typical job skills programs are Travel Agent, Machinist, Cosmetology Licensing, Data Entry Clerk and Sales Cashier.

High School Orientation Program

The High School Orientation Program provides opportunity for high school students from Districts 211, 214 and 220 to earn high school credit while exploring the requirements and skills needed for selected career areas. Utilizing classroom lectures and "hands on" laboratory experiences, students become acquainted with the work environment, practical skills required and opportunities available within a given career area. Attending at the Harper College campus, students may participate in career study areas such as Health Occupations, Food Service, Law Enforcement, Refrigeration/Air-Conditioning,

Nurse's Aide, Habilitation Aide and Fashion Merchandising.

Occupational Upgrading

Due to technological change, economic developments and certification or professional continuing education requirements, employees are increasingly concerned with the need for instruction and training to expand or enhance their current job skills. Offerings and seminars in areas such as Cargo Transportation, Certified Financial Planner, Office Skills, Hospitality, Electronics and Video Production are designed to address these educational needs.

Job Skills Training Programs

A job skills training program is a course or sequence of courses in a specialized job skill area. Through completion of the course work, individuals are prepared for employment in those areas.

Courses in these programs are offered in various times frames and may require practicums or internships in agencies. In some programs, completion of the course work leads to certification or licensure by the State of Illinois.

These programs are offered under General Studies Credit (GSC) or Continuing Education credit (CEU) and carry no transferable credit.

Basic Nurse Assistant

The Basic Nurse Assistant Training Program is a non-degree program designed to provide the student with education and experience in assisting the professional nurse in providing quality patient care in a variety of health care facilities. Training will include the development of basic nursing skills through lectures, laboratory demonstration and practice and clinical experience. The program is certified by the Department of Public Health of the State of Illinois. Students who successfully complete the program receive a Harper College certificate with a State Seal and are registered with the Department of Public Health.

Curriculum: The course is eight weeks in the summer and fall semesters and 16 weeks in the spring semester. The course includes a theory component and a concurrent clinical experience in a hospital and a long-term care facility. Home care issues are addressed in theory. The course is under the direction of professional registered nurses.

Specific Admission Requirements: Eighth grade graduates or the equivalent, 16 years or older, are eligible to register for the course. In order to complete the course successfully, the student needs to be able to speak, read and write English.

High school students can take this course through the Northwest Suburban Career Cooperative for high school credit. Further information may be obtained from high school counselors or by calling Harper College, 397-3000, extension 2687.

Cosmetologist

The Cosmetology Program prepares candidates for the Illinois licensing examination for beauticians. Students who complete the 1500-hour program successfully will be able to demonstrate skills in hair dressing and treatment, skin and nail care and personal grooming.

Curriculum: The curriculum consists of five, 16-hour courses totaling 300 hours per semester. The introductory course offers basic knowledge, and each succeeding course builds on the basic skills learned in preceding classes. The final course prepares students for the state licensing examination through review and testing in the theoretical and practical aspects of the training.

Specific Admission Requirements: Admission to levels two through five is contingent upon successful completion of the previous level. Applicants to the program must be at least 16 years old and must pass an entrance examination.

High school students in Districts 211 and 214 may take these courses through the Northwest Suburban Career Cooperative for high school credit. They should contact a high school counselor for additional details.

For further information call Harper College, 397-3000, extension 2362.

Machinist

The Machinist Training Program is an intensive, entry level job skill training program designed to provide knowledge and skills necessary for beginning employment in the machinery trades. Students are expected to acquire basic mastery of machine tool fundamentals such as safety, blueprint reading, measurement and the operation of metal lathes, drills, mills and grinders.

Curriculum: There are two four-week classes totaling 160 hours per semester. The first class provides entry level instruction in basic machine operation skills, supplemented with essential shop mathematics and blueprint reading. In the second class, advanced instruction in machine tool operation skills is supplemented with essential shop mathematics and blueprint reading.

Specific Admission Requirements: Permission of the counselor based on a preadmission interview.

Travel Agent/Reservationist

The Travel Agent/Reservationist Program is an intensive, entry level job skill training program designed to prepare individuals for beginning employment with travel agencies or airlines. Emphasis is placed on learning the basic rules and regulations governing passenger travel, travel services, sales promotion, computer ticketing and marketing.

Curriculum: The curriculum consists of four 16-week courses totaling 128 hours per semester. In the first course participants learn key elements of the travel industry, going on to receive instruction in ticketing, fares, geography and tourism in the second course. The third class provides extensive training in computer use and space availability, waitlist, scheduling and selling car and hotel availability. An internship completes the program with classes being conducted in an actual work environment.

Specific Admission Requirements: Permission of counselor based on a preadmission interview.

Continuing Education Certificates

General Studies Certificate Requirements

Students enrolled in Continuing Education offerings carrying General Studies credit can apply their course work to a General Studies certificate. Such a certificate is meant to recognize those who diligently pursue a sequence of Continuing Education offerings.

Requirements for the Certificate in General Studies are as follows:

1. Successful completion of nine General Studies credit hours.
2. A grade of "P" (Pass) indicates successful completion of a course for purpose of granting credit. A grade of "W" indicates that the class has not yet been satisfactorily completed.
3. Courses/seminars taken at other institutions are not applicable to a General Studies certificate.

A \$15.00 nonrefundable fee will be charged to those who wish a certificate upon completion of the Certificate in General Studies program. This fee is payable at the time when the certificate is applied for. Anyone who wishes to have past continuing education work included for the Certificate in General Studies may do so by applying to the Dean of Continuing Education and Program Services. Anyone who registers for a Continuing Education offering automatically enters the Certificate in General Studies program.

Check the current college course schedule for a list of those offerings available for General Studies credit.

Statement of Completion

Students enrolled in any Continuing Education offering may be awarded a Statement of Completion for successfully completing the offering. For Continuing Education courses, satisfactory completion is evidenced by a grade of "P" (Pass). The Statement of Completion must be applied for in the office of the division in which the offering is scheduled.

Vocational Skills Certificate

Students enrolled in offerings carrying vocational skills credit can apply their course work to a Vocational Skills Program Certificate in the following categories:

- Agricultural Occupations
- Marketing and Distribution Occupations
- Health Occupations
- Home Economics Occupations
- Business Occupations
- Technical Occupations
- Trade and Industrial Occupations

Vocational skills students are those who enroll primarily in short-term intensive vocational courses, on a full- or part-time basis, to review or upgrade current vocational skills or to

acquire specific skills necessary for obtaining employment.

Requirements for the Vocational Skills Program Certificate are as follows:

1. Successful completion of thirty (30) vocational skills credit hours.
2. A grade of "P" (Pass) indicates successful completion of a course for the purpose of granting credit. A grade of "W" indicates that the course has not yet been satisfactorily completed.
3. Courses/seminars taken at other institutions are not applicable to a Vocational Skills Program Certificate.

A \$15.00 nonrefundable fee will be charged to those who desire a certificate upon completion of a Vocational Skills Certificate Program.

Anyone registering for a vocational skills offering automatically enters the Vocational Skills Certificate Program. Past vocational work may be included for the Vocational Skills Program Certificate by applying to the Dean of Continuing Education and Program Services.

Check the current college course schedule for a list of those offerings available for vocational skills credit.

Program Services

Extension Services

University Extension Courses

University undergraduate and graduate level instruction is offered at Harper College through extension courses from various four-year colleges and universities. With proper planning and counseling, it is possible for a person to earn most or all of the requirements for a bachelor's or master's degree in business administration or a master's degree in education on the Harper campus or in various Harper district locations.

A Bachelor of General Studies (B.G.S.) degree with an area of study in Administrative Studies is offered at Harper College by Northern Illinois University's College of Liberal Arts and Sciences as an academic option which allows a student to construct an individualized program of study which does not require a formal major. The degree program appeals primarily to adult learners whose educational objectives include personal development rather than preparation for graduate study or a specific professional career.

The degree is intended as a capstone to build upon the Harper or other community college associate degree programs which include 60 semester hours (or the equivalent quarter hours) of transferable course work.

For more information, contact the Program Services Specialist, 537-8660.

Northeast Extension Center

The Northeast Center, located at 1375 South Wolf Road in Prospect Heights, Illinois 60070, offers a wide variety of classes in 27 classrooms, 3 computer labs and 3 electronic labs.

Courses for college credit, as well as continuing education, vocational, technical courses and seminars are all offered at the Center.

Examples of offerings at the Northeast Center include courses for future travel agents, bank tellers, certified financial planners, retail sales clerk/cashiers, and cargo transportation professionals. Word processing, spread sheet, data base and other computer skills are taught in the computer labs.

Classroom space and audiovisual equipment may be rented by businesses and community groups for educational purposes.

Office hours are from 8:30 am-9:00 pm Monday through Thursday and from 8:30 am-4:00 pm on Fridays when classes are in session. Call the Center at 537-8660 for more information.

Industry Services

Industry Services provides on-site degree-credit and continuing education short courses and seminars to area business and industry.

Designed to meet current personnel development and training needs, these customized programs include training in office skills and equipment update, management development and material management and statistical process control, as well as training in highly technical fields such as computer-aided design. Instruction is provided by Harper College faculty members and professionals with extensive experience in the specific field being addressed. A needs assessment may be used to assist a company to customize Harper's educational program to its particular needs. Additional information is available by calling the Industry Services Specialist at 537-5420.

Economic Development Services

The purpose of the Economic Development Center is to serve the northwest communities by facilitating and coordinating regional programs and information resources. NORTHWEST 2001 is a Regional Agenda designed to plan, guide and energize business and community development for the decades ahead. This is a continuing process with committees meeting to develop and implement proposals. The Golden Corridor Council is an affiliation of industry, community and academia located along I-90 from O'Hare through Elgin. It is committed to the enhancement of economic growth in Illinois through the identification, development and promotion of Illinois' Golden Corridor of Technology and Commerce. Labor market information is compiled and coordinated for the Harper District.

Access to additional economic development data and resources is provided along with a Directory of Information Resources. Additional information is available by calling 537-5420.

Created in the fall of 1986 by the Northwest Suburban Association of Commerce and Industry (NSACI), the Northwest Leadership Academy is currently cosponsored by Harper College. The Academy seeks to develop a source of informed civic-oriented leaders who are interested in directing the future of the northwest suburban area. This will be accomplished by assembling current and emerging leaders from diverse backgrounds and experiences and involving them in a series of thought-provoking educational programs. For additional information, call NSACI at 517-7110.

Employer Based Program

Harper will provide credit and non-credit offerings to employees of industry, business agencies and public institutions. Need assessment and other program development services are available to help these organizations determine training needs and the resources available through the College. Credit courses as well as non-credit seminars and workshops can be delivered through these special contractual arrangements. For further information contact the Industry Services Specialist at 537-5420.

Community Counseling Center

Harper's Community Counseling Center makes psychological and career counseling services available to non-student residents of the community, on a fee basis.

Clients are assisted in making intelligent occupational choices through the use of psychological and vocational counseling. This service includes the administration and interpretation of intelligence and personality tests, as well as measurements of interests and preferences. Clients are aided in an exploration of the world of work, job interviewing and resume writing.

Another function of the center is to provide an evaluative, diagnostic and psychotherapeutic service for adults and adolescents with personal, social or emotional problems. The broad gamut of problems the staff works with includes marital discord, divorce adjustment, sexual problems, family relationships and drug-related problems.

The Community Counseling Center is located in Building I, Room 117. Further information may be obtained by calling the Community Counseling Center, at 397-3000, extension 2577.

College Credit Programs and Requirements

Associate Degrees

- Graduation Requirements

Transfer Programs

- Compact Agreements

- Transfer to a Senior Institution

- Requirements, A.A. and A.S. Degrees

- Approved Elective Courses

Career Programs

- Requirements, A.A.S. Degree

- Cooperative Programs

Telecourses

International Studies Program

Honors Program

English as a Second Language

Adult Educational Development

Associate Degrees

Harper College offers three associate degrees, two of which are designed for students who will transfer to a four-year college or university to complete a bachelor's degree. These are the Associate in Arts (A.A.) and the Associate in Science (A.S.) degrees, which comprise the first two years of study toward degrees in a broad range of arts-related or science-related disciplines.

The third, the Associate in Applied Science (A.A.S.) degree, is awarded upon completion of a two-year career program, designed to prepare the graduate for immediate entry into a specific career field.

In addition to the graduation requirements listed below, each degree has its own requirements for credit hours to be completed in various groups of courses. These requirements are shown on three separate charts in this section of the Bulletin.

Graduation Requirements

1. For associate degrees, attainment of a minimum of 60 semester hours of credit, at least 30 of which must be earned in attendance at Harper College. For certificates of completion, 50% of required credit hours must be earned at Harper. Waiver of the latter requirement by the vice president of academic affairs may be made where exceptional circumstances warrant. Up to two hours credit in physical education activity courses (100 level) may be included as free electives in the minimum 60 required hours for an associate degree. A maximum of four semester hours of Independent Study credit may be included as free electives in the minimum 60 required hours for an associate degree.

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

3. Meet the constitution requirement of the Illinois State School Code. This can be met by (1) submitting an official Illinois high school transcript stating the requirement has been met, or (2) successfully completing PSC 101, or (3) passing a college administered test of the U.S. Constitution, Illinois Constitution, the proper use and display of the American flag and the principles of American democratic government.

4. Requirement of 60 hours must be in courses numbered 100 or above for the degrees of associate in arts or associate in science. (Courses below 100 level may be used only where A.A.S. program requires.)

5. Fulfillment of appropriate associate degree requirements as listed in the College *Bulletin* at the time the student first enrolled.

6. In addition to the above requirements, students enrolled in a specific career program will fulfill the requirements outlined in that program. Any changes in program requirements necessitated by licensing and/or accrediting agencies must be observed by students who are already admitted and in process in their programs.

7. A student must petition for graduation and pay the graduation fee of \$15.00. Notification of the student's intent to graduate will be accepted in the Registrar's Office no later than one week after the midterm of the semester in which the student intends to graduate. Students are encouraged to participate in the formal graduation ceremony in May. Students are encouraged to complete their petition for graduation when registering for the semester in which their graduation requirements will be fulfilled.

Transfer Programs

An important role of a community college is to provide programs of study allowing students to complete requirements for the first two years of a baccalaureate degree. Harper defines these programs as transfer programs.

As a guide for the student, the following programs of study leading to the associate in arts or associate in science degrees are recommended.

The programs are "recommended" in the sense that they are planned to provide students with the specific requirements of Harper's transfer degrees and the general requirements of the freshman and sophomore years of most colleges and universities.

Transfer students are responsible to know the specific requirements of the institutions they are considering for transfer. Catalogs may be obtained from those schools. Resource materials and counseling assistance are available in Harper's Student Development Centers.

Recommended programs of study are provided for the following areas:

- Art
- Biological Sciences
- Business Administration
- Communications
- Computer Science
- Education
- Engineering
- Foreign Languages
- Health Education
- Liberal Arts
- Music
- Physical Education
- Recreation
- Science or Mathematics
- Social Science

For other areas of interest, please contact a Student Development Center for assistance.

Compact Agreements

Some schools accept the associate in arts or associate in science degrees as meeting all general education requirements and grant automatic junior standing upon transfer. Students may have to meet additional requirements for some majors at these schools. Contact a Student Development Center for more information. Schools with which Harper has a compact agreement are:

- Eastern Illinois University
- Governors State University
- Illinois State University
- Northern Illinois University
- Sangamon State University
- Southern Illinois University
- Western Illinois University

Harper College and Governors State University have developed cooperative programs in business and secretarial science areas.

Transfer to a Senior Institution

Baccalaureate-oriented credits earned at Harper College are transferable to other institutions of higher learning. Students intending to transfer to other institutions should consult with that institution as well as their student development faculty member to assure efficient transfer.

Harper-Designated Transfer Scholarships

- Alma College, Alma, Michigan
- Barat College, Lake Forest, Illinois
- Beloit College, Beloit, Wisconsin
- Bradley University, Peoria, Illinois
- Drake University, Des Moines, Iowa
- Illinois Institute of Technology, Chicago, Illinois
 - (a) General
 - (b) School of Business Administration
- Kendall College, Evanston, Illinois
- Knox College, Galesburg, Illinois
- Loyola University, Chicago, Illinois
- Mundelein College, Chicago, Illinois
- Ripon College, Ripon, Wisconsin
- Roosevelt University, Chicago and Arlington Heights, Illinois

Requirements for Associate in Arts Degree (A.A.)

	Semester Hours	Courses in This Group											
Group 1 Communications	9	ENG	SPE										
		101	101										
			102										
Group 2 Mathematics and Natural Sciences A minimum of 3 hrs. must be from mathematics and a minimum of 4 hrs. from the sciences.	10	Mathematics					Science						
		MGT	MTH		AST	BIO	CHM	GEO	PHS	PHY			
		225	102	165	101	101	100	101	101	121			
			103	200		103	110	102	105	122			
			104	201		110	121	201	111	201			
			120	202		120	122		112	202			
			124	203		122	131						
			134	212		140	132						
				265		150							
Group 3 Humanities Courses in this group must be selected from at least two departments.	9	ART	FNA	FRN	GER	HST	HUM	LIT	MUS	PHI	SGN	SPA	SPE
		105	111	101	101	111	101	105	217	101	105	101	107
		110	112	102	102	112	102	110	219	103	110	102	111
		111	113	201	201	141	110	112	221	104	115	201	212
		121	114	202	202	142	115	115	222	120	120		202
		122		205	205	151	120	206	224	223	150		205
				210	210	152		207	231	224	180		210
						153		210	232		205		
						210	LNG	216	241		210		
						214	105				220		
						218					231		
						243					232		
Group 4 Social Sciences Courses in this group must be selected from at least two departments.	9	ANT	ECO	EDU	GEG	PSC		PSY		SOC			
		101	200	211	101	101		101	217	101			
		202	201			220		145	218	120			
		203	202			250		150	220	150			
		204	225			270		210	225	205			
								216	230	210			
										215			
										220			
Group 5 Contemporary Studies and Life Skills	6	ART	CRJ	DPR	MTH	PED***		PHI	PSC	RDG			
		201	101	101	108	100		115	101	105			
		206		101	108	160		120	210				
		225	CSC	130	MUS	162		150	220	SOC			
		236	208	142	130	165		180	250	120			
		261	209	150	136	167		205	260	205			
		270	211	160	140	201		210	270				SPE
		291	215		145	203							115
		296		ECO	150	205		PHS	PSY	205			205
			DIT	115	165	207		105	106				
			BIO	101	JNM	166			107				
			103		234	167			108				
			122		MGT	169							
			136		111	180-199							
						280-299							
Total General Education	43												
Group 6 Electives	17	Courses must be selected from: 1. The list of approved elective courses in this <i>Bulletin</i> . 2. Extra credit hours from Group I-V from the A.A. or A.S. degrees. 3. Up to 10 credit hours from 100 or 200 level courses for any department or up to 10 credit hours of any associate degree credit courses.											
Total Hours Required	60												

***Up to two (2) hours of PED activity courses (100 level courses) may be included as either Group 5 or Group 6 electives.

Requirements for Associate in Science Degree (A.S.)

	Semester Hours	Courses in This Group												
Group 1 Communications	9	ENG 101	SPE 101	102										
Group 2 Mathematics and Natural Sciences	20	Mathematics						Science						
A minimum of 3 hrs. must be from mathematics and a minimum of 7 hrs. from the sciences.		MGT 225	MTH 103	201	AST 101	BIO 101	140	CHM 100	GEO 101	PHS 101	PHY 101	101	121	
			104	202		103	150	110	102	105	122			
			124	203		110	160	121	201	111	201			
			134	212		120	161	122	202	112	202			
			165	265		122	210	131					203	
			200			130	220	132						
						135	240	201						
						136		204						
								205						
								210						
Group 3 Humanities	6	ART 105	FNA 111	FRN 101	GER 101	HST 111	HUM 101	LIT 105	MUS 217	PHI 101	SGN 105	SPA 101	SPE 101	
		110	112	102	102	112	102	110	219	103	110	102	102	
		111	113	201	201	141	110	112	221	104	115	201	201	
		121	114	202	202	142	115	115	222	120	120		202	
		122		205	205	151	120	206	224	223	150		205	
				210	210	152		207	231	224	180		210	
						153		210	232		205			
						210	LNG	216	241		210			
						214	105				220			
						218					231			
						243					232			
Group 4 Social Sciences	6	ANT 101	ECO 200	EDU 211	GEG 101	PSC 101	PSY 101	SOC 101	217					
		202	201			220	145	218		120				
		203	202			250	150	220		150				
		204	225			270	210	225		205				
							216	230		210				
										215				
Group 5 Contemporary Studies and Life Skills	3	ART 201	CRJ 101	DPR 101	MTH 108	PED*** 100	PHI 115	PSC 101	RDG 105					
		206		101	108	160	120	210						
		225	CSC 130	MUS 162		162	150	220	SOC 120					
		236	208	142	130	165	180	250	120					
		261	209	150	136	167	205	260	205					
		270	211	160	140	201	210	270	220					
		291	215		145	203								
		296		ECO 150	150	205	PHS 105	PSY 106	SPE 115					
			DIT 101	115	165	207		107	205					
			BIO 103	JNM 166	167			108						
			122	234	169									
			136	MGT 111	180-199									
					280-299									
Total General Education	44													
Group 6 Electives	16	Courses must be selected from: 1. The list of approved electives in this <i>Bulletin</i> 2. Extra credit hours from Group I-V from the A.A. or A.S. degree. 3. Up to 10 credit hours from 100 or 200 level courses from any department on up to 10 credit hours of any associate degree credit courses.												
Total Hours Required	60													

***Up to two (2) hours of PED activity courses (100 level courses) may be included as either Group 5 or Group 6 electives.

Associate in Arts (A.A.) and Associate in Science (A.S.) Degree Programs

Approved Elective Courses

Course or credit hours for Group 6 electives must come from:

1. The list of approved elective courses on this page.
2. Any additional course listed in Group 1 through Group 5 for either the A.A. or the A.S. degree as long as the course is not being used to satisfy a Group 1 through Group 5 requirement.
3. Up to 10 hours of any associate degree credit course.

ACC	ANT	CCA	CRJ	DIT	ECO	EGR	ENG	HPI	JNM	MGT	MKT
101	250	102	201	110	210	100	103	102	130	218	245
102	255	218	202			120	130		131	225	
201		219	205	DPR	EDU	121	201	HRT		226	MTH
202	ART		210	100	201	122	220	110		275	107
203	100		220	200	202	150					206
211						211		IDS			
212			CSC			212		290			
213			216			260					
			217			262					
						270					

MUS		PED***	RDG	REC
111	211	All 100 level	106	200
112	212	courses		202
115	215	200	228	204
116	216	204	230	206
161	265	206	240	208
162	266	208	241	210
163	271	209	242	214
168	272	210	243	
		220	244	SPE
		222	246	102
		224	270	115
		226		

***Up to two (2) hours of PED activity courses (100 level courses) may be included as either Group 5 or Group 6 electives.

Harper College Career Programs

Harper College offers the following career/vocational programs. Both associate in applied degree and certificate programs are offered except where indicated. Each program of study is a required one, intended to prepare students for a specific type of employment immediately. Additional programs available through agreements with other colleges are listed under Cooperative Programs.

Accounting Aide
Accounting Clerk¹
Accounting - Payroll¹
Administrative Assistant¹
Alternate Living Resident Supervisor¹
Architectural Technology
Automation Skills
Banking, Finance and Credit¹
Banking and Savings Association
Management²
Bread and Pastry Arts¹
Building Codes and Enforcement¹
Business Information Management
CAD Technician¹
Cardiac Exercise Technology²
Certified Professional Secretary¹
Child Development
CNC Technician¹
Commercial Credit Management²
Criminal Justice
Culinary Arts¹
Data Processing - Computer Operator¹
Data Processing - Microcomputers in
Business
Data Processing Technology
*Dental Hygiene²
*Dietetic Technician²
Digital Electronics and
Microprocessor Technology
Electronics Technology
Executive Secretarial Development
*Fashion Design
*Fashion Merchandising²
Financial Management²
Fire Science Technology
Food Service Management
General Office Assistant¹
Habilitation Aide¹
Heating Service¹
Horticulture
Industrial and Retail Security¹
Industrial Sales Management
and Development¹
*Interior Design²
International Export and Importing²
International Marketing¹
*Interpreter Training*¹
Journalism²
Legal Secretary
*Legal Technology²
Machinist¹
Marketing/Management²
Material Management
Mechanical Drafting¹

Mechanical Engineering Technology:
Automated Manufacturing Option²
Mechanical Engineering Option²
Medical Office Assistant
Medical/Dental Secretary
Medical Transcriptionist¹
*Nursing
*Operating Room Technician¹
Park and Grounds Operation
Management
Personal Banking¹
*Pharmacy Technician¹
Production Engineering Technician¹
Production Welding¹
Real Estate
Refrigeration and Air Conditioning
Refrigeration Service¹
Residential Comfort Systems¹
Retail Merchandising¹
Secretarial
Supervisory and Administrative
Management
Word Processing Operator¹

*Enrollment in program is limited. See Admissions
Options section of this Bulletin for guidelines.

¹Certificate program only.

²Associate degree program only.

Requirements for Associate in Applied Science Degree (A.A.S.)

	Semester Hours	Courses in This Group											
Group 1	6	ENG	JNM	SPE									
Communications		100	130	101									
ENG 101 or 130 and a second course, as approved for your curriculum.		101	131										
		102	133										
		103											
		130											
Group 2	3	MGT	MTH										
Mathematics		150	060	103	134								
The mathematics requirement may be satisfied by demonstrated competency on an exam given by the College.*			061	104	165								
			062	105	200								
			063	106	201								
			100	107	202								
			102	124	206								
9 hrs. must be taken from a minimum of two of Groups 3, 4 and 5.													
Group 3		AST	BIO		CHM		DIT	GEO	PHS	PHY			
Natural Sciences		101	101	140	100	131	101	101	101	101			
			103	150	110	132		102	105	102			
			110	160	121	201		201	111	121			
			120	161	122	204		202	112	122			
			122	210	125	210				201			
			130	220						202			
			135	240									
			136										
Group 4		ART	FNA	FRN	GER	HST	HUM	LIT	MUS	PHI	SGN	SPA	SPE
Humanities		105	111	101	101	111	101	105	101	105	101	101	107
		110	112	102	102	112	102	110	103	110	102	102	111
		111	113	201	201	141	110	112	104	115	201	201	212
		121	114	202	202	142	115	115	120	120		202	
		122		205	205	151	120	206	130	150		205	
		201		210	210	152		207	136	180		210	
		206				153		210	140	205			
		225				210	LNG	216	145	210			
		236				214	105	217	150	220			
		261				218		219	165	231			
		270				243		221	166	232			
		291						222	167				
		296						224	169				
								231	180-				
								232	199				
								241					
Group 5		ANT	ECO	EDU	GEG	PSC	PSY		SOC				
Social Sciences		101	115	211	101	101	101	216	101	101			
		202	200			220	107	217	120				
		203	201			250	108	218	205				
		204	202			270	145	220	210				
			225				150	225	215				
							210	230	220				
Total General Education	*15-18												
Group 6	42-45												
Technical Requirements and Electives													
Total Hours Minimum	60**												

**In addition to the above requirements, students enrolled in a specific career program must fulfill the requirements outlined in that program. Any changes in program requirements necessitated by licensing and/or accrediting agencies must be observed by students who are already admitted and in process in programs.

Cooperative Programs

Harper College has Joint Educational Agreements with various area colleges. Under these agreements, Harper district residents who are admitted to the programs listed below will usually be allowed to attend at the sponsoring college's in-district tuition rate.

The cooperating college will issue all degrees or certificates for successful completion of the program. Program and admission information may be obtained by calling the Director of Admissions at the college offering the program, as listed below.

College of DuPage 858-2800
Lambert Road and 22nd Street
Glen Ellyn, Illinois 60137

Advertising Design and Illustration
Automotive Technology
Communication Art and Sciences
Graphic Arts
Hotel/Motel Management
Human Services
Library Technical Assistant
Medical Records Technology
Nuclear Medicine
Occupational Therapy Assistant
Photography
Plastics Technology
Radiologic Technology
Respiratory Therapy Technician
Supermarket Management
Travel and Transportation

College of Lake County 223-6601
19351 West Washington Street
Grayslake, Illinois 60030

Auto Body Repair and Painting
Automotive Technology
Building Construction Technology
 Construction Layout
 Construction Management
Chemical Technology
 Bio-Tech Option
 Chem-Tech Option
Civil Technology
 Materials Testing and Inspections
 Project Inspector
Human Services Technology
Industrial Building Construction
Industrial Electrician
Industrial Welder
Industrial Supervision
Library Science
Library Technology
Mechanical Maintenance/Repair
Medical Laboratory Technology
Medical Records Technology
Production Management Technology
Radiography
Technical Communications

Tool and Moldmaker
Water/Wastewater
Welding

Elgin Community College 697-1000
1700 Spartan
Elgin, Illinois 60120

Automotive Service Excellence
Automotive Technology
CAM
Child and Youth Advocacy
Culinary Arts
Dental Assisting
Food Manufacturing Technology
Foster Care
Gerontology
Graphic Design
Group Home Care
Juvenile Corrections
Machine Tool, Career Advanced Program
Machine Tool Operation
Machine Tool Technology
Mental Health Generalist
Plastics Processing and Fabricating
Plastics Technology
Substance Abuse
Travel and Tourism
Welding

McHenry County College (815) 455-3700
Route 14 and Lucas Road
Crystal Lake, Illinois 60014

Agricultural Business Technology
Agricultural Production Management
 Technology
Automotive Technology
Floral Design
Industrial Supervision
 Technology
Industrial Work Measurement
Machine Apprenticeship
Photography¹

Oakton Community College 635-1600
1600 East Golf Road
Des Plaines, Illinois 60016

Automotive Service Excellence
Automotive Technology
Biomedical Electronics Technology
Electronic Servicing
Facilities Operation and Engineering
Hotel/Motel Management
Investment Economics and Analysis
Machine Technology Apprenticeship
Medical Laboratory Technology
Medical Record Technology
Photography¹
Physical Therapy Assistant
Radiologic Technology
Transportation and Traffic Management

¹ courses only

Rock Valley College (815) 654-4285
 3301 North Mulford Road
 Rockford, Illinois 61101

Aviation Maintenance Technology

Triton College 456-0300
 2000 Fifth Avenue
 River Grove, Illinois 60171

Automotive Technology
 Basic Addiction Counseling
 Dental Laboratory Technology
 Diesel Technology
 Laser Electro-Optic
 Machine Repair Specialist
 Magnetic Resonance Imaging
 Ophthalmic Technician
 Photo Offset
 Radiologic Technology
 Respiratory Care

Waubensee Community College ... 466-4811
 Illinois Route 47 at
 Harter Road
 Sugar Grove, Illinois 60554

Interpreter Training

Harper College programs available to residents of other college districts under cooperative agreement are as follows:

Banking, Finance DuPage, Lake and
 and Credit McHenry County
 districts.
 Banking and Savings DuPage, Lake County
 Association and McHenry County
 Management districts.
 Bread and Lake County, and
 Pastry Arts McHenry County
 districts.
 Building Codes and DuPage, Lake County,
 Enforcement McHenry County and
 Oakton districts.
 Cardiac Exercise Lake County and
 Technology Triton districts.
 Certified Professional Lake County district.
 Secretary
 Commercial Credit DuPage, Lake County
 Management and McHenry County
 districts.
 Criminal Justice¹ McHenry County
 district.
 Culinary Arts Lake County,
 McHenry County and
 Oakton districts.
 Data Processing — McHenry County
 Computer Operator district.
 Dental Hygiene
 DuPage, Elgin, Lake.
 Dietetic Technician County, McHenry
 County, Oakton and
 Triton districts.

¹Corrections courses only.

Digital Electronics McHenry County
 and Microprocessor district.
 Technology

Fashion Design Elgin, Lake County,
 McHenry County,
 Oakton and Triton
 districts.

Fashion Elgin, Lake County
 Merchandising McHenry and Oakton
 districts.

Financial Lake County and
 Management McHenry County
 districts.

Fire Science McHenry County
 Technology district.

Food Service McHenry County
 Management district.

Habilitation Aide Triton District.

Horticulture Oakton district.

Industrial and DuPage, Lake County
 Retail Security and McHenry County
 districts.

Industrial Sales DuPage district.
 Management and
 Development

Interior Design Elgin, Lake County,
 McHenry County and
 Oakton districts.

Interpreter Training DuPage, Elgin, Lake
 County, McHenry
 County and Triton
 districts.

Journalism DuPage, Lake County
 and McHenry County
 districts.

Legal Secretary Lake County
 district.

Legal Technology DuPage, Elgin, Lake
 County, McHenry
 County, Oakton, Rock
 Valley and Triton
 districts.

Material DuPage, Elgin, Lake
 Management County and McHenry
 County districts.

Mechanical Engineer- McHenry County
 ing Technology district.

Medical Office DuPage, Lake
 Assistant County, McHenry
 County and Oakton
 districts.

Medical/Dental DuPage district.
 Secretary

Medical DuPage and
 Transcriptionist McHenry County
 districts.

Nursing McHenry County
 district.

Operating Room DuPage, Elgin, Lake
 Technician County, Oakton and
 McHenry County
 districts.

Park and Grounds DuPage, Elgin,
 Operation McHenry County and
 Management Oakton districts.

Pharmacy Technician	DuPage, Elgin, Lake County, McHenry County, Oakton and Triton districts.
Real Estate	Lake County and McHenry County districts.
Refrigeration and Air Conditioning Technology	McHenry County district.
Supervisory and Administrative Management	DuPage district.

Telecourses

Credit courses in different disciplines are offered as telecourses for students who are unable to attend classes on campus. These courses, which are generally transferable, are shown over regular or cable television. They are also available for viewing on campus and at certain local public libraries. Individual programs may also be checked out overnight for home use. Courses are presently being offered in areas such as business, economics, gardening, history, psychology, sociology, political science and health. For specific course titles and broadcast channels, check the current semester course schedule.

International Studies Program

Harper College has joined in a consortium with 30 other community colleges and Illinois State University to provide a semester abroad program for students at these institutions. This joint effort makes it possible for the colleges to offer a sound, viable academic program at reasonable cost, and allows qualified students to take advantage of the unique educational experience afforded through study in another country. Currently, programs are available in Canterbury, England and Salzburg, Austria.

The Harper College International Studies Program was first offered in the spring of 1987, and will be offered each fall and spring. To be eligible, a student must have completed 15 credit hours with a 2.75 grade point. Further information about the International Studies Program is available through Student Development.

Honors Program

Harper College seeks to stimulate, encourage and recognize work of depth, scope and originality by its students. A balanced curriculum of Honors courses is offered in the major areas required for the General Education component of associate degrees.

Honors students enjoy the benefit of reduced class size and the challenge of social and intellectual interaction with other high achieving students while they acquire the breadth of understanding and develop leadership qualities that such settings enhance.

All Honors courses are noted as such on the transcript. Additionally, upon fulfilling all other degree requirements, students who complete at least 12 hours of Honors coursework and maintain a GPA of 3.5 or higher will be designated as Honors Program graduates.

To be admitted to Honors classes, students must meet specified criteria, complete an Honors application, and have an interview with the Coordinator of Honors. Applications are available in the Office of Admissions, the Division offices, and the Counseling Centers.

The College also offers several scholarships based primarily on academic achievement. (See Financial Aid section.)

English as a Second Language

English as a Second Language (ESL) courses are for individuals who are native speakers of another language and who need to improve their English language skills for academic or employment purposes. Courses are offered for credit at beginning, intermediate and advanced levels. Both full-time and part-time programs are offered.

The ESL Department serves students from any language background. Some students are referred to the ESL Department from the Harper College assessment program. Student educational backgrounds range from seven grades completed through completion of graduate/professional programs. Students with six years of education or less are referred to the Adult Educational Development Department for enrollment in the Nonnative Literacy Program.

Students are tested during registration and counseled for appropriate program and course placement. For more information, contact the English as a Second Language student advisor.

Full-Time ESL Program

An intensive approach to English language instruction is offered for beginning, intermediate and advanced students who want to learn English or improve their English language skills as quickly as possible. Emphasis is on the language skills and cultural knowledge needed to enter college and university programs in the United States. The program is also beneficial for business and professional personnel. The program includes four levels; students may complete one level per semester. The program includes instruction in grammar, vocabulary, listening, speaking, reading, composition and American culture.

Students must have completed a minimum of twelve grades of education in their native country or in the U.S. in order to enter the program. This program meets the INS requirements for students on student visas.

Part-Time Academic ESL Program

This program is for those students who wish to improve their English language skills for educational, professional or employment reasons. A core sequence of six levels of general courses is complemented by optional additional courses. Students who have completed Advanced Language Skills I (Level 6) or who place at Level 7 may take special advanced courses in grammar, conversation, reading, composition, vocabulary, American culture and TOEFL Test preparation.

Individualized ESL Program

Students with highly specialized needs are served through the Individualized ESL Program by recommendation of department staff.

ESL Program for Hearing Impaired Students

Special courses in ESL are offered at five levels for native hearing impaired students whose first language is sign language. Classes focus on English for academic purposes. For more information, contact the Office of Disabled Student Services.

Adult Educational Development

The Adult Educational Development (AED) Department provides instructional programs and services in the basic skills, Pre-GED, GED, nonnative literacy and amnesty, citizenship and pre-employment skills areas. All programs are intended for adults sixteen years old and over who are not currently enrolled in a secondary school.

The nonnative literacy and amnesty programs serve students who have six years of schooling or less in other countries.

The literacy program is intended to teach adults who cannot read, write or perform basic arithmetic. The Pre-GED and GED programs are designed for those who have not completed a secondary education program in the United States and who have not passed the General Educational Development (GED) Test battery (high school equivalency). The citizenship training program focuses upon test preparation and procedures for U.S. citizenship. The pre-employment skills program is open to students concurrently enrolled in other AED programs or as a separate option.

Students are tested and advised during registration for placement in classes. Basic skills, non-native literacy and Pre-GED students are advised of their progress through achievement tests in classes, and GED students are given predictive tests to measure potential success in passing the GED Test battery. Advising services are available to meet students' personal, academic or career/vocational needs. The on-site business-BASED (Basic Academic Skills for Employee Development) program offers work-related customized instruction in reading, writing, English speaking or mathematical skills.

Daytime and evening courses are offered at the Palatine campus, Northeast Center and other locations, including area businesses. Courses include Nonnative Literacy I, II, III and IV; Basic Reading Skills, Basic English Skills, Basic Mathematical Skills; Pre-GED Reading Skills, Pre-GED English Skills, Pre-GED Mathematical Skills; GED Social Studies and Science, GED Writing Skills and Literature, GED Mathematics; Adult Pre-employment Skills; and Citizenship Training.

Associate Degree Curricula

Curricula leading to the associate in applied science degree are for students planning to follow a career program to prepare for employment.

Programs leading to the associate in arts or associate in science degree are designed for students planning to transfer and pursue a four-year baccalaureate degree.

Accounting Aide

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

First Year

First Semester

ACC 101 Principles of Accounting Theory I	3
DPR 101 Introduction to Data Processing	3
English ¹	3
MGT 111 Introduction to Business Organization	3
Mathematics elective ²	3
	15

Second Semester

ACC 102 Principles of Accounting Theory II	3
DPR 106 Computer Logic and Programming Technology	3
ECO 200 Introduction to Economics	3
ENG 130 Business Writing I ¹	3
Humanities elective	3
	15

Second Year

First Semester

Accounting or Data Processing elective ³	3
ACC 201 Intermediate Accounting I	3
ACC 211 Business Law I	3
Business elective ⁴	3
Social Science elective	3
	15

¹Students may elect ENG 100, ENG 101 or ENG 102, depending on their test scores and advice of a student development faculty member. ENG 130 may be taken as the second English course.

²Students may elect any mathematics course offered, depending on their test scores and advice of a student development faculty member; however, only MTH 100 or higher will satisfy this requirement. MGT 150 will not satisfy this requirement.

³Elective: ACC 155, ACC 250, DPR 203.

⁴Electives: ACC 212, ACC 213, BFC 215, MGT 218, MGT 270.

⁵Elective: DPR 122, DPR 123, DPR 125.

Second Semester

ACC 202 Intermediate Accounting II	3
ACC 203 Introductory Cost Accounting	3
Business electives ⁴	6
DPR 121 General Accounting Applications for Micros	2
Data Processing elective ⁵	1
	15

Air Conditioning

See: Refrigeration and Air Conditioning

Architectural Technology

Architectural Technology is a two-year career program leading to an associate in applied science degree. Curriculum emphasis is on architecture, including solar energy and conservation, but courses in communication skills, social sciences and humanities are also included. Graduates from this curriculum may be qualified for positions as architectural aides, engineering aides in building construction, building materials and equipment salesmen, specification writers and ancillary professional services.

First Year

First Semester

ATE 101 Introduction to Architectural Technology I	4
ATE 103 Building Materials Technology I	4
ATE 105 Computer Math for Architectural Technology I	3
ENG 101 Composition	3
Social Science elective	3
	17

Second Semester

ATE 102 Introduction to Architectural Technology II	4
ATE 104 Building Materials Technology II	4
ENG 102 Composition ¹	3
Mathematics elective***	3
Social Science elective	3
	17

Second Year

First Semester

ATE 201 Comprehensive Building Project I	4
ATE 203 Construction Problems I	4
ATE 207 Behavior of Architectural Materials I	3
Humanities elective ²	3
	14

Second Semester

ATE 202 Comprehensive Building Project II	4
ATE 204 Construction Problems II	4
ATE 208 Behavior of Architectural Materials II	3
Technical elective ³	3
	14

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete a three (3) credit hour ATE elective.

¹ENG 100, ENG 103 or ENG 130 may be used, under certain conditions, to satisfy this requirement.

²Recommended elective: ART 110, MUS 103, MUS 104, PHI 105 or any literature course.

³Technical elective: ATE 106, ATE 210 or ATE 211.

Art

The art curriculum is designed to provide the transfer student with a program equivalent to the first two years of most four-year college programs. Students following this curriculum can obtain an associate in arts degree and transfer into most four-year institutions without loss of time or credit.

In order to serve the differing interests and needs of the total student body, art courses with prerequisites may be taken without the prerequisites for humanities elective credit by non-art majors with permission of the instructor. Courses without prerequisites are open for enrollment to all students.

First Year

First Semester

ART 100 Art Seminar ¹	1
ART 105 Introduction to Arts	3
ART 110 Drawing I	3
ART 121 Design I	3
ENG 101 Composition	3
Mathematics elective	3
	16

Second Semester

ART 100 Art Seminar ¹	1
ART 111 Drawing II	3
ART 122 Design II	3
ENG 102 Composition	3
FNA 111 History of Art I	3
Science elective	4
Social Science elective	3
	20

Second Year

First Semester

Elective ²	3
FNA 112 History of Art II	3
Math or Science elective	3
Social Science elective	3
Studio electives	6-9
	18-21

Second Semester

FNA 113 History of Art III	3
Social Science elective	3
SPE 101 Fundamentals of Speech Communication	3
Studio electives	9-12
	18-21

¹ART 100 may be repeated to 2 credit hours.

²Elective: communication, mathematics or social science.

Banking and Savings Association Management

Banking and Savings Association Management is a two-year career program leading to an associate in applied science degree emphasizing the banking and the savings and loan industry. The program is designed for those currently employed in, or seeking employment in, banks or savings and loans associations. The curriculum emphasizes developing competencies necessary for middle management and lending positions within the financial industry.

First Year

First Semester

BFC 101 Principles of Financial Institution Operations	3
BFC 115 Personal Banking/Advanced Principles or	
BFC 118 Credit Administration in Financial Institutions	3
ENG 100 Composition or	
ENG 101 Composition	3
MGT 111 Introduction to Business Organization	3
MGT 150 Business Math	3
	<u>15</u>

Second Semester

ACC 101 Principles of Accounting Theory I	3
BFC 102 Commercial Law	3
Banking elective ¹	3
ECO 115 Consumer Economics or	
ECO 201 Principles of Economics I	3
SPE 101 Fundamentals of Speech Communication	3
SPE 115 Interviewing	1
	<u>16</u>

Second Year

First Semester

ACC 102 Principles of Accounting Theory II or	
BFC 211 Accounting for Financial Institutions	3
Banking elective ¹	3
ECO 200 Introduction to Economics or	
ECO 202 Principles of Economics II	3
ENG 130 Business Writing I	3
MGT 218 Introduction to Finance	3
	<u>15</u>

Second Semester

BFC 215 Financial Statements Interpretation and Analysis	3
BFC 219 Consumer and Commercial Credit in Financial Institutions	3
ECO 210 Money and Banking	3
Elective ¹	3
Humanities elective	3
	<u>15</u>

¹Electives are to be selected from the following list of courses, with approval of the coordinator: BFC 110, BFC 117, BFC 200, BFC 211, BFC 212, BFC 213, BFC 216, BFC 217, BFC 220, BFC 225, BFC 235, DPR 101, DPR 120, ECO 201, ECO 202, MGT 160, MGT 265, MGT 270, PSY 101, PSY 145, RES 122, RES 123, RES 124, RES 232.

Students with an interest in savings association management must take BFC 212 and RES 101 as their electives.

Biological Sciences*

The following suggested curriculum is recommended for students who plan to transfer and major in biology and related fields such as medicine, dentistry and physical therapy. Check with the school of your choice or a Student Development Center for specific transfer information.

First Year

First Semester

CHM 121 General Chemistry I (4) or	
CHM 131 College Chemistry I (5)**	4-5
ENG 101 Composition	3
Humanities elective	3
Mathematics elective	3-4
SPE 101 Fundamentals of Speech Communication	3
	16-18

Second Semester

BIO 210 Biological Principles	4
CHM 122 General Chemistry II (4) or	
CHM 132 College Chemistry II (5)**	4-5
ENG 102 Composition	3
Mathematics elective	3-4
Social Science elective	3
	17-19

Summer Semester

Contemporary Studies and Life Skills elective	3
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Second Year

First Semester

BIO 220 Botanical Principles or	
BIO 240 Zoological Principles	4
CHM 204 Organic Chemistry	5
Mathematics elective or	
PHY 121 Introductory Physics I	4-5
Humanities elective	3
	16-17

Second Semester

BIO 220 Botanical Principles or	
BIO 240 Zoological Principles	4
CHM 205 Organic Chemistry	5
Mathematics elective or	
PHY 122 Introductory Physics II	4-5
Social Science elective	3
	16-17

*In most cases the credits earned in courses are transferable to all four-year institutions. Since each school has its special requirements, students should see a counselor on the transferability of specific courses to specific four-year institutions.

**U of I. program requires the College Chemistry.

Business Administration

This recommended transfer program for business students will meet requirements for the associate in arts degree. Students will choose a major within the business field at the four-year school. Requirements for each school vary. Students should check the requirements before completing this curriculum as outlined.

First Year

First Semester

ENG 101 Composition	3
MGT 111 Introduction to Business Organization	3
Mathematics elective ¹	3
Science elective	4
SPE 101 Fundamentals of Speech Communication	3
	16

Second Semester

ACC 101 Principles of Accounting Theory I	3
DPR 101 Introduction to Data Processing (3) or DPR 200 Business Computer Systems (4) ^{2,5}	3-4
ENG 102 Composition	3
Humanities elective	3
Mathematics elective ¹	3-4
	15-17

Second Year

First Semester

ACC 102 Principles of Accounting Theory II	3
ACC 211 Business Law I or ACC 213 Legal Environment of Business ²	3
ECO 201 Principles of Economics I	3
Humanities elective	3
Social Science elective	3
	15

Second Semester

ACC 203 Introductory Cost Accounting ³	3
ECO 202 Principles of Economics II	3
Humanities elective	3
MGT 225 Applied General Statistics	3
ACC 212 Business Law II ² or Social Science elective ⁴	3
	15

¹Elective: MTH 103, MTH 124 or MTH 134.

²Transfer students should check with the school they will be transferring to regarding the transferability of these courses.

³Specifically recommended for accounting majors. Other majors should see a student development faculty member for alternatives.

⁴ACC 212 specifically recommended for accounting majors. Social Science electives should be selected from PSY 101, PSY 145 or SOC 101.

⁵Students selecting DPR 200 must complete a three (3) credit hour Contemporary Studies and Life Skills requirement.

Business Information Management¹

Business Information Management is a two-year career program leading to an associate in applied science degree. This program is to provide in-service education for those persons working directly in, or in fields allied to, information management or office automation. Additionally, the program may provide pre-service training for those who may seek or be transferred into jobs within these fields.

First Year

First Semester

ACC 101 Principles of Accounting Theory I	3
BIM 170 Introduction to Information Applications and Technologies	3
DPR 101 Introduction to Data Processing	3
English elective ²	3
MGT 111 Introduction to Business Organization	3
	15

Second Semester

BIM 175 Enterprise-Wide Information Analysis	3
DPR 120 Introduction to Business Software Packages	3
DPR 203 Systems Analysis and Design I ³	3
English elective ²	3
Mathematics elective***	3
	15

Second Year

First Semester

BIM 180 Information Applications Implementation	3
BIM 210 Information Applications Resources	3
DPR 170 Introduction to Data Communications	3
Humanities elective	3
Social Science elective ⁴	3
	15

Second Semester

BIM 220 Integration of Information Applications	3
BIM 250 Multi-Media Business Presentations	3
BIM 260 Training and Development in Information Management	3
Elective ⁵	3
Social Science elective ⁴	3
	15

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete a three (3) credit hour elective approved by the program coordinator.

¹It is recommended that BIM students have keyboarding skill. SEC 110 is recommended for those students who cannot keyboard.

²ENG 101 and a second course, as approved by the program coordinator.

³Prerequisite waived for BIM students.

⁴Social Science electives: ECO 200, ECO 201, ECO 202, PSY 145.

⁵Elective: ACC 102, BFC 101, MGT 160, MGT 267, MGT 270, MKT 140, MKT 245, with approval of program coordinator.

Cardiac Exercise Technology

Cardiac Exercise Technology is a two-year career program leading to an associate in applied science degree. The purpose of this program is to prepare competent exercise specialists to play a major role in cardiovascular fitness programs situated in hospital rehabilitation facilities, corporations, colleges, recreation centers and health spas.

Responsibilities of the exercise specialist include assisting in diagnostic testing, data analysis, patient consultation, exercise prescription and exercise supervision. Therefore, the curriculum emphasizes courses in the biological sciences, exercise physiology, exercise testing and medical procedures, but additional study in nutrition, psychology and communication skills is also considered vital.

Graduates are eligible to take a certification examination offered by the American College of Sports Medicine.

First Year

First Semester

BIO 160 Human Anatomy	4
ENG 101 Composition	3
HPI 100 Introduction to the Cardiac Exercise Technology Program	1
HPI 101 Fundamentals of Exercise Testing	3
Elective ¹	1
PSY 101 Introduction to Psychology	3
	15

Second Semester

BIO 161 Human Physiology	4
English ²	3
HPI 104 Data Analysis and Exercise Prescription	3
HPI 105 Electrocardiography	4
HPI 108 Practical Experience in Administering Adult Fitness	2
PED 201 First Aid	2
	18

Second Year**First Semester**

DIT 101 Basic Nutrition	3
HPI 102 Exercise Physiology	3
HPI 103 Advanced First Aid Procedures	2
HSC 112 Medical Terminology	2
PHI 180 Biomedical Ethics	3
Elective ³	3
	16

Second Semester

Mathematics elective***	3
Elective	1
HPI 106 Cardiovascular Physiology and Pathology	3
HPI 107 Internship	4
PSY 218 Psychology of Adulthood and Aging or	
PSY 230 Psychology of Human Adjustment and Abnormal Behavior	3
	14

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹PED 100 is recommended.

²Students should seek the advice of a student development faculty member to determine the appropriate English course.

³SPE 101 is recommended.

Child Development

Child Development is a two-year career program leading to an associate in applied science degree. The curriculum is designed to provide students with the requisite skills and theoretical knowledge to work in a variety of child care facilities: preschool and day care centers, public school classrooms (as aides), special education programs and related settings in the expanding area of child-related professions.

First Year**First Semester**

CCA 101 Introduction to Child Development Careers	3
CCA 102 Child Development I	3
ENG 101 Composition	3
Humanities elective	3
PSY 101 Introduction to Psychology	3
	15

Second Semester

CCA 103 Child Development II	3
EDU 211 Educational Psychology	3
Elective	3
ENG 102 Composition	3
SOC 101 Introduction to Sociology	3
	15

Second Year**First Semester**

CCA 209 Language Arts for the Young Child	3
CCA 214 Principles of Preschool Education ¹ or	
CCA 218 Principles of Special Education	6
CCA 225 Mental Health in Child Development	3
HSC 220 Health, Nutrition and Safety	3
Mathematics elective***	3
	18

Second Semester

CCA 210 Creative Activities for Young Children	3
CCA 219 Psychology of Exceptional Children or	
CCA 220 Child Development Practicum Internship	6
CCA 221 Workshop in Early Childhood Education	3
CCA 252 Child-Family- Community	3
Elective	1
	16

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹Students interested in preschool teaching will take CCA 214 and CCA 221. Students interested in work with exceptional children will take CCA 218 and CCA 219.

Commercial Credit Management

Commercial Credit Management is a two-year career program leading to an associate in applied science degree. The program is designed for those currently employed in, or seeking employment in, entry level management positions in commercial credit (accounts receivable) management. Upon completion of this degree, students can also receive an Associate Award granted by the National Institute of Credit, a division of the National Association of Credit Management.

First Year

First Semester

ACC 101 Principles of Accounting Theory I	3
BFC 101 Principles of Financial Institution Operations	3
ENG 100 Composition or	
ENG 101 Composition	3
MGT 111 Introduction to Business Organization	3
MGT 150 Business Math	3
	15

Second Semester

ACC 102 Principles of Accounting Theory II	3
DPR 120 Introduction to Business Software Packages	3
ECO 201 Principles of Economics I	3
ENG 130 Business Writing I	3
MGT 218 Introduction to Finance	3
SEC 110 Basic Keyboarding	1
	16

Second Year

First Semester

BFC 102 Commercial Law	3
BFC 201 Commercial Credit & Collections Principles	3
BFC 215 Financial Statements Interpretation and Analysis	3
ECO 202 Principles of Economics II	3
SPE 101 Fundamentals of Speech Communication	3
	15

Second Semester

BFC 202 Advanced Commercial Credit and Collections	3
BFC 217 Uniform Commercial Code Elective ¹	3
Humanities elective	3
MKT 245 Principles of Marketing	3
	15

¹Elective: ACC 201, BFC 110, BFC 225, ECO 210, MGT 225, MGT 270, PSY 145, SEC 121.

Communications

The following first-year program is recommended for students who plan to transfer and major in such fields as English, literature, speech or theatre. Check with the school of your choice or a Student Development Center before planning your second year at Harper.

First Year

First Semester

ENG 101 Composition	3
Foreign Language	4
Mathematics or Science elective	3-4
Social Science elective	3
SPE 101 Fundamentals of Speech Communication	3
	16-17

Second Semester

ENG 102 Composition	3
Foreign Language	4
Speech or Literature elective	3
Mathematics or Science elective	3-4
Social Science elective	3
	16-17

Computer Science

The following first-year program is recommended for students who plan to transfer in Computer Science. Programs vary and students should check with the school of their choice before planning a second year at Harper.

First Year

Summer Semester

MTH 200 Calculus with Analytic Geometry I	5
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First Semester

ENG 101 Composition	3
Humanities elective	3
MTH 201 Calculus with Analytic Geometry II	5
Computer Science elective ¹	4
	15

Second Semester

CSC 211 Introduction to "C" Programming and UNIX (4) or	
CSC 215 Introduction to Computer Science (3)	3-4
ENG 102 Composition	3
Humanities elective	3
MTH 202 Calculus with Analytic Geometry III	4
Physical Science elective ²	4-5
	17-19

¹Elective: CSC 208, CSC 209.

²Elective: CHM 121, CHM 122, CHM 131, CHM 132, PHY 201, PHY 202.

Criminal Justice

Criminal Justice is a two-year career program leading to an associate in applied science degree. It is designed to serve the needs of men and women in criminal justice organizations at the local, state and federal levels, and to prepare others to enter this service. Opportunities include positions in crime prevention, probation, correction, court records, communications, and general police and security work. Options are available for those wishing to continue in any of these special areas or for those who plan to earn a baccalaureate degree at a four-year college or university.

Certificate options are available in Criminal Justice and in Industrial and Retail Security.

Students earning an associate in applied science degree in criminal justice are required to complete a minimum of 60 semester hours of work. Courses must satisfy both the College and the program's minimum requirements.

Required Core Courses:

CRJ 101 Introduction to Criminal Justice ¹	3
CRJ 104 Introduction to Corrections	3
CRJ 201 Criminal Law I ¹	3
CRJ 202 Criminal Law II	3
CRJ 205 Juvenile Delinquency	3
CRJ 210 Introduction to Criminology ¹	3
CRJ 213 Crime Prevention	3

Required General Education Courses:

Electives ²	9
English elective ³	6
Humanities elective	3
Mathematics electives***	3
PSC 101 American Politics and Government or	
PSC 220 Suburban, Urban and State Politics	3
PSY 101 Introduction to Psychology	3
PSY 217 Adolescent Psychology	3
SOC 101 Introduction to Sociology	3
SOC 205 Social Problems	3
SPE 101 Fundamentals of Speech Communication	3

Specialized Study Areas

Students should select electives from one or more of the following specialized areas of study depending on interest and career needs.

Basic Law Enforcement

CRJ 105 Criminal Courts of the U.S.	3
CRJ 116 Introduction to Forensics	3
CRJ 203 Law and Society	3
CRJ 216 Investigative Process	3
CRJ 235 Street Procedures	4
CRJ 238 Defensive Techniques	3
CRJ 299 Criminal Justice Practicum	3

Advanced Law Enforcement

CRJ 105 Criminal Courts of the U.S.	3
CRJ 209 Police — Public — Community Relations	3
CRJ 216 Investigative Process	3
CRJ 220 Police Administration	3
CRJ 222 Police Operations	3
CRJ 224 Police Supervision	3
CRJ 226 Case Management	3

Corrections

CRJ 105 Criminal Courts of the U.S.	3
CRJ 215 Alternatives to Confinement	3
CRJ 299 Criminal Justice Practicum	3

Industrial Security

CRJ 250 Industrial Security Administration	3
CRJ 252 Industrial Fire Protection, Disaster Control	
CRJ 253 Safety Management	3
CRJ 299 Criminal Justice Practicum	3

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete a three (3) credit hour elective.

¹Students may take CRJ 203 or CRJ 215, with approval of program coordinator.

²In determining electives, the student should consult with the coordinator.

³Students must take either ENG 101 or ENG 130 within the six (6) hour English requirement.

Data Processing Technology

Data Processing Technology is a career program leading to an associate in applied science degree. The technical curriculum trains 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 may find employment as computer programmers, systems analysts and computer operators.

First Year _____

First Semester

DPR 101 Introduction to Data Processing _____	3
DPR 106 Computer Logic and Programming Technology _____	3
ENG 101 Composition _____	3
MTH 102 Intermediate Algebra _____	4
Social Science elective _____	3
	<u>16</u>

Second Semester

ACC 101 Principles of Accounting Theory I _____	3
DPR 108 Computer Programming — COBOL _____	5
DPR 203 Systems Analysis and Design I _____	3
ENG 103 Technical and Report Writing _____	3
MGT 111 Introduction to Business Organization _____	3
	<u>17</u>

Second Year _____

First Semester

ACC 102 Principles of Accounting Theory II _____	3
DPR 110 Computer Programming — Assembler Language _____	5
DPR 204 Advanced Systems Analysis and Design _____	3
Data Processing elective ¹ _____	3-4
Humanities elective _____	3
	<u>17-18</u>

Second Semester

DPR 170 Introduction to Data Communications _____	3
DPR 202 Programming Systems _____	3
DPR 208 Computer Programming — Advanced COBOL or _____	
DPR 210 Computer Programming — Advanced Assembler Language _____	4
ECO 200 Introduction to Economics _____	3
	<u>13</u>

¹Elective: DPR 120, DPR 121, DPR 122, DPR 123, DPR 124, DPR 125, DPR 126, DPR 130, DPR 131, DPR 132, DPR 133, DPR 134, DPR 136, DPR 140, DPR 142, DPR 150, DPR 152, DPR 153, DPR 154, DPR 160, DPR 166, DPR 171, DPR 208, DPR 210, DPR 220, DPR 230, DPR 231, DPR 240, DPR 266, DPR 270, DPR 280.

Dental Hygiene*

Dental Hygiene is a career program leading to an associate in applied science degree. The program meets State guidelines and is accredited by the Commission on Dental Accreditation of the American Dental Association.

Prior to receiving a license in the practice of dental hygiene, graduates must successfully complete the program and pass the Dental Hygiene Written National Board exam and the Northeast Regional Clinical exam.

**Admission requirements include:

- Fulfillment of the General Admission Requirements of Harper College.
- Submission of an official copy of American College Test (ACT) results. (This requirement will be waived for students who have completed 12 or more semester hours of college work.)
- High school graduation or equivalent (GED).
- A high school grade average of 2.5 or better (on a 4.0 scale) or if 12 semester hours of college credit have been completed, a college grade average of 2.0 or better (on a 4.0 scale).
- Completion of at least one full year of high school course work in biology with grades of "C" or better, or one semester of college course work in biology with a grade of "C" or better. Once college biology has been completed, *only* college biology will be used to determine if this admission requirement has been fulfilled.
- Completion of at least one full year of high school course work in chemistry with grades of "C" or better, or one semester of college course work in chemistry with a grade of "C" or better. Once college chemistry has been completed, *only* college chemistry will be used to determine if this admission requirement has been fulfilled.
- Students who have completed any of the following courses (or their equivalent) must have obtained a grade of "C" or better in each course completed: BIO 130 — Microbiology, BIO 160 — Human Anatomy, BIO 161 — Human Physiology, CHM 100 — Chemistry for the Health Sciences, CHM 125 — Organic and Biochemistry for the Health Sciences, DIT 101 — Basic Nutrition. Students who completed any of these courses more than five (5) years prior to beginning the Dental Hygiene Program must either repeat the course(s) and obtain a grade of "C" or better, or successfully proficiency test out of the course(s).
- Satisfactory score on Harper College Dental Hygiene admission scale.

Students who meet the above requirements will be required to attend a Dental Hygiene Program Information session.

First Year

Summer Semester

BIO 160	Human Anatomy	_____	4
CHM 100	Chemistry for the Health Sciences or	_____	
CHM 125	Organic and Biochemistry for the Health Sciences ¹	_____	4
			<u>8</u>

First Semester

BIO 130	Microbiology	_____	4
DHY 100	Pre-Clinic	_____	5
DHY 159	Head and Neck Anatomy	_____	3
DHY 161	Dental Anatomy	_____	2
DIT 101	Basic Nutrition	_____	3
			<u>17</u>

Second Semester

BIO 161	Human Physiology	_____	4
DHY 101	Clinical Dental Hygiene I	_____	5
DHY 111	Dental Radiology	_____	3
DHY 190	General and Oral Pathology	_____	2
PSY 101	Introduction to Psychology	_____	3
			<u>17</u>

Summer Semester

DHY 103	Dental Health Education	_____	1
DHY 151	Clinical Dental Hygiene II	_____	2
SPE 101	Fundamentals of Speech Communication	_____	3
			<u>6</u>

Second Year

First Semester

DHY 200	Periodontology	_____	2
DHY 202	Radiology I	_____	1
DHY 220	Community Dentistry I	_____	2
DHY 240	Dental Pharmacology	_____	2
DHY 250	Clinical Dental Hygiene III	_____	5
DHY 280	Dental Materials	_____	2
ENG 101	Composition	_____	3
			<u>17</u>

Second Semester

DHY 201	Ethics, Jurisprudence and Practice Management	_____	2
DHY 203	Radiology II	_____	1
DHY 221	Community Dentistry II	_____	3
DHY 251	Clinical Dental Hygiene IV	_____	5
	Mathematics elective***	_____	3
SOC 101	Introduction to Sociology	_____	3
			<u>17</u>

*Dental Hygiene is a limited enrollment program. See Limited Enrollment Programs section of this Bulletin for details.

**Subject to change. Contact the Admissions Office for additional information.

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹Meet with student development faculty member or coordinator of the Dental Hygiene Program for appropriate testing and/or placement.

Dietetic Technician*

Dietetic Technician is a two-year career program leading to an associate in applied science degree. This program, with its major emphasis on nutritional care, prepares a student for employment in a hospital, nursing home or in community feeding programs under the direct or general supervision of registered dietitians.

The Dietetic Technician Program is approved by the American Dietetic Association, and graduates of the program are eligible to join the association.

**Admission requirements include:

- Fulfillment of the General Admission Requirements of Harper College.
- Submission of an official copy of American College Test (ACT) results. (This requirement will be waived for students who have completed 12 or more semester hours of college work.)
- High school graduation or equivalent (GED).
- Completion of at least one year of high school course work in science with a grade of "C" or better, or one semester of college course work in science with a grade of "C" or better.
- A satisfactory interview with the coordinator of the Dietetic Technician Program.

First Year

First Semester

BIO 135 Introduction to Human Anatomy and Physiology	4
DIT 100 Introduction to the Dietetic Technician Program	3
DIT 101 Basic Nutrition	3
FSM 114 Food Standards and Sanitation	3
Mathematics elective***	3
	16

Second Semester

BIO 136 Introduction to Human Disease	3
DIT 102 Advanced Nutrition	3
DIT 110 Principles of Food Preparation	3
DIT 150 Dietetic Clinical Laboratory I	3
English elective ¹	3
	15

Second Year

First Semester

DIT 200 Dietetic Clinical Laboratory II	4
DIT 201 Nutritional Services in Institutions	3
FSM 212 Food Service Supervision	4
PSY 101 Introduction to Psychology	3
SOC 101 Introduction to Sociology	3
	17

Second Semester

DIT 202 Nutrition Care Seminar	2
DIT 203 Dietetic Seminar	1
DIT 250 Dietetic Clinical Laboratory III	4
EDU 211 Educational Psychology	3
English elective ¹	3
SPE 101 Fundamentals of Speech Communication	3
	16

*Dietetic Technician is a limited enrollment program. See Limited Enrollment Programs section of this Bulletin for details.

**Subject to change. Contact the Admissions Office for additional information.

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹Students may take either ENG 101 or ENG 130 within the six (6) hour English requirement.

Digital Electronics and Microprocessor Technology

Digital Electronics and Microprocessors Technology is a two-year career program leading to an associate in applied science degree. It is designed to prepare students for the field of digital electronics in industries associated with computers and microprocessor equipment. The curriculum offers courses in electronics, digital electronics, computer hardware, software and peripheral systems, mathematics and general education.

Graduates may be employed in a variety of electronics related industries with job classifications as technician, programmer or field service technician.

First Year

First Semester	
ELT 110 Introductory Electronics	2
ELT 210 Computer Programming	3
ENG 101 Composition	3
Humanities elective ¹	3
MTH 106 Mathematics I	5
	16

Second Semester	
ELT 111 Electronics I, Resistive	3
ELT 203 Electronics II, Digital	5
ENG 102 Composition or	
ENG 103 Technical and	
Report Writing	3
MTH 107 Mathematics II	5
	16

Second Year

First Semester	
ELT 206 Electronic Computers	5
ELT 216 Microprocessor	
Software Applications	5
Programming elective ²	4
Social Science elective ³	3
	17

Second Semester	
ELT 217 Microprocessor	
Peripheral Systems	5
ELT 218 Principles of Microprocessor	
System Design	5
Electronics elective ⁴	3
Social Science elective ³	3
	16

¹Any 3-credit hour course in the humanities area will meet this requirement.

²Programming elective: CSC 208, CSC 209, DPR 133.

³Any 3-credit hour course in the social science area will meet this requirement.

⁴To be approved by program coordinator.

Education

The following program will prepare students for transfer to a college or university to major in early childhood, elementary, secondary or special education. Students will fulfill requirements for the associate in arts degree at Harper College and meet many of the teacher certification requirements for the State of Illinois. Students who will major in art, music or a secondary education field must follow a major in their field of study.

First Year

First Semester	
ENG 101 Composition	3
HST 111 The American Experience ¹	3
Mathematics elective ²	3-4
PSY 101 Introduction to Psychology	3
Science elective ³	3-4
	15-17

Second Semester	
ENG 102 Composition	3
Humanities elective	3
Laboratory Science elective	4
PSC 101 American Politics and	
Government	3
SPE 101 Fundamentals of Speech	
Communication	3
	16

Second Year

First Semester	
Contemporary Studies and Life Skills	
Electives	4
Elective ²	3
Health ²	2
HST 121 History of Latin America or	
HST 243 The Far East in the	
Modern World	3
Social Science elective	3
	15

Second Semester	
EDU 201 Introduction to Education ⁴	3
EDU 202 Pre-Student Teaching Clinical	
Experience ⁴	1
EDU 211 Educational Psychology ⁴	3
Electives ²	7-8
	14-15

¹HST 112 may be substituted.

²Check with Student Development for recommendations.

³One biological science and one of the physical sciences required.

⁴Check with transfer school for transferability.

Electronics Technology

Electronics Technology is a two-year career 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 may find employment as electronic engineering technicians, industrial technicians, electronic/electrical draftsmen, customer engineers, technical writers and research laboratory technicians.

First Year

First Semester

ELT 101 Circuits I	5
ELT 105 Electro-Mechanical Drafting	3
ELT 110 Introductory Electronics	2
ENG 101 Composition	3
MTH 106 Mathematics I	5
	18

Second Semester

ELT 102 Circuits II	4
ELT 111 Electronics I, Resistive	3
ELT 210 Computer Programming	3
Humanities elective ¹	3
MTH 107 Mathematics II	5
	18

Summer Semester

Social Science electives ²	6
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Second Year

First Semester

ELT 103 Circuits III, Networks	5
ELT 203 Electronics II, Digital	5
MTH 206 Mathematics III	3
PHY 101 Technical Physics I	4
	17

Second Semester

Electronics elective ³	4-5
ELT 204 Electronics III, Advanced Electronics	5
ENG 103 Technical and Report Writing	3
PHY 102 Technical Physics II	4
	16-17



¹Any 3-credit hour course in the humanities area will meet this requirement.

²Social Science electives: ANT 101, ECO 201, GEG 101, PSC 101, PSY 101, PSY 145, SOC 101.

³Electronics elective: ELT 205, ELT 206, ELT 207, ELT 215, ELT 216, ELT 217, ELT 218.

Engineering

A strong background in mathematics and the physical sciences will be required to complete an engineering curriculum at a university. Thus, the core math and science courses should be mastered by all students planning to pursue an engineering degree. The following represent suggested two-year pre-engineering curricula for students at different levels in their math and science background when they enter Harper. They are intended as general guides only. Student development faculty and engineering faculty should be consulted for aid in planning a program which will reflect the background of the student, the special requirements which may apply for different engineering areas and the requirements of specific transfer institutions.

A recommended program for a student who has completed college algebra and trigonometry and who wishes to major in mechanical, civil, aeronautical or general engineering follows. Students interested in electrical engineering should contact a student development faculty member before enrolling for the second semester of the first year. Electrical engineering and computer engineering students should consult a faculty member before planning their second year. Technical electives may be substituted for certain of these courses.¹

First Year _____

Summer Semester

SPE 101 Fundamentals of
Speech Communication _____3

First Semester

CHM 121 General Chemistry I² _____4
EGR 100 Introduction to
Engineering _____1
EGR 120 Engineering Graphics I _____3
ENG 101 Composition _____3
MTH 200 Calculus with Analytic
Geometry I _____5
_____16

Second Semester

CHM 122 General Chemistry II _____4
CSC 208 FORTRAN Computer
Programming (4) or
EGR 121 Engineering Graphics II (3) _____3-4
MTH 201 Calculus with Analytic
Geometry II _____5
PHY 201 General Physics I _____4
_____16-17

Second Year _____

Summer Semester

Humanities elective _____3

First Semester

EGR 150 Analytical Mechanics
(Statics) _____3
ENG 102 Composition _____3
MTH 202 Calculus with Analytic
Geometry III _____4
PHY 203 General Physics II _____4
Social Science elective _____3
_____17

Second Semester

EGR 211 Analytical Mechanics
(Dynamics) _____3
Humanities elective _____3
MTH 212 Differential Equations _____3
PHY 203 General Physics III _____4
Social Science elective _____3
_____16

¹Technical electives: CSC 209, CSC 215, EGR 211, EGR 212, EGR 260, EGR 262, EGR 270, MTH 203, MTH 265.

²CHM 131 and CHM 132 may be substituted where required for specialized curricula such as chemical engineering.

³Some engineering schools will require an equivalent of CSC 209 or CSC 215.

Executive Secretarial Development

Executive Secretarial Development is a two-year career program leading to an associate in applied science degree. The curriculum emphasizes office practices, secretarial duties and functions of office administration.

Graduates may be employed in any of a variety of organizations, including manufacturing firms, government agencies, insurance companies, service organizations, schools and colleges, banks, as well as advertising and airline companies.

First Year

First Semester

SEC 100 Introduction to Secretarial Administration	3
SEC 122 Intermediate Typing ¹	2
SEC 125 Shorthand I	5
SEC 133 Word Processing Equipment: IBM Personal Computer I ²	1
SEC 200 Advanced Word Processing Techniques ³	1
SPE 101 Fundamentals of Speech Communication	3
	<hr/> 15

Second Semester

ENG 130 Business Writing I	3
SEC 200 Advanced Word Processing Techniques ^{4,5}	2
SEC 220 Automated Office Practices ¹	4
SEC 225 Shorthand II ¹	5
SEC 236 Secretarial Procedures	3
	<hr/> 17

Second Year

First Semester

ACC 099 Business Recordkeeping or ACC 101 Principles of Accounting Theory I	3
DPR 123 Spread Sheet/Budgeting for Micros	1
DPR 124 Decision Support for Micros	1
MGT 111 Introduction to Business Organization	3
SEC 230 Executive Machine Transcription	2
SEC 237 Secretarial Seminar and Internship I ⁶	3
SEC 247 Professional Development	2
	<hr/> 15

Second Semester

DPR 122 Data Base for Micros	1
ECO elective ⁷	3
Humanities elective	3
MTH elective ⁸	3
SEC 238 Secretarial Seminar and Internship II ⁶	3
Social Science elective	3
	<hr/> 16

¹Placement into SEC 122, SEC 220, and SEC 225 is contingent upon previous training and consent of instructor.

²Students are required to take Wordperfect as their software package choice during the second 8-weeks of the first year, first semester.

³Students are required to take proofreading and editing as their software package choice during the first 5-weeks of the first year, first semester.

⁴Students are required to take plan perfect and executive spreadsheet techniques as their software package during the first 5-weeks of the first year, second semester.

⁵Students are required to take desktop publishing as their software package choice during the second 5-weeks of the first year, second semester.

⁶Enrollment in SEC 237 and SEC 238 is restricted to students in the second year of the program with the consent of the instructor.

⁷ECO elective: ECO 115, ECO 200, ECO 201.

⁸While students may take any mathematics course offered depending upon their test scores and the advice of a student development faculty member, MGT 150 is recommended.

Fashion Design

Fashion Design is a two-year career 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. Facilities will simulate the professional atmosphere of the fashion industry.

Graduates may find employment as couture fashion designers, mass production fashion designers, flat pattern makers, fashion illustrators and fashion coordinators.

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

First Year _____	
First Semester	
English ¹ _____	3
FAS 101 Flat Pattern Design and Draping I _____	3
FAS 103 Apparel Design and Construction I _____	3
FAS 105 Fashion Design Illustration I _____	1
FAS 107 Textiles I _____	2
FAS 110 Costume History _____	2
Social Science elective _____	3
	17

Second Semester	
English ¹ _____	3
FAS 102 Flat Pattern Design and Draping II _____	4
FAS 104 Apparel Design and Construction II _____	4
FAS 106 Fashion Design Illustration II _____	1
FAS 108 Textiles II _____	2
FAS 109 Fashion Arts and Design _____	2
	16

Second Year _____	
First Semester	
FAS 201 Advanced Flat Pattern Design and Draping I _____	4
FAS 203 Advanced Diversified Apparel Design I _____	4
FAS 205 Tailoring Techniques I _____	2
FAS 209 Advanced Fashion Illustration I _____	1
Mathematics elective*** _____	3
Social Science elective _____	3
	17

Second Semester	
FAS 202 Advanced Flat Pattern Design and Draping II _____	4
FAS 204 Advanced Diversified Apparel Design II _____	4
FAS 206 Tailoring Techniques II _____	2
FAS 210 Advanced Fashion Illustration II _____	1
FAS 212 Visual Fashion Merchandising _____	2
Humanities elective ² _____	3
	16

***A competency test, available in the testing center, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete MKT 106.

¹Students may elect ENG 100, ENG 101 or ENG 102, depending on their test scores and advice of a student development faculty member.

²ART 105 is recommended.

Fashion Merchandising

Fashion Merchandising is a two-year career program leading to an associate in applied science degree.

The fashion merchandising curriculum provides all the phases of fashion merchandising, not only in business aspects, but also in aesthetic and creative sides of fashion, such as window display, fashion basics and textile.

Students will study fashion history and trends as well as their influence on our lives. In addition, they will survey the development of style leading up to contemporary design. Students will also take courses in English composition, data processing, sociology and introductory psychology.

An educational background in fashion merchandising opens the door to various careers, such as fashion coordinating, fashion promoting, fashion advertising, fashion displaying, fashion copywriting, fashion photographing, fashion buying and store managing.

First Year _____

First Semester

ENG 101 Composition _____	3
FAS 107 Textiles I _____	2
FAS 110 Costume History _____	2
MGT 111 Introduction to Business Organization _____	3
MGT 150 Business Math _____	3
MKT 106 Merchandising of Furnishings and Softline Goods _____	3
	<u>16</u>

Second Semester

ENG 102 Composition _____	3
FAS 111 20th Century Costume and Trends _____	3
FAS 112 Fashion Basics _____	3
PSY 101 Introduction to Psychology _____	3
SPE 101 Fundamentals of Speech Communication _____	3
	<u>15</u>

Second Year _____

First Semester

ART 105 Introduction to Arts _____	3
FAS 229 Promotion of Fashion _____	3
MKT 140 Salesmanship _____	3
MKT 245 Principles of Marketing _____	3
MKT 250 Retailing _____	3
SOC 101 Introduction to Sociology _____	3
	<u>18</u>

Second Semester

DPR 101 Introduction to Data Processing _____	3
FAS 230 Contemporary Living _____	3
FAS 116 Fashion Industries Career Practicum and Seminar or	
FAS 240 Fashion Projects _____	3
MKT 247 Consumer Buying Behavior _____	3
MKT 251 Retail Merchandise Management _____	3
	<u>15</u>

Financial Management

Financial Management is a two-year career program leading to an associate in applied science degree. The curriculum is structured to meet the needs of individuals in gaining or improving financial skills. The thrust of the program is to study the field of, and the options within, the corporate finance environment. The curriculum emphasizes developing competencies needed for middle level management positions in the field of corporate finance.

First Year

First Semester

BFC 101 Principles of Financial Institutions Operations	3
BFC 102 Commercial Law	3
ENG 101 Composition	3
MGT 111 Introduction to Business Organization	3
MGT 150 Business Math	3
	<u>15</u>

Second Semester

ACC 101 Principles of Accounting Theory I	3
BFC 201 Commercial Credit Collection Principles	3
ECO 115 Consumer Economics or	
ECO 201 Principles of Economics I	3
ENG 130 Business Writing I	3
Humanities elective	3
	<u>15</u>

Second Year

First Semester

ACC 102 Principles of Accounting Theory II	3
BFC 200 Investment Management	3
DPR 120 Introduction to Business Software Packages	3
ECO 200 Introduction to Economics or	
ECO 202 Principles of Economics II	3
MGT 218 Introduction to Finance	3
	<u>15</u>

Second Semester

BFC 215 Financial Statements Interpretation and Analysis	3
BFC 225 International Finance	3
ECO 210 Money and Banking	3
Electives ¹	6
	<u>15</u>

¹Electives: ACC 203, BFC 110, BFC 219, MAT 101, MKT 245, RES 124.

Fire Science Technology

Fire Science Technology is a two-year career program leading to an associate in applied science degree. This curriculum offers a broad education in the principles and practical applications of fire protection and prevention. It provides specialized in-service training for fire personnel and prepares students who wish to enter the profession. In addition, it helps to prepare the student to seek certification through the Office of the Illinois State Fire Marshal.

Attractive career opportunities are available in industry, governmental agencies, training organizations, insurance and municipal fire departments. Students wishing to pursue a career in fire science should discuss these opportunities with the fire science coordinator or a student development faculty member before entering this program.

First Year _____

First Semester	
ENG 101 Composition _____	3
FIS 100 Introduction to Fire Science _____	3
FIS 122 Fire Prevention Principles I _____	3
Mathematics elective ¹ _____	3
PSY 101 Introduction to Psychology _____	3
	<u>15</u>

Second Semester

ENG 103 Technical and Report Writing _____	3
FIS 101 Municipal Fire Administration I _____	3
FIS 123 Fire Prevention Principles II _____	3
FIS 132 Hazardous Materials I _____	3
SPE 101 Fundamentals of Speech Communication _____	3
	<u>15</u>

Second Year _____

First Semester	
CHM 100 Chemistry for the Health Sciences ² _____	4
FIS 133 Hazardous Materials II _____	3
FIS 222 Fire Prevention Principles III _____	3
FIS 242 Fire Hydraulics _____	3
Social Science elective ³ _____	3
	<u>16</u>

Second Semester

FIS 223 Fire Prevention Principles IV _____	3
FIS 224 Fire Prevention Principles V _____	3
FIS 262 Water Supply Analysis _____	3
Humanities elective ³ _____	3
Physical Science elective ³ _____	3
	<u>15</u>

¹Students may elect any mathematics course, MTH 100 or higher, depending upon their test scores and advice of a student development faculty member.

²CHM 121 may be substituted if prerequisite is fulfilled.

³Electives must be selected upon the advice of a student development faculty member or the coordinator.

Food Service Management

Food Service Management is a two-year career 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. Graduates will be qualified to assume positions as production supervisors, management trainees and small unit managers. One-year certificate programs are offered in Bread and Pastry Arts and Culinary Arts.

First Year _____

First Semester

English ¹ _____	3
FSM 111 Introduction to Food Service _____	2
FSM 112 Quantity Food Production or	
FSM 113 Quantity Food Service _____	4
FSM 114 Food Standards and Sanitation _____	3
MGT 150 Business Math _____	3
	<u>15</u>

Second Semester

ACC 099 Business Recordkeeping or	
ACC 101 Principles of Accounting Theory I _____	3
English ¹ _____	3
MGT 111 Introduction to Business Organization (3) or	
FSM elective ² (3-4) _____	3-4
FSM 112 Quantity Food Production or	
FSM 113 Quantity Food Service _____	4
FSM 115 Menu Planning _____	2
	<u>15-16</u>

Second Year _____

First Semester

ENG 130 Business Writing I _____	3
FSM 211 Purchasing and Storage _____	3
FSM 212 Food Service Supervision _____	4
PSY 101 Introduction to Psychology _____	3
Social Science elective _____	3
	<u>16</u>

Second Semester

FSM 213 Seminar and Internship _____	4
FSM 214 Cost Control _____	3
FSM 215 Restaurant Layout and Equipment (3) or	
FSM elective ² (3-4) _____	3-4
Humanities elective _____	3
SPE 101 Fundamentals of Speech Communication _____	3
	<u>16-17</u>

¹Students may elect ENG 100, ENG 101 or ENG 102, depending on their test scores and the advice of a student development faculty member.

²Elective: FSM 210, FSM 216 or FSM 230.

Foreign Languages

See: Liberal Arts

Health Education

The successful completion of the health education transfer program will enable the student to obtain an associate in science degree and to transfer with junior status to most four-year colleges and universities. To insure satisfactory transfer, the student is advised to investigate the institution to which the student plans to transfer for specific general education requirements.

First Year _____

First Semester

BIO 110 Principles of Biology _____	4
ENG 101 Composition _____	3
PED 203 Health _____	3
Physical Education elective _____	1
Social Science elective _____	3
SPE 101 Fundamentals of Speech Communication _____	3
	<hr/>
	17

Second Semester

BIO 140 General Zoology _____	4
ENG 102 Composition _____	3
Mathematics elective _____	3
PED 201 First Aid _____	2
PED 205 Drugs in Our Culture _____	2
Physical Education elective _____	1
	<hr/>
	15

Second Year _____

First Semester

BIO 160 Human Anatomy _____	4
Elective _____	3
PED 207 Human Sexuality _____	2
PED 270 Community Health _____	2
PHI 180 Medical Ethics _____	3
Social Science elective _____	3
	<hr/>
	17

Second Semester

BIO 103 Man and Environment _____	3
BIO 161 Human Physiology _____	4
DIT 101 Basic Nutrition _____	3
EDU 211 Educational Psychology _____	3
Humanities elective _____	3
	<hr/>
	16

Horticulture

Horticulture is a two-year career program leading to an associate in applied science degree. Several horticulture study areas are available with approval of the program coordinator, including arboriculture, floral design, landscaping, nursery management, golf course operations and turfgrass management. Students can prepare for employment with nursery and garden centers, lawn and tree care companies, landscapers, greenhouse and plant propagating operations, landscape maintenance firms and horticulture equipment dealers.

Students can choose a basic horticulture program of study or one of the following specialized study areas. Students earning an associate in applied science degree in horticulture must complete the following required core courses, required General Education courses, and must choose between 14-18 semester hours of coursework from the specialized study areas.¹

Required Core Courses:

HRT 101 Ornamental Plants	4
HRT 102 Plant Disease and Pests	4
HRT 110 Soil Science	4
HRT 106 Introductory Horticulture (2) and HRT 108 Introductory Horticulture Lab (2) or HRT 111 Basic Horticultural Skills (4)	4
PKM 100 Introduction to Park Management	1
PKM 140 Grounds Equipment and Shop Operation ²	4
PKM 250 Park Management Seminar ³	1

Required General Education Courses:

BIO 120 General Botany ⁴	4
English ⁵	6
Humanities elective	3
Management elective ⁶	3
Mathematics elective***	3
PED 201 First Aid	2
Social Science electives	3

Elective Course:

PKM 150 Park Management Internship ⁷	5
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Specialized Study Areas

Depending on the student's career needs, he or she may choose courses from the following specialized study areas.

Arboriculture

HRT 244 Nursery Management	3
PKM 214 Principles of Landscape Design and Construction	4
PKM 220 Arboriculture	4
PKM 230 Contracts, Specifications and Estimating	3

14

Floral Design

HRT 104 Floral Design	3
HRT 204 Advanced Floral Design	3
HRT 247 Floral Shop Management	3
PKM/HRT electives	9
	18

Golf Course and Turfgrass Management

Must select courses totaling a minimum of 14 credit hours from the following:

HRT 212 Turfgrass Science	4
PKM 210 Drainage and Irrigation	3
PKM 214 Principles of Landscape Design and Construction	4
PKM 230 Contracts, Specifications, Estimating	3
PKM 242 Golf Course Management	4

Landscape

Must select courses totaling a minimum of 14 credit hours from the following:

HRT 244 Nursery Management	3
PKM 210 Drainage and Irrigation	3
PKM 212 Turfgrass Science	4
PKM 214 Principles of Landscape Design and Construction	4
PKM 220 Arboriculture	4
PKM 230 Contracts, Specifications, Estimating	3

Nursery Management

Must select courses totaling a minimum of 14 credit hours from the following:

HRT 212 Turfgrass Science	4
HRT 244 Nursery Management	3
HRT 248 Garden Center Operations	3
PKM 210 Drainage and Irrigation	3
PKM 214 Principles of Landscape Design and Construction	4
PKM 220 Arboriculture	4
PKM 230 Contracts, Specifications, Estimating	3

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹Students are reminded that not all courses are offered each semester. In determining electives, the student should consult with the program coordinator or student development faculty member.

²This course should be taken before attempting to take the PKM and HRT 200 level courses. Floral Design study area students are not required to take PKM 140.

³PKM 250 should not be taken until the second year of study.

⁴BIO 120 and most of PKM and HRT 100 level courses should be taken before attempting PKM and HRT 200 level courses.

⁵Students must take either ENG 101 or ENG 130 within the six (6) hour English requirement.

⁶Students may take MGT 111, MGT 154 or MGT 160; however, only three MGT credit hours will count toward degree requirement.

⁷Strongly recommended elective but not required.

Interior Design

Interior Design is a two-year career program leading to an associate in applied science degree. The curriculum is designed to prepare students for residential designer/sales positions in the retail home furnishings field.

First Year

First Semester	
ART 121 Design I ¹	3
ATE 101 Introduction to Architectural Technology I ¹	4
English ²	3
IND 101 Basic Interior Design I	5
IND 103 Furniture History or	
IND 104 Basic Color I/CADD ¹	3
	<hr/> 18

Second Semester

ATE 102 Introduction to Architectural Technology II ¹	4
FNA 112 History of Art II	3
IND 102 Basic Interior Design II ¹	5
IND 103 Furniture History or	
IND 104 Basic Color I/CADD ¹	3
	<hr/> 15

Second Year

First Semester

IND 201 Advanced Interior Design I	6
IND 204 Advanced Color II/CADD ³	3
Social Science elective	3
SPE 101 Fundamentals of Speech Communication	3
	<hr/> 15

Second Semester

ENG 130 Business Writing I	3
IND 202 Advanced Interior Design II	6
Mathematics elective***	3
Social Science elective	3
	<hr/> 15

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must take MKT 140.

¹Must be taken in the first year, either in the first or second semester, as a prerequisite to IND 201.

²Students will take ENG 100, ENG 101 or ENG 102, depending on their test scores and the advice of a student development faculty member.

³IND 204 may be taken in the first year, second semester.

International Exporting and Importing

International Exporting and Importing is a two-year career program leading to an associate in applied science degree. Completing this program will prepare students to secure employment in the dynamic and growing field of international business. Specific vocational opportunity areas would include international marketing, finance, management and distribution. Representative types of business hiring graduates from this program would be airlines, banks, export/import management companies, freight forwarders and the retailing industry.

First Year

First Semester	
ECO 200 Introduction to Economics	3
ENG 101 Principles of Composition	3
ENG 130 Business Writing I	3
GEG 101 World Geography	3
MGT 111 Introduction to Business Organization	3
	<hr/> 15

Second Semester

DPR 101 Introduction to Data Processing	3
MGT 165 International Management	3
MKT 190 Export Documentation	3
MKT 245 Principles of Marketing	3
MKT 255 Marketing Research	3
	<hr/> 15

Second Year

First Semester

BFC 225 International Finance	3
Foreign Language elective	4
MKT 260 International Marketing	3
MKT 290 Principles of Exporting	3
Mathematics elective***	3
	<hr/> 16

Second Semester

Foreign Language elective	4
HST 243 The Far East in the Modern World	3
MAT 230 International Materials Management	3
MKT 292 International Marketing Research	3
MKT 293 International Marketing Channel Strategy	3
	<hr/> 16

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete a 3-credit hour elective or must complete a 3-credit hour MKT elective.

Journalism¹

Journalism is a two-year career program leading to an associate in applied science degree. The curriculum provides intensive study and practical training in 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

ENG 101 Composition	3
HST 111 The American Experience to 1877	3
JNM 130 Fundamentals of Journalism	3
Mathematics elective***	3
SPE 101 Fundamentals of Speech Communication	3
	15

Second Semester

HST 112 The American Experience Since 1877	3
Humanities elective	3
JNM 131 News Reporting and Writing	3
JNM 133 Feature Writing	3
JNM 134 Media Adjuncts	4
JNM 135 Principles of Photography	1
	17

Second Year

First Semester

JNM 234 Mass Communication	3
JNM 235 Copy Reading and News Editing	4
JNM 236 Radio and Television News	4
PSC 101 American Politics and Government	3
	14

Second Semester

ECO 200 Introduction to Economics or	
ECO 201 Principles of Economics I	3
Electives ²	5-6
JNM 237 Externship Study	5
PSC 220 Suburban, Urban and State Politics or	
Social Science elective	3
	16-17

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must take a foreign language course.

¹Students must type 40 wpm or take SEC 121.

²Courses in communications, humanities, mathematics, science or social science are recommended.

Legal Secretary

Legal Secretary is a two-year career program leading to the degree of associate in applied science for those interested in pursuing secretarial careers in law firms, government, law departments of business firms and banks. The curriculum is designed to give the student experience in legal dictation and transcription, legal office procedures, background in legal terminology and supervised on-the-job training in a legal office or department.

First Year

First Semester

English elective	3
SEC 102 Survey of Law Office Practice	2
SEC 122 Intermediate Typing	2
SEC 125 Shorthand I	5
SPE 101 Fundamentals of Speech Communication	3
	15

Second Semester

ENG 130 Business Writing I	3
SEC 133 Word Processing Equipment: IBM Personal Computer I ¹	2
SEC 225 Shorthand II	5
SEC 234 Legal Office Procedures	3
SEC 236 Secretarial Procedures ²	3
	16

Second Year

First Semester

ACC 099 Business Recordkeeping or	
ACC 101 Principles of Accounting Theory I	3
ACC 211 Business Law I	3
DPR elective ³	1-2
SEC 230 Executive Machine Transcription	2
SEC 235 Legal Dictation and Transcription	3
SEC 237 Secretarial Seminar and Internship I	3
	15-16

Second Semester

ECO elective ⁴	3
Humanities elective	3
PSC 101 American Politics and Government	3
Mathematics elective***	3
SEC 238 Secretarial Seminar and Internship II	3
	15

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must complete a three (3) credit hour elective approved by the program coordinator.

¹Course is one credit hour. Must be completed utilizing two different software packages.

²A special section of this course is offered for legal secretarial students during the spring semester. Students must enroll in this special section before taking SEC 237.

³DPR Elective: DPR 121, DPR 122, DPR 123, DPR 124.

⁴ECO elective: ECO 115, ECO 200, ECO 210.

Legal Technology*

Legal Technology is a two-year career program leading to an associate in applied science degree. The program is designed to prepare men and women as technically qualified assistants to a lawyer. Under the supervision of a lawyer, the legal technician may perform such functions as investigation, detail work with regard to probate matters, preparation of tax forms and returns, searching public and court records, office management, library service, bookkeeping, serving and filing legal documents and preparing legal forms.

First Year

First Semester

ACC 101 Principles of Accounting Theory I	3
ENG 101 Composition	3
LTE 101 Introduction to Legal Technology	3
LTE 103 Litigation	3
SOC 101 Introduction to Sociology	3
	<u>15</u>

Second Semester

ENG 103 Technical and Report Writing	3
LTE 102 Fundamentals of Legal Research	3
LTE 105 Family Law	3
LTE 123 Real Property Law	3
PSY 101 Introduction to Psychology	3
	<u>15</u>

Second Year

First Semester

ACC 211 Business Law I	3
LTE 202 Estate Planning	3
LTE 203 Income Taxation I	3
Mathematics elective***	3
PSC 101 American Politics and Government	3
	<u>15</u>

Second Semester

ACC 102 Principles of Accounting Theory II or	
LTE 204 Income Taxation II	3
ACC 212 Business Law II or	
LTE 210 Corporate and Securities Law	3
Humanities elective ¹	3
LTE 200 Probate	3
LTE 206 Conference Course in Legal Technology ²	3
	<u>15</u>

*Legal Technology is a limited enrollment program. See Limited Enrollment Programs section of this Bulletin for details.

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must take LTE 212.

¹PHI 110 is recommended.

²Required for persons with no legal experience. Persons with legal experience may substitute another Legal Technology course.

Liberal Arts

The Liberal Arts transfer curriculum lays the foundation for 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 by those who have not 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 or she will meet them if he or she 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. The student who has successfully completed a year or more of a foreign language in high school may qualify for advanced placement in the language at Harper College. In mathematics, the student may meet requirements of some universities through proficiency testing.

First Year

First Semester

ENG 101 Composition	3
Foreign Language elective	4
Laboratory science ¹	4
Mathematics or elective	3
Social Science elective	3
	<hr/> 17

Second Semester

ENG 102 Composition	3
Foreign Language elective	4
Laboratory science ¹	4
Mathematics or elective	3
Social Science elective	3
	<hr/> 17

Second Year

First Semester

English ²	3
Foreign Language ³	3-4
Humanities elective ⁴	3
Social Science elective	3
SPE 101 Fundamentals of Speech Communication	3
	<hr/> 15-16

Second Semester

Contemporary Studies and Life Skills electives	6
English ²	3
Foreign Language ³	3-4
Humanities elective ⁴	3
	<hr/> 15-16

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

²Advanced English, literature or speech.

³Consult a student development faculty member for specific language requirements of the university to which you plan to transfer.

⁴HUM 101 and HUM 102 are recommended. Other humanities areas include art, music, literature, philosophy, fine arts, SPE 107, SPE 111 or SPE 212.

Marketing/Management

Marketing/Management is a two-year career program leading to an associate in applied science degree. The curriculum is designed for persons interested in preparing for positions in the dynamic field of marketing. Career objectives of persons completing this program would be in the areas of sales, advertising and sales promotion, marketing, management, wholesaling, retailing or other specialized areas of marketing.

First Year _____

First Semester	
ENG 101 Composition _____	3
MGT 111 Introduction to Business Organization _____	3
MGT 150 Business Math _____	3
MKT 140 Salesmanship or Marketing elective ¹ _____	3
PSY 101 Introduction to Psychology _____	3
	15

Second Semester

DPR 101 Introduction to Data Processing _____	3
ENG 130 Business Writing I _____	3
MGT 270 Principles of Management _____	3
MKT 245 Principles of Marketing or Marketing elective ¹ _____	3
PSY 145 Psychology in Business and Industry _____	3
	15

Second Year _____

First Semester	
ACC 099 Business Recordkeeping or ACC 101 Principles of Accounting Theory I _____	3
ECO 200 Introduction to Economics _____	3
MKT 217 Advertising _____	3
Marketing elective ¹ _____	3
SPE 101 Fundamentals of Speech Communication _____	3
	15

Second Semester

ACC 102 Principles of Accounting Theory II or Marketing elective ¹ _____	3
ACC 211 Business Law I _____	3
Business elective _____	3
Humanities elective _____	3
Marketing elective ¹ _____	3
	15

¹Electives: MAT 125, MKT 106, MKT 140, MKT 141, MKT 190, MKT 217, MKT 240, MKT 245, MKT 246, MKT 247, MKT 250, MKT 255, MKT 260, MKT 265, MKT 290, MKT 292, MKT 293.

Material Management

Material Management is a two-year career program leading to an associate in applied science degree. The program is designed to provide in-service education for those persons working directly in, or in fields allied to, material management. Additionally, the program may provide pre-service training for those who may seek or be transferred into jobs within these fields.

First Year _____

First Semester

ACC 101 Principles of Accounting Theory I _____	3
DPR 122 Data Base for Micros _____	1
DPR 123 Spreadsheet/Budgeting for Micros _____	1
DPR 124 Advanced Spreadsheet for Micros _____	1
ENG 101 Composition _____	3
MAT 101 Fundamentals of Material Management _____	3
MGT 111 Introduction to Business Organization _____	3
	<u>15</u>

Second Semester

ACC 102 Principles of Accounting Theory II _____	3
ENG 130 Business Writing _____	3
MAT elective ¹ _____	3
MGT 270 Principles of Management _____	3
PSY 145 Psychology in Business and Industry ² _____	3
	<u>15</u>

Second Year _____

First Semester

ACC 211 Business Law I _____	3
ECO 200 Introduction to Economics _____	3
MAT electives ¹ _____	6
MGT 150 Business Math*** _____	3
	<u>15</u>

Second Semester

MAT elective ¹ _____	3
MAT electives ³ _____	6
MAT 228 Finance for Material Managers _____	3
PHI 150 Business Ethics _____	3
	<u>15</u>

***A competency test, available in the testing office, may be utilized to meet the mathematics requirement. Students in this program who utilize the competency test to meet the mathematics requirement must select an additional 200 level MAT course.

¹MAT electives:

MAT 120 Production Control Concepts	3
MAT 121 Principles of Physical Distribution	3
MAT 122 Inventory Control	3
MAT 123 Traffic and Transportation	3
MAT 124 Material Handling and Packaging	3
MAT 125 Purchasing	3

²Prerequisite waived for MAT students.

³Material Management electives:

MAT 221 Distribution Center Operations	3
MAT 223 Legal Aspects of Material Management	3
MAT 224 Advanced Material Handling and Warehousing	3
MAT 226 Material Requirements Planning	3
MAT 227 Just-in-Time (JIT)	3
MAT 230 International Material Management	3
MAT 259 Advanced Purchasing	3
MAT 280 Material Management Policy	3
MGT 274 Industrial Management	3

Mechanical Engineering Technology

Mechanical Engineering Technology is a two-year career program leading to an associate in applied science degree. The program is designed to train students in the fields of mechanical design and automated manufacturing techniques.

The Mechanical Engineering option includes courses in design, drafting, mathematics, mechanics, materials and general education.

The Automated Manufacturing option consists of courses in production control, process planning, automation, CAD/CAM, robotics, general education and other related areas of study.

Graduates of these programs could accept positions as mechanical designers, mechanical draftsmen, computer aided designers, mechanical engineering technicians, quality control technicians, production controllers, tool design technicians, numerical control machine programmers, process technicians or sales engineers.

Graduates of these programs may continue their education either by taking additional courses or, if they so desire, pursuing a bachelor of science in technology degree with a major in a field such as mechanical, manufacturing or industrial technology.

Automated Manufacturing option

First Year

First Semester

ENG 101 Composition	3
MET 102 Technical Drafting	3
MET 105 Basic Machine Shop or	
MET 205 Advanced Machine Shop	3
MTH 106 Mathematics I	5
NMC 101 Introduction to NC/CAM	3
	<u>17</u>

Second Semester

ENG 103 Technical and	
Report Writing	3
MET 103 Descriptive Geometry	3
MET 108 Manufacturing Processes and	
Materials	3
MTH 107 Mathematics II	5
NMC 105 Part Programming I	3
	<u>17</u>

Second Year

First Semester

MET 206 Metallurgy and Heat	
Treatment	2
MET 211 Process Planning and Tool	
Design	4
MET 235 Computer Graphics	5
NMC 215 Part Programming II	3
Social Science elective	3
	<u>17</u>

Second Semester

Humanities elective	3
MET 236 Special Problems in Three-	
Dimensional Graphics	3
MET 245 Applied Digital Control	5
Social Science elective	3
Technical elective ¹	3
	<u>17</u>

¹Technical elective: MET 228, MET 237, NMC 216.

Mechanical Engineering option

First Year

First Semester

ENG 100 Composition or	
ENG 101 Composition	3
MET 102 Technical Drafting	3
MET 105 Basic Machine Shop or	
MET 205 Advanced Machine Shop	3
MTH 106 Mathematics I	5
NMC 101 Introduction to NC/CAM	3
	<u>17</u>

Second Semester

ENG 103 Technical and	
Report Writing	3
MET 103 Descriptive Geometry	3
MET 108 Manufacturing Processes and	
Materials	3
MTH 107 Mathematics II	5
PHY 101 Technical Physics I	4
	<u>18</u>

Second Year

First Semester

MET 201 Mechanisms	4
MET 206 Metallurgy and Heat	
Treatment	2
MET 211 Process Planning and Tool	
Design	4
MET 240 Strength of Materials and	
Statics	5
Social Science elective	3
	<u>18</u>

Second Semester

Humanities elective	3
MET 207 Machine Design	4
MET 245 Applied Digital Control	5
Social Science elective	3
	<u>15</u>

Medical/Dental Secretary

Medical/Dental Secretary is a two-year career program leading to an associate in applied science degree. It is designed for individuals interested in expanding previous office experience or health care training and learning skills necessary to work as a secretary in a health care facility, insurance company, extended care facility, home health care agency, pharmaceutical house, medical supply company or hospital in administration, nursing or other medical services department.

Alternate job titles would include medical receptionist, dental receptionist, insurance secretary, claims clerk, nursing unit secretary, ward clerk, medical typist or doctor's secretary. Administrative duties include patient reception, claims processing, coding, medical records management, billing and collections and written communications.

A minimum typing speed of 30 words per minute is recommended to enter the program; 40 words per minute is recommended to progress through externship. The degree program may be taken part-time and many courses are available on an evening basis. An individual orientation session is recommended for each student. Detailed information will be sent upon request or upon application to the program.

First Year _____

First Semester

BIO 135 Introduction to Human Anatomy and Physiology ¹ or	
BIO 160 Human Anatomy _____	4
Communications elective _____	3
HSC 100 Computer Usage in Health Services _____	1
HSC 112 Medical Terminology _____	2
Mathematics elective*** _____	3
MOA 101 Introduction to the Health Care Field _____	3
	<u>16</u>

Second Semester

ACC 099 Business Recordkeeping _____	3
BIO 136 Introduction to Human Diseases ¹ (3) or	
BIO 161 Human Physiology (4) _____	3-4
ENG 130 Business Writing I _____	3
MOA 151 Math Applications in Health Care _____	1
MOA 195 Health Insurance and Coding _____	2
SEC 230 Executive Machine Transcription _____	2

14-15

Second Year _____

First Semester

MGT 111 Introduction to Business Organization _____	3
MGT 160 Principles of Supervision _____	3
MOA 241 Basic Office Procedures in Health Care _____	4
NUR 200 Pharmacology ² _____	2
Social Science or Humanities elective ³ _____	3
	<u>15</u>

Second Semester

Elective _____	3
HSC 213 Medical Law and Ethics _____	3
MOA 240 Introduction to Medical Transcription _____	3
MOA 245 Advanced Office Procedures in Health Care _____	3
MOA 270 Medical Secretarial Seminar and Externship _____	3
	<u>15</u>

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must take a three-credit hour course approved by the program coordinator.

¹Students take BIO 135 and BIO 136 or BIO 160 and BIO 161.

²Prerequisite waived for Medical/Dental students.

³PSY 101 is recommended.

Medical Office Assistant

Medical Office Assistant is a two-year career program leading to an associate in applied science degree, designed for persons interested in becoming medical assistants in the physician's office, clinic or other health care setting. The curriculum is designed to give the student training in a variety of administrative and clinical tasks to facilitate the work of the physician.

Administrative duties include patient reception, communications, insurance, coding and record-keeping. Clinical duties include assisting with examinations and diagnostic testing, collection and testing of laboratory specimens and patient interaction.

A minimum typing speed of 30 words per minute is recommended to enter the program; 40 words per minute is recommended to progress through externship. The degree program may be taken part-time and many courses are available on an evening schedule. An individual orientation session is recommended for each student. Detailed information will be sent to you upon request or upon application to the program.

First Year _____

First Semester

BIO 135 Introduction to Human Anatomy and Physiology ¹ or	
BIO 160 Human Anatomy _____	4
Communications elective _____	3
HSC 100 Computer Usage in Health Services _____	1
HSC 112 Medical Terminology _____	2
MOA 101 Introduction to the Health Care Field _____	3
Mathematics elective*** _____	3
	<u>16</u>

Second Semester

BIO 136 Introduction to Human Diseases ¹ (3) or	
BIO 161 Human Physiology (4) _____	3-4
ENG 130 Business Writing I _____	3
HSC 190 Clinical Procedures I _____	2
MOA 151 Math Applications in Health Care _____	1
MOA 195 Health Insurance and Coding _____	2
SEC 230 Executive Machine Transcription _____	2
Social Science or Humanities elective _____	3

16-17

Second Year _____

First Semester

HSC 211 Clinical Procedures II _____	4
HSC 212 Clinical Laboratory Procedures _____	3
MOA 241 Basic Office Procedures in Health Care _____	3
NUR 200 Pharmacology ² _____	2
	<u>14</u>

Second Semester

Elective _____	3
HSC 213 Medical Law and Ethics _____	3
MOA 240 Introduction to Medical Transcription _____	3
MOA 245 Advanced Office Procedures in Health Care _____	3
MOA 280 Medical Office Assistant Seminar and Externship _____	3
	<u>15</u>

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the competency test to meet the mathematics requirement must take a three-credit hour course approved by the program coordinator.

¹Students take BIO 135 and BIO 136 or BIO 160 and BIO 161.

²Prerequisite waived for MOA students.

Microcomputers in Business

Microcomputers in Business is a career program leading to an associate in applied science degree. The curriculum trains students for various positions in the field of microcomputers. The student will take courses in business, data processing, general education and mathematics. Graduates of the program may find employment as microcomputer programmers, systems analysts and consultants.

First Year

First Semester

DPR 101 Introduction to Data Processing	3
DPR 106 Computer Logic and Programming Technology	3
DPR 120 Introduction to Business Software Packages	3
ENG 101 Composition	3
Social Science elective	3
	<hr/> 15

Second Semester

ACC 101 Principles of Accounting Theory I	3
DPR 130 BASIC for Business	4
DPR 134 Personal Computer (DOS)	3
DPR 203 Systems Analysis and Design I	3
MGT 111 Introduction to Business Organization	3
	<hr/> 16

Second Year

First Semester

ACC 102 Principles of Accounting Theory II	3
DPR 170 Introduction to Data Communications	3
DPR electives ¹	4
ECO 200 Introduction to Economics	3
MTH 102 Intermediate Algebra	4
	<hr/> 17

Second Semester

DPR 132 Advanced Business Software Packages	4
DPR 133 Personal Computer Programming—Assembler Language	4
DPR 171 Microcomputer Networks	3
ENG 103 Technical and Report Writing	3
Humanities elective	3
	<hr/> 17

¹DPR electives: DPR 121, DPR 122, DPR 123, DPR 124, DPR 125, DPR 126, DPR 160, DPR 166, DPR 204, DPR 131, DPR 152, DPR 153, DPR 154, DPR 231, DPR 230.

Music

The curriculum at most schools of music is a classical-traditional program requiring a minimum of four full years of academic work leading to the bachelor of music, bachelor of arts or bachelor of science in music. A music student should be able to perform proficiently on at least one instrument (voice is categorized as an instrument), and should have a basic working knowledge and proficiency at the keyboard. All music programs require credit hours in both applied and ensemble music.

A student who successfully completes the courses suggested in this curriculum guide will have met all requirements for an associate in arts degree. Check with the school of your choice for specific requirements.

The **music** curriculum at Harper is designed to provide the student with a program equivalent to the first two years of most four-year college programs, with emphasis in music education, musicology, composition, applied music, and theory and literature.

The **piano pedagogy** option is designed to provide the knowledge and skills necessary to teach beginning and intermediate piano students. It will provide opportunities for observation of individual and group instruction as well as supervised student teaching.

Music

First Year¹

First Semester

Applied Music elective ²	2-4
ENG 101 Composition	3
Group Performance ³	1
Mathematics elective	3
MUS 111 Theory of Music I	3
MUS 115 Aural Skills I	1
MUS 120 Introduction to Music Literature	3
MUS 165 Class Piano I	2
	18-20

Second Semester

Applied Music elective ²	2-4
ENG 102 Composition	3
Group Performance ³	1
Instrumental or Vocal Techniques	2
MUS 112 Theory of Music II	3
MUS 116 Aural Skills II	1
Science elective	4
Social Science elective	3
	19-21



Second Year**First Semester**

Applied Music elective ²	2-4
Group Performance ³	1
Humanities elective	3
MUS 211 Theory of Music III	3
MUS 215 Aural Skills III	1
Science or Mathematics elective	3
Social Science elective	3
	<hr/>
	16-18

Second Semester

Applied Music elective ²	2-4
Group Performance ³	1
Instrumental or Vocal Techniques	2
MUS 212 Theory of Music IV	3
MUS 216 Aural Skills IV	1
MUS 223 Instrumental Literature or	
MUS 224 Keyboard and Vocal	
Literature	3
Social Science elective	3
SPE 101 Fundamentals of	
Speech Communication	3
	<hr/>
	18-20

Piano Pedagogy**First Year****First Semester**

Applied Music elective ²	2
ENG 101 Composition	3
Group Performance ³	1
Mathematics elective	3
MUS 111 Theory of Music I	3
MUS 115 Aural Skills I	1
MUS 120 Introduction to Music	
Literature	3
MUS 265 Class Piano III	2
	<hr/>
	18

Second Semester

Applied Music elective ²	2
ENG 102 Composition	3
Group Performance ³	1
MUS 112 Theory of Music II	3
MUS 116 Aural Skills II	1
MUS 266 Class Piano IV	2
Science elective	4
Social Science elective	3
	<hr/>
	19

Second Year**First Semester**

Applied Music elective ²	2
Group Performance ³	1
Humanities elective	3
MUS 211 Theory of Music III	3
MUS 215 Aural Skills III	1
MUS 271 Piano Pedagogy I	3
Science or Mathematics elective	3
Social Science elective	3
	<hr/>
	19

Second Semester

Applied Music elective ²	2
Group Performance ³	1
MUS 212 Theory of Music IV	3
MUS 216 Aural Skills IV	1
MUS 223 Instrumental Literature or	
MUS 224 Keyboard and Vocal	
Literature	3
MUS 272 Piano Pedagogy II	3
Social Science elective	3
SPE 101 Fundamentals of	
Speech Communication	3
	<hr/>
	19

¹All majors in music must demonstrate minimum proficiency on the piano and are advised to take MUS 100 as part of their elective credit.

²To be elected from courses numbered MUS 180 and MUS 280.

³To be elected from MUS 130, MUS 136, MUS 140, MUS 145 and MUS 150.

Nursing (Practical and Associate Degree)*

The Nursing Program is designed to include sufficient and appropriate content to enable students to receive a certificate in practical nursing at the completion of the first year level and sufficient and appropriate content to enable students to receive an associate in applied science degree in nursing at the completion of the two-year sequence.

**Admission requirements include:

- Fulfillment of the General Admission Requirements of Harper College.
- Submission of an official copy of American College Test (ACT) results. (This requirement will be waived for students who have completed 12 or more semester hours of college work.)
- High school graduation or equivalent (GED).
- A high school grade average of "C" or better, or if 12 semester hours of college credit have been completed, a college grade average of "C" or better.
- Completion of at least one year of high school biology, chemistry and math with grades of "C" or better, or one semester of college biology, chemistry and math with grades of "C" or better.

Once college work has been completed in any of these subject areas, only college work will be used to determine if the particular subject admission requirement has been fulfilled.

- Satisfactory scores on the Entrance Examination for Schools of Nursing.
- Attendance at a Nursing Program information meeting.
- Satisfactory score on Harper College Nursing Admission Scale.

Licensed practical nurses are eligible for admission into the RN completion program after they:

- Fulfill all Nursing Program admission requirements as listed above.
- Arrange an interview with the Director of the Nursing Program.
- Complete BIO 160, BIO 161, PSY 101 and PSY 216 (or their equivalents) with grades of "C" or better.
- Submit an "Employer Evaluation Form."

The certificate in Practical Nursing qualifies the graduate to sit for NCLEX-PN and Illinois licensure as a practical nurse. The Associate in Applied Science degree in Nursing qualifies the graduate to sit for NCLEX-RN and Illinois licensure as a Registered Nurse. Positions are available in a variety of acute and long term care settings.

First Year

First Semester

BIO 160 Human Anatomy ¹	4
NUR 101 Nursing Fundamentals	9
PSY 101 Introduction to Psychology	3
	<u>16</u>

Second Semester

BIO 161 Human Physiology ¹	4
NUR 102 Nursing Care of Hospitalized Patients	9
NUR 204 Nursing Survey ²	1
PSY 216 Child Psychology	3
	<u>16-17</u>

Summer Semester

NUR 104 Nursing Field Experience ³	4
NUR 200 Pharmacology ²	2
	<u>6</u>

Second Year

First Semester

BIO 130 Microbiology	4
ENG 101 Composition	3
NUR 201 Advanced Nursing I	8
NUR 200 Pharmacology	2
	<u>17</u>

Second Semester

ENG 102 Composition	3
MTH elective***	3
NUR 202 Advanced Nursing II	8
NUR 204 Nursing Survey ²	1
SOC 101 Introduction to Sociology	3
	<u>17-18</u>

*Nursing is a limited enrollment program. See Limited Enrollment Programs section of this Bulletin for details.

**Subject to change. Contact the Admissions Office for additional information.

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹A grade of "C" or better in BIO 160 and BIO 161 is required for all students entering second level.

²Required for certificate in Practical Nursing and Associate in Applied Science Degree. Must be completed within three years prior to date degree or certificate is awarded.

³Required for students electing to earn a certificate in Practical Nursing. It is not required for the student who proceeds to the second level of study.

Park and Grounds Operation Management

Park and Grounds Operation Management is a two-year career program leading to an associate in applied science degree. This program prepares the student to function as a park operations supervisor or grounds maintenance supervisor in public parks, high density housing complexes, cemetery-memorial parks, golf courses, industrial-office parks and educational parks.

First Year

First Semester

BIO 120 General Botany	4
HRT 101 Ornamental Plants	4
PKM 100 Introduction to Park Management	1
PKM 140 Grounds Equipment and Shop Operation	4
PED 201 First Aid	2
	<hr/> 15

Second Semester

Mathematics elective***	3
HRT 102 Plant Diseases and Pests	4
HRT 110 Soil Science	4
HRT 106 Introductory Horticulture (2) and	
HRT 108 Introductory Horticulture Lab (2) or	
HRT 111 Basic Horticulture Skills (4)	4
	<hr/> 15

Summer Semester¹

PKM 150 Park Management Internship	5
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Second Year

First Semester

English ²	3
HRT 212 Turfgrass Science	4
PKM 210 Drainage and Irrigation	3
PKM 214 Principles of Park Design and Construction	4
Social Science elective	3
	<hr/> 17

Second Semester

English ²	3
Humanities elective	3
PKM 220 Arboriculture	4
PKM 230 Contracts, Specifications, Estimating	3
PKM 250 Park Management Seminar	1
Social Science elective	3
	<hr/> 17

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement.

¹Strongly recommended elective but not required.

²Students must take either ENG 101 or ENG 130 within the six hour English requirement.

Physical Education¹

The successful completion of the physical education transfer program will enable the student to obtain an associate in science degree and to transfer with junior status to most four-year colleges and universities. To ensure satisfactory transfer, the student is advised to investigate the institution to which he or she plans to transfer for specific general education requirements.

A dance option is provided for students who wish to pursue a physical education degree with an emphasis in dance.

Physical Education

First Year

First Semester

BIO 110 Principles of Biology	4
ENG 101 Composition	3
PED 200 Introduction to Physical Education	2
PED 203 Health	3
PED 222 Football Techniques or PED 224 Basketball Techniques	2
SPE 101 Fundamentals of Speech Communication	3
	17

Second Semester

Elective ²	3
ENG 102 Composition	3
Mathematics elective ³	4
PED 201 First Aid	2
PED 208 Bioscientific Foundations of Human Movement	3
PED 211 Physical Education in Elementary School	3
Physical Education elective	1
	19

Second Year

First Semester

BIO 160 Human Anatomy	4
Humanities elective	3
PED 210 Sports Officiating	2
Physical Education elective	1
PSY 101 Introduction to Psychology	3
Social Science elective	3
	16

Second Semester

BIO 161 Human Physiology	4
Humanities elective	3
PED 206 Athletic Training Techniques	3
PED 209 Principles of Teaching Aerobic Dance/Exercise or	
PED 228 Aquatics	2
PED 220 Track and Field Techniques or PED 226 Baseball Techniques	2
Science elective	4
	18

Dance Emphasis

First Year

First Semester

BIO 110 Principles of Biology	4
ENG 101 Composition	3
PED 200 Introduction to Physical Education	2
PED 203 Health	3
PED 246 Tap Dance	1
Physical Education elective	1
SPE 101 Fundamentals of Speech Communication	3
	17

Second Semester

Elective	3
ENG 102 Composition	3
Mathematics elective	4
PED 201 First Aid	2
PED 204 Selected Physical Education Activities	2
PED 243 Modern Dance II	1
Physical Education elective	1
	16

Second Year

First Semester

BIO 160 Human Anatomy	4
Humanities elective	3
PED 240 Dance Composition	2
PED 242 Ballet II	1
PSY 101 Introduction to Psychology	3
Social Science elective	3
	16

Second Semester

BIO 161 Human Physiology	4
Humanities elective	3
PED 209 Principles of Teaching Aerobic Dance/Exercise or	
PED 244 Folk Dance II	2
PED 228 Aquatics	2
PED 241 Jazz Dance II	1
Science elective	4
	16

¹The following physical education courses can, in addition to the "100" level courses, serve to satisfy the 3 credit hour physical education teacher certification requirements for the State of Illinois: PED 201, PED 203, PED 204.

²Elective: HST 111, HST 112 or PSC 101.

³Selection of mathematics elective is contingent on requirements of four-year college or university to which student is transferring.

Real Estate

Real Estate is a two-year career program in professional development for those men and women who desire to excel as real estate salespersons or wish to expand their career opportunities to include managing or owning a real estate business. Career objectives might also include appraising, banking, savings and loan, title company, mortgage brokerage, estate counseling and others.

First Year

First Semester

ACC 101 Principles of Accounting Theory I	3
ATE 209 Building Construction Principles for Realtors	3
ENG 100 Composition or	
ENG 101 Composition	3
MGT 111 Introduction to Business Organization	3
RES 101 Real Estate Transactions	3
RES 105 Real Estate Math Applications or	
SPE 115 Interviewing	1
	16

Second Semester

ACC 102 Principles of Accounting Theory II	3
ENG 130 Business Writing I	3
HST 218 Illinois and Local History	3
RES 121 Advanced Principles, Marketing and Brokerage	3
RES 123 Real Estate Law	3
	15

Second Year

First Semester

ACC 211 Business Law I or	
MKT 245 Principles of Marketing	3
BFC 112 Principles of Property and Casualty Insurance (2) or	
MKT 140 Salesmanship (3)	2-3
DPR 100 Survey of Information Processing or	
DPR 101 Introduction to Data Processing	3
RES 122 Real Estate Appraisal I	3
RES 124 Real Estate Finance	3
	14-15

Second Semester

BFC 212 Home Mortgage Lending or	
MKT 217 Advertising	3
ECO 200 Introduction to Economics	3
Mathematics elective***	3
PHI 150 Business Ethics	3
RES 233 Real Estate Problems Seminar	3
	15

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the proficiency test to meet the mathematics requirement must take a three (3) credit hour RES elective or MKT 240.

Recreation

The successful completion of the recreation transfer program will enable the student to obtain an associate in arts degree and to transfer with junior status to most four-year colleges and universities. To ensure satisfactory transfer, the student is advised to investigate the institution to which he or she plans to transfer for specific requirements.

First Year

First Semester

BIO 101 Biology Survey (3) or	
BIO 110 Principles of Biology (4)	3-4
ENG 101 Composition	3
Humanities elective	3
REC 200 Leisure: Its Uses and Resources	2
REC 202 Foundations for Recreation and Park Services	2
SPE 101 Fundamentals of Speech Communication	3
	16-17

Second Semester

ENG 102 Composition	3
HST 111 The American Experience to 1877 or	
HST 112 The American Experience since 1877	3
Humanities elective	3
PED 201 First Aid	2
REC 206 Principles of Camping Management	3
Science elective	3
	17

Second Year

First Semester

PED 203 Health	3
PSY 101 Introduction to Psychology	3
REC 208 Outdoor Recreation Planning	2
REC 210 Performing Arts as Leisure Opportunities	2
Science elective	3
Social Science elective	3
	16

Second Semester

Mathematics elective ¹	3
PED elective ²	1
REC 204 Introduction to Therapeutic Recreation	2
REC 214 Basic Field Experience	2
Science elective	3
Social Science elective	3
	14

¹Selection of mathematics elective is contingent on requirements of four-year college or university to which student is transferring.

²Select from Contemporary Studies and Life Skills.

Refrigeration and Air Conditioning Technology

Refrigeration and Air Conditioning Technology is a two-year career program leading to an associate in applied science degree. The courses in the curriculum are theory design and service oriented. Theory courses deal with energy conversions. Service courses are strongly related to a hands-on philosophy. Emphasis is placed upon operating, service and installing equipment.

Graduates from this program may be employed as engineering laboratory assistants, equipment salesmen, heating and refrigeration servicemen, estimators and system designers or stationary engineers.

First Year¹

First Semester	
English elective ²	3
RAC 101 Refrigeration Fundamentals	4
RAC 103 Heating Principles	4
RAC 105 Heating and Cooling Controls	4
	15

Second Semester

MET 101 Drafting for Air Conditioning and Heating ³	3
RAC 102 Refrigeration Systems	4
RAC 104 Residential Comfort Systems	4
RAC 106 Advanced Controls	4
	15

Second Year¹

First Semester	
English elective ²	3
RAC 201 Refrigeration System Design I	4
RAC 203 Air Conditioning Principles	4
Social Science elective	3
	14

Second Semester	
Humanities elective ⁴	3
Mathematics elective***	3
RAC 202 Refrigeration System Design II	4
RAC 204 Air Distribution	3
Social Science elective	3
	16

***A competency test, available in the testing office, may be utilized to meet the mathematics elective requirement. Students in this program who utilize the proficiency test to meet the mathematics requirement must complete a three (3) credit hour course from the following list: MET 110, MGT 111, MGT 154, MGT 160, RAC 208, RAC 211 or RAC 290.

¹RAC 290 may be substituted for some of the listed RAC courses, with approval of coordinator.

²Students may take ENG 100 or ENG 101 the first semester, depending upon their test scores and the advice of a student development faculty member. ENG 102, ENG 103 or ENG 130 are suggested second semester electives.

³Students will enroll in sections of MET 101 designed for RAC students.

⁴Suggested humanities elective: ART 122 or PHI 110.

Science and Mathematics

The following program is typical of the first two years of a bachelor's degree program in physical science, mathematics or computer science.

Special care should be taken in selecting the laboratory science courses appropriate to the student's career plans. The student's program should be designed so that course sequences are completed at Harper before transfer.

Chemistry and Chemical Engineering majors should elect CHM 131-132 and CHM 204-205, while Physics majors should aim at MTH 200-202 and 203. Mathematics majors should complete the sequence of MTH 200-202, 202 and 203 or 212. Mathematics courses numbered MTH 104 or below usually may not be used for credit other than as electives in these programs.

Some transfer institutions do not require foreign languages in mathematics and science programs. Thus, students may wish to defer their language program until the second year, when transfer plans are known.

Check with the transfer school of your choice for specific requirements in all areas.

First Year _____

First Semester

ENG 101 Composition _____	3
Foreign Language elective _____	4
Mathematics elective _____	3-5
Laboratory Science elective _____	4-5
	<u>14-17</u>

Second Semester

ENG 102 Composition _____	3
Foreign Language elective _____	4
Mathematics elective _____	3-5
Laboratory Science elective _____	4-5
	<u>14-17</u>

Summer Semester

CSC 208 FORTRAN Computer Programming or CSC 209 Pascal Computer Programming _____	4
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Second Year _____

First Semester

Mathematics elective _____	3-5
Laboratory Science elective _____	4-5
Social Science elective _____	3
SPE 101 Fundamentals of Speech Communication _____	3
	<u>13-16</u>

Second Semester

Contemporary Skills and Life Science elective _____	3-4
Mathematics elective _____	4-5
Laboratory Science elective _____	4-5
Social Science elective _____	3
	<u>14-17</u>

Secretarial Career

See: Executive Secretarial Development
 Legal Secretary
 Medical Office Assistant
 Medical Secretary

Social Science

The following first-year program is recommended for students who plan to transfer and major in such fields as history, political science, anthropology, psychology or sociology. Check with the school of your choice or a Student Development Center before planning your second year at Harper.

First Year

First Semester

ENG 101 Composition	3
Foreign Language ¹	4
Mathematics or Science elective	3-4
Social Science elective	3
Elective ²	3
	<u>16-17</u>

Second Semester

ENG 102 Composition	3
Foreign Language ¹	4
Mathematics or Science elective	3-4
Social Science elective	3
Elective ²	3
	<u>16-17</u>

¹Check with the transfer school of your choice or a Student Development Center to determine language requirement.

²Additional social science electives may be selected.

Supervisory and Administrative Management

Supervisory and Administrative Management is a two-year career program leading to an associate in applied science degree. The program is designed to assist students in a wide variety of business occupations. The curriculum is structured to meet the needs of individuals interested in gaining or improving management skills. The program not only develops abilities to organize, coordinate and evaluate the functions of a unit, department or branch of an organization in either an industrial or an administrative management capacity, but it also provides the fundamental management skills needed by the successful owner-manager of a business.

First Year

First Semester

ACC 101 Principles of Accounting	
Theory I	3
ENG 101 Composition	3
MGT 111 Introduction to Business	
Organization	3
MGT 150 Business Math***	3
MGT 160 Principles of Supervision	3
PSY 101 Introduction to	
Psychology	3
	<u>18</u>

Second Semester

ACC 102 Principles of Accounting	
Theory II	3
DPR 101 Introduction to Data	
Processing	3
English elective	3
MGT 270 Principles of Management	3
PSY 145 Psychology in	
Business and Industry	3
	<u>15</u>

Second Year

First Semester

ACC 211 Business Law I	3
ECO 200 Introduction to Economics	3
Management electives ¹	6
MKT 245 Principles of Marketing	3
	<u>15</u>

Second Semester

Humanities elective	3
Management electives ¹	6
MGT 218 Introduction to Finance	3
MGT 291 Problems in Management and	
Supervision	3
	<u>15</u>

***A competency test, available in the testing office, may be utilized to meet the MGT 150 requirement.

¹These electives require approval of the coordinator or a student development faculty member.

Certificate Programs

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.

Accounting Aide _____

This is a certificate program designed 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. Any combination of 19-credit hours may be selected from the courses listed below, providing the appropriate prerequisites have been satisfied.

ACC 101 Principles of Accounting Theory I _____	3
ACC 102 Principles of Accounting Theory II _____	3
ACC 155 Tax and Payroll Accounting _____	4
ACC 201 Intermediate Accounting I _____	3
ACC 202 Intermediate Accounting II _____	3
ACC 203 Introductory Cost Accounting _____	3
ACC 250 Income Tax Accounting _____	3
ACC 251 Advanced Tax Accounting _____	3
ACC 252 Advanced Cost Accounting _____	3
ACC 253 Advanced Accounting I _____	3
ACC 254 Auditing _____	3
ACC 255 Advanced Accounting II _____	3

Accounting Clerk _____

This certificate program provides the student with the courses needed for an entry level position in such areas as accounts payable, accounts receivable and inventory accounting.

ACC 099 Business Recordkeeping _____	3
MGT 150 Business Math _____	3
Typing elective ¹ _____	2
	8

Accounting — Payroll _____

This certificate curriculum in payroll accounting will provide the student with the courses needed for an entry level position in this particular area. The certificate could be earned in one, or no more than two, semesters.

ACC 155 Tax and Payroll Accounting _____	4
MGT 150 Business Math _____	3
Typing elective ¹ _____	2
	9

¹Typing elective: SEC 121, SEC 122 or SEC 221, depending upon previous training and consent of the instructor.

Administrative Assistant _____

This 30-credit hour certificate program is designed for persons with secretarial experience who are interested in expanding their business knowledge for higher level positions such as administrative assistant, office manager, or a higher level management position. A combination of 30 credit hours may be selected from the following courses with the approval of the coordinator of the program or a student development faculty member.

Required:

ACC 101 Principles of Accounting Theory I ¹ _____	3
ENG 130 Business Writing I _____	3
MGT 111 Introduction to Business Organization ¹ _____	3
MGT 160 Principles of Supervision _____	3
MGT 280 Human Relations in Business _____	3

Electives: Select at least 15-credit hours from the following courses.

Accounting elective _____	3
ACC 211 Business Law I ¹ _____	3
DPR 101 Introduction to Data Processing _____	3
DPR 121 General Accounting Applications for Micros _____	2
DPR 122 Data Base for Micros _____	1
DPR 123 Spread Sheet/Budgeting for Micros _____	1
DPR 124 Advanced Spreadsheet for Micros _____	1
ECO 200 Introduction to Economics ¹ _____	3
ENG 103 Technical and Report Writing _____	3
MGT 167 Records Management _____	3
MGT 265 Personnel Management _____	3
MGT 267 Office and Administrative Management _____	3
MGT 270 Principles of Management _____	3
MGT 275 Labor-Management Relations _____	3
PSY 145 Psychology in Business and Industry _____	3
SEC 236 Secretarial Procedures ¹ _____	3
Word Processing equipment electives _____	1-3

¹For those who have passed the Certified Professional Secretary Examination within the past five years, credit will automatically be given for this course.

Air Conditioning _____

See: Refrigeration and Air Conditioning

Alternative Living Resident Supervisor _____

See: Habilitation Aide

Architectural Technology _____

This is a technical program leading to a certificate upon completion of any of the following course offerings totaling 15 credit hours, providing the combination has approval of a student development faculty member. The curriculum emphasis is on architecture in the related areas of construction, drafting, computer programming, estimating and specifications.

ATE 101 Introduction to Architectural Technology I	4
ATE 102 Introduction to Architectural Technology II	4
ATE 103 Building Materials Technology I	4
ATE 104 Building Materials Technology II	4
ATE 105 Computer Math for Architectural Technology I	3
ATE 106 Computer Math for Architectural Technology II	3
ATE 201 Comprehensive Building Project I	4
ATE 202 Comprehensive Building Project II	4
ATE 203 Construction Problems I	4
ATE 204 Construction Problems II	4
ATE 205 Computer Graphics and Optimization	3
ATE 206 Computer Applications in Architecture	3
ATE 207 Behavior of Architectural Materials I	3
ATE 208 Behavior of Architectural Materials II	3

Automation Skills _____

This is a 30-credit hour certificate program designed to train students in a variety of entry level positions in industries targeting service and maintenance activities. The curriculum offers courses in a wide variety of specific topics leading to an understanding of robotics and automated manufacturing repair and maintenance needs of industry.

Graduates may find employment in a variety of electricity-electronic or mechanical related industries with job classifications of millwright, maintenance mechanic or field service mechanic.

AUT 101 Analog Electricity-Electronics	4
AUT 105 Digital Electronics	4
AUT 110 Safety and OSHA	1
AUT 125 Optics: Fiber	2
AUT 130 Pneumatics and Hydraulics	3
AUT 135 Sensors	2
AUT 140 Controllers—PLC's	2
AUT 145 Prints, Measurements and QC	3
AUT 155 Machine Shop Practices	3
AUT 160 Robotic Systems	6

Banking, Finance and Credit _____

This program, totaling 18 credit hours, is designed for those currently employed in, or seeking employment in, banks, savings and loans associations or other finance-oriented enterprises. The curriculum emphasizes developing the competencies necessary for supervisory and public contact positions in the finance field. Students may apply this entire program toward the two-year associate degree in Banking and Savings Association Management.

ACC 101 Principles of Accounting Theory I	3
BFC 101 Principles of Financial Institution Operations	3
BFC 102 Commercial Law	3
BFC 115 Personal Banking/Advanced Principles or	
BFC 118 Credit Administration	3
BFC 211 Accounting for Financial Institutions	3
Elective ¹	3

¹Elective: BFC 110, BFC 117, BFC 200, BFC 212, BFC 213, BFC 215, BFC 216, BFC 217, BFC 219, BFC 220, BFC 225, BFC 235, ECO 210.

Bread and Pastry Arts _____

This is a one-year certificate program planned to prepare students for entrance into the food service and baking industry. Graduates may be able to secure positions as qualified bakers and bakers' helpers in institutional, retail and commercial bakeries.

First Semester	
FSM elective ¹	3-4
FSM 107 Basic Bread and Pastry Arts	5
FSM 110 Introduction to Food Service	2
FSM 114 Food Standards and Sanitation	3
	13-14

Second Semester	
FSM electives ¹	8
FSM 108 Advanced Bread and Pastry Arts	5
FSM 115 Menu Planning	2
	15

¹FSM electives: FSM 112, FSM 113, FSM 211, FSM 212, FSM 213, FSM 214, FSM 215, FSM 216, FSM 230.

Building Codes and Enforcement

This certificate program, which totals 24-credit hours, is designed to meet the educational and training needs of those employed in the building code compliance field, as well as those in the building and construction industry who are interested in keeping abreast of building code changes and requirements.

The emphasis of this specialized program is on building codes and their interpretation and application in the field. This offers students a unique opportunity to develop and expand their knowledge and skills. The certificate may enhance students' opportunities for employment and career advancement. New employment opportunities are cyclical in nature, and students should consult the program coordinator or student development faculty member before registering for this program.

BCE 101 Basic Construction for Building Codes	3
BCE 102 Basic Code Enforcement Techniques	3
BCE 104 Basic Mechanical and Energy Conservation Codes or	
FIS 123 Fire Prevention Principles I ¹	3
BCE 105 Basic Plumbing Codes	3
BCE 106 Basic Electrical Codes	3
BCE 201 BOCA Basic Building Codes	3
ENG 103 Technical and Report Writing	3
SPE 101 Fundamentals of Speech Communication	3

¹Prerequisite of FIS 122 will be waived.

Business Information Management

This certificate program, which totals 30-credit hours, is designed for the person who will be using the power of the new information technologies to help control costs, boost productivity, assist in new product and service introduction, improve sales and marketing efforts and help in controlling a company's strategic direction. Additionally, the program may provide pre-service training for those who may seek or be transferred into jobs within these fields.

BIM 170 Introduction to Information Applications and Technologies	3
BIM 175 Enterprise-Wide Information Analysis	3
BIM 180 Information Applications Implementation	3
BIM 210 Information Applications Resources	3

BIM 220 Integration of Information Applications	3
DPR 101 Introduction to Data Processing	3
DPR 120 Introduction to Business Software Packages	3

Electives: Select 9-credit hours from the following courses, providing the combinations have approval of program coordinator.

ACC 101 Principles of Accounting Theory I	3
BFC 101 Principles of Financial Institution Operations	3
BIM 250 Multi-Media Business Presentations	3
BIM 260 Training and Development in Information Management	3
DPR 170 Introduction to Data Communication	3
DPR 203 Systems Analysis and Design I ¹	3
MGT 111 Introduction to Business Organization	3
MGT 167 Records Management	3
MGT 267 Office and Administrative Management	3
MGT 270 Principles of Management	3

¹Prerequisite will be waived for BIM students.

CAD Technician

This certificate program is developed for persons interested in a concentrated exposure in computer aided drafting, or CAD. This is especially suitable for those in the field of engineering who wish to fill a gap in their knowledge or those who wish to receive pre-service training in the area of CAD.

MET 102 Technical Drafting	3
MET 103 Descriptive Geometry	3
MET 235 Computer Graphics	5
MET 236 Special Problems in Three-Dimensional Graphics	3
Technical electives ¹	3-5
	17-19

¹Electives: MET 105, MET 211, MET 237, NMC 101.

Certified Professional Secretary

This is a 6 credit hour certificate program specifically designed for individuals with a high degree of secretarial skill and business experience who are currently employed as secretaries and wish to raise their level of professionalism and/or quality for promotion into executive secretarial, administrative assistant or managerial types of positions within a company.

This program emphasizes advanced secretarial and business training in order to provide the secretary with a deeper and broader understanding of the dynamics of the business world and the vital role performed by the secretary in the ever-increasing demands of the business.

SEC 260 Behavioral Science in Business _____	1
SEC 261 Business Law _____	1
SEC 262 Economics and Management _____	1
SEC 263 Accounting _____	1
SEC 264 Office Administration and Communication _____	1
SEC 265 Office Technology _____	1

Child Development _____

This certificate program, totaling 18 credit hours, emphasizes theoretical and practical aspects of early childhood education. This certificate will satisfy preliminary college credit requirements for employment in child development and early childhood education centers for normal and handicapped children.

Required:

CCA 102 Child Development I _____	3
CCA 103 Child Development II _____	3

Electives: Select any 12-credit hours from the following courses.

CCA 101 Introduction to Child Development Careers _____	3
CCA 111 First Three Years of Life _____	3
CCA 115 Principles of Day Care _____	3
CCA 209 Language Arts for the Young Child _____	3
CCA 210 Creative Activities for Young Children _____	3
CCA 214 Principles of Preschool Education _____	6
CCA 218 Principles of Special Education _____	6
CCA 219 Psychology of Exceptional Children _____	3
CCA 220 Child Development Practicum Internship _____	6
CCA 221 Workshop in Early Childhood Education _____	3
CCA 225 Mental Health in Child Development _____	3
CCA 226 Child Guidance _____	3
CCA 230 Movement and Rhythms for the Young Child _____	3
CCA 235 Principles of School Age Care _____	3
CCA 236 Administration of School Age Child Care _____	3
CCA 252 Child-Family-Community _____	3
CCA 253 Administration of Early Childhood Programs _____	3
HSC 220 Health, Nutrition and Safety _____	3

CNC Technician _____

This certificate program allows for in-depth course work in numerical control. Computers are now integrated into the systems used in the control of manufacturing equipment. Capabilities of these systems are similar to those of many small microcomputers. CNC, which stands for computerized numerical control, relates to this type of system. The following courses should help provide an individual with the background to assume a responsible position in this area.

MET 105 Basic Machine Shop _____	3
NMC 101 Introduction to NC/CAM _____	3
NMC 105 Part Programming I _____	3
NMC 215 Part Programming II _____	3
Technical electives' _____	6

18

¹Technical electives may be chosen from ELT 110, MET 205, MTH 100, MTH 106.

Criminal Justice _____

This certificate program is designed to provide specialized education for those currently employed, or other interested persons 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 coordinator approval. These courses must be taken at Harper College.

CRJ 101 Introduction to Criminal Justice _____	3
CRJ 105 Criminal Courts of the U.S. _____	3
CRJ 116 Introduction to Forensics _____	3
CRJ 203 Law and Society _____	3
CRJ 207 Vice and Drug Control _____	3
CRJ 213 Crime Prevention _____	3
CRJ 215 Alternatives to Confinement _____	3
CRJ 216 Investigative Process _____	3
CRJ 220 Police Administration _____	3
CRJ 222 Police Operations _____	3
CRJ 224 Police Supervision _____	3
CRJ 226 Case Management _____	3
CRJ 235 Street Procedures _____	4
CRJ 238 Defensive Techniques _____	3

Culinary Arts _____

This is a one-year certificate program 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' assistants.

First Semester

FSM elective ¹ _____	3-4
FSM 109 Basic Quantity Culinary Arts _____	5

FSM 111 Introduction to Food Service	2
FSM 114 Food Standards and Sanitation	3
	13-14
Second Semester	
FSM electives ¹	8
FSM 110 Advanced Quantity Culinary Arts	5
FSM 115 Menu Planning	2
	15

¹FSM electives: FSM 107, FSM 109, FSM 112, FSM 113, FSM 211, FSM 212, FSM 213, FSM 214, FSM 215, FSM 216, FSM 230.

Data Processing — Computer Operator

This is a two-semester certificate program which includes the study of introduction to data processing, computer logic and programming technology, programming systems, an internship at an industrial training station and general clerical subjects. Graduates may find employment as computer operators, tape librarians, peripheral equipment handlers or in other clerical positions in data processing installations in business, industry and government.

First Semester

DPR 101 Introduction to Data Processing	3
DPR 106 Computer Logic and Programming Technology	3
DPR 135 Computer Operator	3
ENG 101 Composition	3
MGT 111 Introduction to Business Organization	3
	15

Second Semester

Data Processing elective ¹	3-5
DPR 136 Job Control/Utilities	3
ENG 103 Technical and Report Writing	3
MGT 150 Business Math	3
	12-14

¹Elective: DPR 108, DPR 120, DPR 121, DPR 122, DPR 123, DPR 124, DPR 125, DPR 130 or DPR 170.

Data Processing — Microcomputers in Business

This is a 16-credit hour certificate program designed to familiarize a student with the business uses of microcomputers. The student will gain exposure to microcomputers and micro-computer software. This exposure will be useful to the person whose job or business requires the use of a microcomputer.

Required

DPR 100 Computer Literacy or	
DPR 101 Introduction to Data	

Processing	3
DPR 126 Graphics for Micros	1
DPR 134 Personal Computer (DOS)	3

Electives: Group I (select three hours).

DPR 120 Introduction to Business Software Packages	3
DPR 122 Data Base for Micros	1
DPR 123 Spread Sheet/Budgeting for Micros	1
DPR 125 Word Processing for Micros	1

Electives: Group II (select at least six hours¹).

DPR 106 Computer Logic and Programming Technology	3
DPR 121 General Accounting Applications for Micros	2
DPR 124 Advanced Spreadsheet for Micros	1
DPR 130 BASIC for Business	4
DPR 131 Microcomputer Printers	1
DPR 132 Advanced Business Software Packages	4
DPR 133 Personal Computer Programming—Assembler Language	4
DPR 152 Data Base Programming, Microcomputers	3
DPR 153 Expert Systems	3
DPR 154 Desktop Publishing	3
DPR 170 Introduction to Data Communications	3
DPR 171 Microcomputer Networks	3

¹Students must satisfy prerequisites for each course selected.

Data Processing — Technical

Any combination of 15 credit hours may be selected from the courses listed below, providing the appropriate prerequisites have been satisfied.

DPR 101 Introduction to Data Processing	3
DPR 106 Computer Logic and Programming Technology	3
DPR 108 Computer Programming — COBOL	5
DPR 110 Computer Programming — Assembler Language	5
DPR 120 Introduction to Business Software Packages ¹	3
DPR 121 General Accounting Applications for Micros ¹	2
DPR 122 Data Base for Micros ¹	1
DPR 123 Spread Sheet/Budgeting for Micros ¹	1
DPR 124 Advanced Spreadsheet for Micros ¹	1
DPR 125 Word Processing for Micros ¹	1
DPR 126 Graphics for Micros ¹	1
DPR 130 BASIC for Business	4

DPR 131 Microcomputer Printers ¹	1
DPR 132 Advanced Business Software Packages	4
DPR 133 Personal Computer Programming — Assembler Language	4
DPR 134 Personal Computer (DOS)	3
DPR 135 Computer Operator	3
DPR 136 Job Control/Utilities	3
DPR 140 RPG II Programming	3
DPR 142 PL/L Programming Language	3
DPR 150 Business FORTRAN	3
DPR 152 Data Base Programming, Microcomputers	3
DPR 153 Expert Systems	3
DPR 154 Desktop Publishing	3
DPR 160 Introduction to Pascal Programming	4
DPR 166 Introduction to Programming in C	4
DPR 170 Introduction to Data Communications	3
DPR 171 Microcomputer Networks	3
DPR 202 Programming Systems	3
DPR 203 Systems Analysis and Design I	3
DPR 204 Advanced Systems Analysis and Design	3
DPR 208 Computer Programming — Advanced COBOL	4
DPR 210 Computer Programming — Advanced Assembler Language	4
DPR 220 Topics in Data Processing Processing	1-6
DPR 231 Advanced BASIC with Graphics	3
DPR 240 Advanced RPG II	3
DPR 266 Advanced C and C++	4
DPR 270 Data Communications Applications	4
DPR 280 Introduction to Data Base	3

¹No more than four hours may be selected from this group.

Digital Electronics and Micro-processor Technology _____

This is a 23-credit hour certificate program designed to give the student a job entry level skill in the field of digital electronics and micro-processors.

ELT 110 Introductory Electronics	2
ELT 111 Electronics I, Resistive	3
ELT 203 Electronics II, Digital	5
ELT 206 Electronic Computers	5
ELT 210 Computer Programming	3
MTH 106 Mathematics I	5

Electronics _____

Any combination of 16-credit hours may be

selected from the courses listed below, providing the combination has approval of program coordinator.

ELT 101 Circuits I	5
ELT 102 Circuits II	4
ELT 103 Circuits III, Networks	5
ELT 105 Electro-Mechanical Drafting	3
ELT 110 Introductory Electronics	2
ELT 111 Electronics I, Resistive	3
ELT 203 Electronics II, Digital	5
ELT 204 Electronics III, Advanced Electronics	5
ELT 205 Electronic Instrumentation	4
ELT 206 Electronic Computers	5
ELT 207 UHF Communications and Reception	4
ELT 210 Computer Programming	3
ELT 215 Electrical Control and Motors	4
MTH 100 Basic Applied Mathematics	3
MTH 106 Mathematics I	5
MTH 107 Mathematics II	5
MTH 206 Mathematics III	3

Fashion Design _____

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

FAS 101 Flat Pattern Design and Draping I	3
FAS 102 Flat Pattern Design and Draping II	3
FAS 103 Apparel Design and Construction I	3
FAS 104 Apparel Design and Construction II	3
FAS 105 Fashion Design Illustration I	1
FAS 106 Fashion Design Illustration II	1
FAS 107 Textiles I	2
FAS 108 Textiles II	2
FAS 109 Fashion Arts and Design	2
FAS 110 Costume History	2
FAS 114 Fashion Modeling	1
FAS 201 Advanced Flat Pattern Design and Draping I	4
FAS 202 Advanced Flat Pattern Design and Draping II	4
FAS 203 Advanced Diversified Apparel Design I	4
FAS 204 Advanced Diversified Apparel Design II	4
FAS 205 Tailoring Techniques I	2
FAS 206 Tailoring Techniques II	2
FAS 209 Advanced Fashion Illustration I	1
FAS 210 Advanced Fashion Illustration II	1
FAS 212 Visual Fashion Merchandising	2

Fire Science Technology _____

This 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.

Electives: Select at least 6-credit hours from the following courses.

ENG 100 Composition _____	3
ENG 101 Composition _____	3
ENG 103 Technical and Report Writing _____	3
MTH 100 Basic Applied Mathematics _____	3
SOC 101 Introduction to Sociology _____	3

Electives: Select at least 9-credit hours from the following courses, providing the combination has approval of a student development faculty member.

FIS 100 Introduction to Fire Science _____	3
FIS 101 Municipal Fire Administration I _____	3
FIS 103 Fire Fighting Tactics I _____	3
FIS 112 Fire Alarm and Extinguishing Systems _____	3
FIS 115 Construction Design and Fire Safety _____	3
FIS 122 Fire Prevention Principles I _____	3
FIS 123 Fire Prevention Principles II _____	3
FIS 132 Hazardous Materials I _____	3
FIS 133 Hazardous Materials II _____	3
FIS 145 Fire Instructor I _____	3
FIS 201 Municipal Fire Administration II _____	3
FIS 203 Fire Fighting Tactics II _____	3
FIS 222 Fire Prevention Principles III _____	3
FIS 223 Fire Prevention Principles IV _____	3
FIS 224 Fire Prevention Principles V _____	3
FIS 242 Fire Hydraulics _____	3
FIS 262 Water Supply Analysis _____	3
HSC 110 Emergency Medical Technician Training _____	5

Food Service Management _____

This certificate program is designed for people presently employed in the food service industry to enable them to upgrade their management skills or to assume more responsible positions.

A minimum of 15-credit hours may be selected from the courses listed below.

FSM 111 Introduction to Food Service _____	2
FSM 114 Food Standards and Sanitation _____	3
FSM 115 Menu Planning _____	2
FSM 210 Hospitality Facility Maintenance _____	3
FSM 211 Purchasing and Storage _____	3
FSM 212 Food Service Supervision _____	4
FSM 214 Cost Control _____	3
FSM 215 Restaurant Layout and Equipment _____	3
FSM 130 Hospitality Law and Risk Management _____	4

Habilitation Aide Certificates _____

Habilitation Aide

A one semester, 6-credit hour certificate program leading to recognition by the Department of Public Health and the Department of Mental Health as a habilitation aide, employable in state-approved residential facilities, serving the developmentally disabled.

CHA 105 Habilitation Aide I _____	4
CHA 110 Habilitation Aide II _____	2

Alternate Living Resident Supervisor¹

This 4-credit hour certificate program is designed for those interested in working with developmentally disabled persons who are living in small group homes and other alternate residential facilities where residents function in a more independent environment than those in the intermediate care facilities.

Required:

CHA 140 Alternate Living Resident Supervisor I _____	4
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Elective:²

CHA 145 Alternate Living Resident Supervisor II _____	2
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¹Students must possess certification as a habilitation aide.

²Strongly recommended elective but not required.

Horticulture _____

This is a 16-credit hour program designed for students wishing to acquire basic knowledge and techniques in the ornamental horticulture field for personal or vocational use. The technical training will benefit those students who are currently employed or contemplating employment in any of several ornamental horticulture occupations.

Use any combination of 16-credit hours from the courses listed below, providing the combination has coordinator approval and course prerequisites are met.

BIO 120 General Botany _____	4
HRT 101 Ornamental Plants _____	4
HRT 102 Plant Disease and Pests _____	4
HRT 104 Basic Floral Design _____	3
HRT 106 Introductory Horticulture (2) and HRT 108 Introductory Horticulture Lab (2) or HRT 111 Basic Horticultural Skills (4) _____	4
HRT 110 Soil Science _____	4
HRT 204 Advanced Floral Design _____	3
HRT 247 Floral Shop Management _____	3

Industrial and Retail 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. To qualify for the certificate, students must take a total of 15-credit hours at Harper College.

Required:

CRJ 250 Industrial Security Administration _____	3
CRJ 252 Industrial Fire Protection, Disaster Control _____	3
CRJ 253 Safety Management _____	3

Electives:

CRJ 201 Criminal Law I _____	3
CRJ 202 Criminal Law II _____	3
CRJ 213 Crime Prevention _____	3
CRJ 216 Investigative Process _____	3
CRJ 222 Police Operations _____	3
CRJ 226 Case Management _____	3
CRJ 235 Street Procedures _____	4
CRJ 238 Defensive Techniques _____	3

¹Students having special needs should see the coordinator.

Industrial Sales Management and Development

This program is designed to provide in-service and pre-service training and development for industrial sales and sales management personnel representing manufacturers, service marketers, wholesalers or other marketing middlemen. Through the selection of courses, this program can satisfy both the career needs of individuals seeking to develop and expand their selling and account servicing skills and individuals preparing for sales management responsibilities. This program would be especially appropriate for individuals who are entering the professional field without a formal sales or marketing education.

Program requirements are satisfied by completing 6 hours from Group I and 9 hours from Group II for a total minimum of 15 credit hours. To achieve an individual program designed to complement the student's industrial and educational background, the selection of courses should be made in consultation with the coordinator.

Electives: Group I (select at least two courses¹).

MKT 140 Salesmanship _____	3
MKT 141 Sales Management _____	3
MKT 240 Advanced Sales Skills _____	3
MKT 247 Consumer Buying Behavior _____	3

Electives: Group II (select at least three courses¹).

ACC 211 Business Law I _____	3
MAT 125 Purchasing _____	3
MGT 111 Introduction to Business Organization _____	3
MGT 160 Principles of Supervision _____	3
MKT 141 Sales Management _____	3
MKT 240 Advanced Sales Skills _____	3
MKT 245 Principles of Marketing _____	3
MKT 246 Industrial Marketing _____	3
MKT 247 Consumer Buying Behavior _____	3

¹Students must satisfy prerequisites for each course selected.

International Marketing

This 30-credit hour certificate program will prepare students for entry-level positions in the field of international marketing. The specific goal of this program is to provide students with sufficient competencies in international marketing to allow them to qualify for and succeed in positions with firms such as international freight forwarders, export and import management companies and financial institutions dealing with companies in the field of international trade.

First Semester

BFC 225 International Finance _____	3
MGT 165 International Management _____	3
MKT 245 Principles of Marketing _____	3
MKT 255 Marketing Research _____	3
MKT 260 International Marketing _____	3
	15

Second Semester

MAT 230 International Material Management _____	3
MKT 190 Export Documentation _____	3
MKT 290 Principles of Exporting _____	3
MKT 292 International Marketing Research _____	3
MKT 293 International Marketing Channel Strategy _____	3
	15

Interpreter Training*

The Interpreter Training Program is a part-time 30-credit hour certificate program designed to provide students with entry level interpreting/transliterating skills, a general knowledge of deafness and an understanding of the interpreting profession. Students enrolled in this program must already possess sign language skills as determined by a sign language evaluation. For those students not meeting the requirements of the sign language evaluation, Harper courses SGN 101, SGN 102 and SGN 201 are offered to assist in acquiring the necessary skills. (See sign language course information.) In addition to preparing students for careers as full-time

interpreters, the program seeks to meet the needs of individuals already working in other fields (such as education, health, business and law) in which interpreting skills would be useful.

ITP 110 Manual Interpreting/ Transliterating I _____	3
ITP 111 Voice Interpreting/ Transliterating I _____	3
ITP 120 Manual Interpreting/ Transliterating II _____	3
ITP 121 Voice Interpreting/ Transliterating II _____	3
ITP 201 Issues in Interpreting _____	4
ITP 210 Special Areas of Interpreting _____	3
ITP 211 Voice Interpreting/ Transliterating III _____	3
ITP 220 Interpreting Practicum _____	2
PSY 101 Introduction to Psychology _____	3
PSY 150 Psychology of Deafness _____	3

*Interpreter Training is a limited enrollment program. Contact the Admissions Office for details.

Legal Secretary _____

This certificate program is designed for persons who possess a high degree of office secretarial skill and are interested in pursuing secretarial careers in law firms, government or law departments of business firms. This is a 27-credit hour program in which 18 credit hours are required courses.

Required:

SEC 102 Survey of Law Office Practice _____	2
SEC 133 Word Processing Equipment: IBM Personal Computer I ² _____	2
SEC 225 Dictation and Transcription _____	5
SEC 234 Legal Office Procedures _____	3
SEC 235 Legal Dictation and Transcription _____	3
SEC 236 Secretarial Procedures _____	3

Electives: Select any three of the following courses with the advice of the coordinator.

ACC 101 Principles of Accounting Theory I _____	3
ACC 211 Business Law I _____	3
ECO elective ¹ _____	3
MGT 111 Introduction to Business Organization _____	3
MGT 267 Office and Administrative Management _____	3
SEC 170 Introduction to Word Processing _____	3

¹ECO elective: ECO 115, ECO 200 or ECO 201.

²Course is one credit hour. Must be completed utilizing two different software packages.

Machinist _____

This certificate program allows those interested or presently engaged in metalworking to develop knowledge and skills to assume responsible positions in the field.

MET 102 Technical Drafting _____	3
MET 105 Basic Machine Shop _____	3
MET 110 Basic Welding _____	3
MET 205 Advanced Machine Shop _____	3
Technical electives ¹ _____	3-5
	15-17

¹Technical electives: MET 108, MET 202, MET 210, MTH 100, MTH 106.

Material Management _____

This 18-credit hour certificate program is designed to provide in-service education for those persons working directly in, or in fields related to, material management and physical distribution. This particular curriculum format is especially suitable for those who may be in the field and are seeking to fill in knowledge or skill "gaps" in their total preparation. Additionally, the program may provide pre-service training for those who may seek or be transferred into jobs within these fields.

Required:

MAT 101 Fundamentals of Material Management _____	3
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Electives: Group I (select at least four courses).

MAT 120 Production Control Concepts _____	3
MAT 121 Principles of Physical Distribution _____	3
MAT 122 Inventory Control _____	3
MAT 123 Traffic and Transportation _____	3
MAT 124 Material Handling and Packaging _____	3
MAT 125 Purchasing _____	3

Electives: Group II (select one course).

MAT 221 Distribution Center Operations _____	3
MAT 223 Legal Aspects of Material Management _____	3
MAT 224 Advanced Material Handling and Warehousing _____	3
MAT 226 Material Requirements Planning (MRP) _____	3
MAT 227 Just-In-Time (JIT) _____	3
MAT 228 Finance for Material Managers _____	3
MAT 230 International Material Management _____	3
MAT 259 Advanced Purchasing _____	3
MAT 280 Material Management Policy _____	3
MGT 160 Principles of Supervision _____	3
MGT 270 Principles of Management _____	3
MGT 274 Industrial Management _____	3

Mechanical Drafting _____

This certificate program has been developed in conjunction with area industries to prepare students for challenging careers in drafting.

MET 102 Technical Drafting _____	3
MET 103 Descriptive Geometry _____	3
MET 211 Process Planning and Tool Design _____	4
MTH 100 Basic Applied Mathematics or MTH 106 Mathematics I _____	3-5
Technical elective ¹ _____	3
	16-18

¹Electives: MET 105 MET 201, MET 235.

Medical/Dental Secretary _____

This certificate program is designed for the person who is interested in expanding her/his previous office experience or health care training. The program offers skills necessary to work as a secretary in a health care facility, insurance company, extended care facility, home health care agency, pharmaceutical house, medical supply company or hospital in administration, nursing or other medical services department.

Alternate job titles include medical receptionist, dental receptionist, insurance secretary, claims clerk, nursing unit secretary, ward clerk, medical typist or doctor's secretary. Administrative duties include patient reception, claims processing, coding, medical records management, billing and collections and written communications.

A minimum typing speed of 30 words per minute is recommended to enter the program; 40 words per minute is recommended to progress through externship. This certificate program may be taken part-time and many courses are available on an evening basis. An individual orientation session is recommended for each student. Detailed information will be sent upon request or upon application to the program.

BIO 135 Introduction to Human Anatomy and Physiology or	
BIO 160 Human Anatomy ¹ _____	4
BIO 136 Introduction to Human Diseases (3) or	
BIO 161 Human Physiology (4) ¹ _____	3-4
HSC 112 Medical Terminology _____	2
HSC 213 Medical Law and Ethics _____	3
HSC 100 Computer Usage in Health Services _____	1
MGT 111 Introduction to Business Organization _____	3
MOA 101 Introduction to the Health Care Field _____	3
MOA 151 Math Applications In Health Care _____	1
MOA 195 Health Insurance and Coding _____	2

MOA 240 Introduction to Medical Transcription _____	3
MOA 241 Basic Office Procedures in Health Care _____	4
MOA 245 Advanced Office Procedures in Health Care _____	3
MOA 270 Medical/Dental Secretarial Seminar and Externship _____	3
NUR 200 Pharmacology ² _____	2
	39-40

¹Students take BIO 135 and BIO 136 or BIO 160 and BIO 161.

²Prerequisite waived for Medical/Dental Secretary students.

Medical Office Assistant _____

A concentrated certificate program designed for the person who is interested in improving her/his medical assisting skills or expanding previous office experience. The curriculum offers the student training in a variety of administrative and clinical tasks to facilitate the work of the physician in a medical office, clinic or other health care setting.

Administrative duties include patient reception, communications, insurance, coding and record-keeping. Clinical duties include assisting with examinations and diagnostic testing, collection and testing of laboratory specimens and patient interaction.

Students enrolled in this program must already possess knowledge of anatomy and physiology, as determined by a pretest evaluation. For those students not meeting the requirements of the evaluation, Harper courses BIO 135 and BIO 136 are offered to assist in acquiring the necessary skills.

A minimum typing speed of 30 words per minute is recommended to enter the program; 40 words per minute is recommended to progress through externship. This certificate program may be taken part-time and many courses are available on an evening basis. An orientation session is recommended for each student. Detailed information will be sent upon request or upon application to the program.

HSC 100 Computer Usage in Health Services _____	1
HSC 112 Medical Terminology _____	2
HSC 190 Clinical Procedures I _____	2
HSC 211 Clinical Procedures II _____	4
HSC 212 Clinical Laboratory Procedures _____	4
HSC 213 Medical Law and Ethics _____	3
MOA 101 Introduction to the Health Care Field _____	3
MOA 151 Math Applications in Health Care ¹ _____	1
MOA 195 Health Insurance and Coding _____	2

MOA 240 Introduction to Medical Transcription	3
MOA 241 Basic Office Procedures in Health Care	4
MOA 245 Advanced Office Procedures in Health Care	3
MOA 280 Medical Office Assistant Seminar and Externship	3
NUR 200 Pharmacology ²	2
SEC 230 Executive Machine Transcription	2
	<u>39</u>

¹A competency test, available through the program coordinator, may be utilized to meet the mathematics requirement.

²Prerequisite waived for Medical Office Assistant students.

Medical Transcriptionist _____

A concentrated 3-semester certificate program designed for the person who is interested in expanding previous health care or secretarial experience and learning skills necessary to transcribe medical reports in a hospital, large medical practice, HMO's or clinic. The curriculum offers the student secretarial and clinical training in order to understand the various types of dictation utilized.

A minimum typing speed of 50 words per minute is recommended to enter the program; 60 words per minute is recommended to progress through externship. This certificate program may be taken part-time and many courses are available on an evening basis. An orientation session is recommended for each student. Detailed information will be sent upon request or upon application to the program.

First Semester

HSC 100 Computer Usage in Health Services	1
HSC 112 Medical Terminology	2
HSC 211 Clinical Procedures II	4
MOA 101 Introduction to the Health Care Field	3
NUR 200 Pharmacology ¹	2
SEC 230 Executive Machine Transcription	2
	<u>14</u>

Second Semester

BIO 136 Introduction to Human Diseases	3
HSC 213 Medical Law and Ethics	3
MOA 242 Medical Transcription for MT	3
MOS 245 Advanced Office Procedures in Health Care	3
	<u>12</u>

Summer Semester

MOA 260 Medical Transcription Seminar and Externship	4
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¹Prerequisite waived for Medical Transcriptionist students.

Operating Room Technician* _____

This certificate program is one full year in length, two semesters and an eight-week summer session. It prepares students to function as members of the surgical team under the supervision of qualified professional nurses in hospital areas concerned with the principles and practice of surgical asepsis as applied to the surgical patient before, during and following surgery.

**Admission requirements include:

- Fulfillment of the General Admission Requirements of Harper College.
- Submission of an official copy of American College Test (ACT) results. (This requirement will be waived for students who have completed 12 or more semester hours of college work.)
- High school graduation or equivalent (GED).
- Completion of at least one year of high school biology with a grade of "C" or better, or one semester of college biology with a grade of "C" or better.
- A satisfactory personal interview with the coordinator of the Operating Room Technician Program.

Upon successful completion of the program the students will be eligible to take the National Certification Examination of the Association of Operating Room Technicians.

First Semester

BIO 135 Introduction to Human Anatomy and Physiology or	
BIO 160 Human Anatomy	4
HSC 112 Medical Terminology	2
ORT 101 Operating Room Techniques I	6
ORT 111 Clinical Hospital Practicum I	5
	<u>17</u>

Second Semester

BIO 136 Introduction to Human Disease (3) or	
BIO 161 Human Physiology (4)	3-4
ORT 102 Operating Room Techniques II	6
ORT 112 Clinical Hospital Practicum II	6
PSY 101 Introduction to Psychology	3
	<u>18-19</u>

Summer Semester

ORT 103 Operating Room Techniques III	2
ORT 113 Clinical Hospital Practicum III	7
	<u>9</u>

*Operating Room Technician is a limited enrollment program. See Limited Enrollment Programs section of this Bulletin for details.

**Subject to change. Contact the Admissions Office for additional information.

Park and Grounds Operation Management

This certificate program is designed to provide technical training for students who are currently employed or contemplating employment in the many facets of park and ground maintenance operations. These courses can also be taken by students wishing to acquire techniques and knowledge in this area for personal or vocational use. Any combination of 16-credit hours may be selected from courses listed below, providing the combination has coordinator approval.

HRT 101 Ornamental Plants	4
HRT 102 Plant Diseases and Pests	4
HRT 106 Introductory Horticulture (2) and	
HRT 108 Introductory Horticulture Lab (2) or	
HRT 111 Basic Horticultural Skills (4)	4
HRT 110 Soil Science	4
HRT 212 Turfgrass Science	4
HRT 248 Garden Center Operations	3
PKM 100 Introduction to Park Management	1
PKM 121 Facilities Management	3
PKM 140 Grounds Equipment and Shop Operation	4
PKM 210 Drainage and Irrigation	3
PKM 214 Principles of Park Design and Construction	4
PKM 220 Arboriculture	4
PKM 230 Contracts, Specifications, Estimating	3
PKM 240 Grounds Equipment Power Units	4
PKM 241 Management of Ice Rink Facilities	3
PKM 242 Golf Course Management	4
PKM 245 Management of Aquatic Facilities	4

Personal Banking

This 22-credit hour certificate program is specifically designed for individuals with experience as a personal banker with a bank or savings and loan institution, who wish to raise their level of professionalism within the industry. This program emphasizes advanced investment planning skills and a deeper and broader understanding of the services offered through a financial institution.

ACC 155 Tax and Payroll Accounting	4
BFC 101 Principles of Financial Institution Operations	3
BFC 110 Principles of Insurance	3
BFC 115 Personal Banking/Advanced Principles	3
BFC 200 Investment Management	3
BFC 213 Trust Functions and Services	3
MKT 140 Salesmanship	3
	22

Pharmacy Technician

This certificate program provides technical and practical pharmaceutical knowledge leading to employment as an assistant to a registered pharmacist. It offers basic academic training in prescription order processing, inventory activities, over-the-counter drug sales, recordkeeping, product prepackaging, bulk compounding and manufacturing, computer operations and related tasks. A practicum serves to expand the technical training of the technician by actual on-the-job pharmacy experience.

Currently, the State of Illinois requires a pharmacy apprentice license for internship (practicum) and employment in a pharmacy. The applicant for a pharmacy license should be free of conviction of any criminal offense (other than minor traffic violations).

First Semester

HSC 100 Computer Usage in Health Services	1
HSC 112 Medical Terminology	2
MOA 151 Math Applications in Health Care	1
PHT 101 Introduction to Pharmacy Technology	1
PHT 102 Pharmacy Law	1
PHT 110 Pharmacology I	3
PHT 111 Pharmacy Operations I	3
PSY 107 Humanistic Psychology	2
	14

Second Semester

BIO 136 Introduction to Human Disease	3
PHT 112 Pharmacy Operations II	5
PHT 120 Pharmacology II	3
PHT 140 Sterile Products and Aseptic Techniques	3
	14

Production Engineering Technician

This certificate program allows for in-depth course work in the technical aspects of manufacturing, quality control and production planning. Such a program should provide an individual with the necessary background to assume a responsible position in these areas. Any combination of at least 15 credit hours may be selected from the courses listed below, provided that the combination has the program approval of the coordinator.

First Semester

MAT 120 Production Control Concepts	3
MET 102 Technical Drafting	3
MET 105 Basic Machine Shop	3
MET 108 Manufacturing Processes and Materials	3

MET 211 Process Planning and Tool Design _____	4
MTH 100 Basic Applied Mathematics ¹ _____	3
NMC 101 Introduction to NC/CAM _____	3
NMC 105 Part Programming I _____	3
NMC 215 Part Programming II _____	3
NMC 220 Special Problems _____	3

¹Students with appropriate background should elect MTH 106.

Production Welding _____

This certificate program allows for those interested or presently working in a welding occupation to prepare for work and/or a more responsible position in the field. This certificate is not to be confused with the American Welding Society or local industrial welding certifications.

MET 102 Technical Drafting _____	3
MET 105 Basic Machine Shop _____	3
MET 110 Basic Welding _____	3
MET 210 Advanced Welding _____	3
Technical electives ¹ _____	3-5
	15-17

¹Technical electives: MET 108, MET 205, MET 206, MTH 100.

Real Estate _____

This is a certificate program of professional development for those presently engaged in the real estate business and for those who want an opportunity to explore the field. A total of 18 credit hours is required for this program. Any of the required courses in the sequence can be applied toward meeting the educational requirements of the Illinois Real Estate Licensure Laws.

Required:

RES 101 Real Estate Transactions _____	3
RES 121 Advanced Principles, Marketing and Brokerage _____	3
RES 122 Real Estate Appraisal I _____	3
RES 123 Real Estate Law _____	3
RES 124 Real Estate Finance _____	3

Elective: Select one course.

ATE 209 Building Construction Principles for Realtors _____	3
RES 230 Property Management Methods _____	3
RES 232 Real Estate Appraisal II _____	3
RES 233 Real Estate Problems Seminar _____	3

Refrigeration and Air Conditioning Certificates _____

The following certificate programs are designed to prepare the students for servicing

refrigeration and heating equipment or selling environmental equipment to contractors and/or servicemen.

Heating Service

RAC 103 Heating Principles _____	4
RAC 105 Heating and Cooling Controls _____	4
RAC 106 Advanced Controls _____	4
	12

Refrigeration Service

RAC 101 Refrigeration Fundamentals _____	4
RAC 102 Refrigeration Systems _____	4
RAC 105 Heating and Cooling Controls _____	4
RAC 106 Advanced Controls _____	4
	16

Refrigeration and Air Conditioning

MET 101 Drafting for Air Conditioning and Heating _____	3
RAC 101 Refrigeration Fundamentals _____	4
RAC 102 Refrigeration Systems _____	4
RAC 103 Heating Principles _____	4
RAC 104 Residential Comfort Systems _____	4
RAC 105 Heating and Cooling Controls _____	4
RAC 106 Advanced Controls _____	4
	27

Residential Comfort Systems

RAC 101 Refrigeration Fundamentals _____	4
RAC 103 Heating Principles _____	4
RAC 104 Residential Comfort Systems _____	4
RAC 105 Heating and Cooling Controls _____	4
RAC 106 Advanced Controls _____	4
	20

Retail Merchandising _____

This is a 14-credit hour certificate program designed for individuals with career interests in the retail management field. It is especially appropriate for those individuals employed in retailing who are seeking skills and knowledge which may prepare them for career advancement.

Required:

FAS 212 Visual Fashion Merchandising _____	2
MKT 106 Merchandising of Furnishings and Softline Goods or MKT 250 Retailing _____	3
MKT 251 Retail Merchandise Management _____	3

Electives: Select at least 6-credit hours from the following courses.

ACC 099 Business Recordkeeping or	
ACC 101 Principles of Accounting	
Theory I	3
MGT 111 Introduction to Business	
Organization	3
MGT 154 Small Business	
Management	3
MGT 160 Principles of Supervision	3
MKT 245 Principles of Marketing	3

Secretarial and General Office Certificates

The following certificate programs are designed specifically for individuals without any formal office training or for persons currently in the work force who want to acquire additional knowledge and skills for specific office positions. Credit hours received for one certificate may be applied toward any other certificate or degree program in Secretarial Science.

Certified Professional Secretary

See: Certified Professional Secretary

General Office Assistant

This certificate program is designed for persons interested in working in an office in any type of business organization. The curriculum is designed to give basic training in office skills and business knowledge that is expected in the business world today.

Graduates of the program are prepared for positions as clerks, receptionists and general office assistants. A combination of 28-credit hours may be selected from the following courses, with approval of the coordinator or a student development faculty member:

ACC 099 Business	
Recordkeeping	3
DPR 123 Spreadsheet/Budgeting	
for Micros	1
ECO 115 Consumer Economics	3
ENG 100 Composition	3
ENG 130 Business Writing I	3
MGT 111 Introduction to Business	
Organization	3
MGT 150 Business Math	3
SEC 099 Typewriting Review ¹	2
SEC 121 Elementary Typing	2
SEC 122 Intermediate Typing ¹	2
SEC 131 Business Machines	2
SEC 133 Word Processing Equipment:	
IBM Personal Computer I	1-3
SEC 141 Word Processing Equipment:	
IBM Personal Computer II	1-3
SEC 200 Advanced Word Processing	
(proofreading and editing)	1

SEC 236 Secretarial Procedures	3
SEC 247 Professional Development	2
SPE 101 Fundamentals of Speech	
Communication	3

¹Placement into courses contingent upon previous training.

Legal Secretary

See: Legal Secretary

Secretarial

This certificate program is designed to give experience, training and development in secretarial skills in order to obtain general secretarial or word processing secretary apply this entire program toward the two-year Executive Secretarial Development degree program.

A combination of 21 credit hours is required for this certificate with the approval of the coordinator or student development faculty member.

Required:

SEC 100 Introduction to Secretarial	
Administration	2
SEC 133 Word Processing Equipment:	
IBM Personal Computer I	1
SEC 220 Automated Office Practices	4
SEC 225 Shorthand II ¹ (5) or	
SEC 230 Executive Machine	
Transcription (2)	2-5
SEC 236 Secretarial Procedures	3

Electives: Select at least 6-9-credit hours from the following courses.

ENG 130 Business Writing I	3
DPR 121 General Accounting Applications	
for Micros	1
DPR 122 Data Base for Micros	1
DPR 123 Spreadsheet/Budgeting	
for Micros	1
DPR 124 Advanced Spreadsheet	
for Micros	1
SEC 122 Intermediate Typing ¹	2
SEC 131 Business Machines	2
SEC 225 Shorthand II ¹	5
SEC 230 Executive Machine	
Transcription	2
SPE 101 Fundamentals of Speech	
Communication	3

¹Placement into courses contingent upon previous training.

Supervisory and Administrative Management _____

This is a certificate program requiring completion of 18-credit hours.

Required:

MGT 111 Introduction to Business Organization _____	3
MGT 160 Principles of Supervision _____	3
MGT 270 Principles of Management _____	3
MGT 291 Problems of Management and Supervision ¹ _____	3

Electives: Select at least 6-credit hours from the following courses.

ACC 101 Principles of Accounting Theory I _____	3
MGT 154 Small Business Management _____	3
MGT 165 International Management _____	3
MGT 167 Records Management _____	3
MGT 168 OSHA Standards and Compliance Procedures _____	3
MGT 265 Personnel Management _____	3
MGT 267 Office and Administrative Management _____	3
MGT 274 Industrial Management _____	3
MGT 275 Labor-Management Relations _____	3
MGT 280 Human Relations in Business _____	3

¹MGT 291 should be the last course taken in completing this sequence.

Word Processing Operator _____

This 20-credit hour certificate program is designed for the individual with good typing skills who is interested in entering the field of word processing as a word processing operator.

English ¹ _____	3
MGT 111 Introduction to Business Organization _____	3
MGT 167 Records Management _____	3
SEC 122 Intermediate Typing ² _____	2
SEC 133 Word Processing Equipment: IBM Personal Computer I ³ (1) _____	3
SEC 141 Word Processing Equipment: IBM Personal Computer II ⁴ (1) _____	2
SEC 150 Survey of Word Processing Software Applications _____	1
SEC 230 Executive Machine Transcription _____	3

¹Students may take ENG 100, ENG 101 or ENG 130 depending upon their English assessment and the advice of a student development faculty member.

²Students must meet prerequisite; those who do not should first enroll in either SEC 099 or SEC 121, depending on their typing background.

³Course is one credit hour. Must be completed utilizing three different software packages.

⁴Course is one credit hour. Must be completed utilizing two different software packages.

Course Descriptions

Course Numbering System

Courses Offered at Harper College

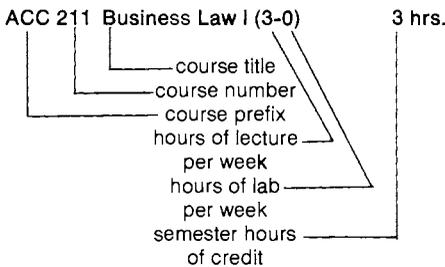
Course Numbering System

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 student development faculty member for clarification on the transferability of these courses.

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

Sample Course Listing



The following outlines of courses offered at Harper College describe the content of each course at the time of publication of the Bulletin. Harper College reserves the right to revise course content to reflect changing conditions, trends and information within the discipline.

Course Outlines

In accordance with Illinois law, Harper College maintains a file of course outlines for all courses listed in the Bulletin. Complete information is given on course content, methodology and objectives. The outlines are available for student review in the Division offices or in the office of the Dean of Instruction.

Prerequisites

Many course descriptions state that a prerequisite (for example — satisfactory completion of a specific course or instructor consent) is necessary for enrollment in such a course. Students are advised that enrolling in a course without satisfying the prerequisite may result in the student being withdrawn from such course at the request of the instructor. Refer carefully to Bulletin course descriptions.

Accounting

ACC 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.

ACC 101 Principles of Accounting Theory I (3-0) 3 hrs.

Presents course material in the following sequential order with emphasis on the basic structure of accounting, accounting for a merchandise enterprise, receivables, payables, inventories, deferrals and accruals, intangible assets, accounting systems and payroll systems.

ACC 102 Principles of Accounting Theory II (3-0) 3 hrs.

Presents course material in the following sequential order with emphasis on partnerships, corporations, brand accounting, cost accounting (job order and process cost), standard cost, individual income taxes, cost-volume-profit relationships, statement of changes in financial condition and financial statement analysis.

Prerequisite: ACC 101.

ACC 155 Tax and Payroll Accounting (4-0) 4 hrs.

Explanation of the federal tax structure and instruction in the application of tax principles to specific problems. Also, the preparation of payroll records, including tax returns for old age benefits and employment insurance.

ACC 201 Intermediate Accounting I (3-0) 3 hrs.

Problem solving course in accounting principles begun in ACC 101 and ACC 102. Accounting and reporting process, accounting theory, inventories, tangible and intangible fixed assets.

Prerequisite: ACC 102.

ACC 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: ACC 201.

ACC 203 Introductory Cost Accounting (3-0) 3 hrs.

Includes an examination of the nature of costs and the use of relevant accounting data for purposes of improved decision making. Topics covered are product costs (process, job order

and standard), overhead variance, by-product costs, joint-product cost and direct and variable costing.

Prerequisite: ACC 102.

ACC 211 Business Law I (3-0) 3 hrs.

History of the source of law, civil and criminal wrongs, law of contracts, agency, employment, property and related topics. Problems and case materials are used.

(NOTE: Transfer students should check with the school they will be transferring to regarding the transferability of this course.)

ACC 212 Business Law II (3-0) 3 hrs.

Business organizational concepts, commercial transactions, basic legal concepts of commercial paper, sales, secured transactions, creditors' rights and related topics. Problems and case materials are used.

Prerequisite: ACC 211.

(NOTE: Transfer students should check with the school they will be transferring to regarding the transferability of this course.)

ACC 213 Legal Environment of Business (3-0) 3 hrs.

Introduces the student to the nature, function and application of law in the commercial context. Emphasizes the regulation of business by statutes, administrative regulations and court decisions.

Prerequisite: ACC 211 or consent of instructor.

ACC 250 Income Tax Accounting (3-0) 3 hrs.

Offers a practical study of current federal and Illinois state income taxes as they relate to business and individual income tax procedures. Topics studied include income inclusions and exclusions, capital gains and losses, business and personal deductions and accounting methods.

Prerequisite: ACC 102.

ACC 251 Advanced Tax Accounting (3-0) 3 hrs.

Presents the basic concepts of corporation income taxation, partnerships, estates and trusts. The course includes a study of the taxation on the transfer of wealth, both during lifetime and testamentary.

Prerequisite: ACC 102.

ACC 252 Advanced Cost Accounting (3-0) 3 hrs.

Continues the study of cost accounting concepts with an emphasis on the development of accounting information for management decisions. Topics include segment performance measurement, transfer pricing, cost behavior patterns, capital budgeting and decision models.

Prerequisite: ACC 203.

ACC 253 Advanced Accounting I (3-0) 3 hrs.

Studies municipal accounts, business combinations and the preparation of consolidated financial statements. Topics will include branches, consolidated statements, elimination of intercompany transactions, general funds and nonprofit service organizations.

Prerequisite: ACC 202.

ACC 254 Auditing (3-0) 3 hrs.

Examines the auditory theory and procedures involving the topical areas of audit reporting, auditing standards and evidence, statistical, sampling and electronic data processing. The legal and ethical dimensions of auditing will also be studied with emphasis on how government affects financial reporting through court decisions, federal securities laws, the S.E.C. and the Foreign Corrupt Practice Act.

Prerequisite: ACC 253.

ACC 255 Advanced Accounting II (3-0) 3 hrs.

Continues the study of advanced accounting concepts with heavy problem solving and simulated professional examination conditions.

Prerequisite: ACC 253.

Adult Educational Program

AED 001 Nonnative Literacy Skills I (1-0 to 4-0) 1-4 hrs.

Introduces basic English syntactic structures and a practical repertory of noun vocabulary and cultural information. Exercises pre-reading and pre-writing skills as needed and introduces phonic analysis. Focuses on simple, practical reading and writing tasks. Prepares the student for AED 002.

AED 002 Nonnative Literacy Skills II (1-0 to 4-0) 1-4 hrs.

Reviews and expands basic syntactic structures, adding cultural information and vocabulary needed for everyday situations. Introduces word order and sequencing as literacy skills and continues studies of phonic analysis. Prepares the student for AED 003.

AED 003 Nonnative Literacy Skills III (1-0 to 4-0) 1-4 hrs.

Completes the study of basic syntactic structure in the context of everyday situations. Introduces prediction in reading and capitalization and punctuation in writing; completes the study of phonic analysis. Prepares the student for AED 004.

AED 004 Nonnative Literacy Skills IV (1-0 to 4-0) 1-4 hrs.

Introduces basic concepts related to personal finances, driver education, transportation, health care and community resources. Studies American customs related to greeting cards and gifts, appropriate eye contact and concepts of time and space. Introduces and/or reinforces cursive script reading, levels of formality, relaxed pronunciation and idiomatic expressions.

AED 021 Basic Reading Skills (1-0 to 4-0) 1-4 hrs.

Introduces basic word recognition and word attack skills including prereading skills, sight words, phonics skills and structural analysis skills; comprehension and advanced reading skills in relation to words, sentences, selections and sequence; and specialized skills in locating and organizing information, reading maps, interpreting graphs, tables or diagrams, and developing personal reading skills. Introduces skills of application, analysis and evaluation of reading materials. Prepares the student for AED 023.

AED 023 Pre-GED Reading Skills (1-0 to 3-0) 1-3 hrs.

Reinforces and reviews word recognition and word attack skills of structural analysis; comprehension and advanced reading skills including deriving meaning from words, sentences, selections and identifying sequence; specialized reading skills including locating and organizing information, reading maps and interpreting graphs, tables or diagrams; and personal reading skills. Introduces skills of application, analysis and evaluation. Prepares the student for AED 025.

AED 025 GED Social Studies and Science (1-0 to 6-0) 1-6 hrs.

Reviews specific social studies, science and U.S./Illinois Constitution content areas and skills. Emphasis is upon review of comprehension, application, analysis and evaluation levels of cognitive skills. Prepares the student for the GED Social Studies, Science and U.S./Illinois Constitution tests.

AED 031 Basic English Skills (1-0 to 6-0) 1-6 hrs.

Presents basic English grammar and usage, spelling rules, vocabulary/dictionary use, capitalization and punctuation. Develops skill in producing short, clear writing examples. Prepares the student for AED 033.

AED 033 Pre-GED English Skills (1-0 to 3-0) 1-3 hrs.

Reinforces basic English grammar and usage, spelling rules, vocabulary/dictionary use, capitalization, punctuation and sentence/paragraph development. Introduces skills of application, analysis and evaluation. Prepares the student for AED 035.

AED 035 GED Writing Skills and Literature (1-0 to 3-0) 1-3 hrs.

Reviews basic grammar and usage: sentence structure, style, logic and paragraph organization, punctuation, capitalization and spelling. Produces writing samples that require the writer to take a position and defend it with appropriate evidence, detail and argumentative strategies. Prepares students for the GED Writing Skills Test. Reviews literary types, terms, techniques, interpretation and commentary to prepare the student for the GED Interpreting Literature and the Arts Test.

AED 041 Basic Mathematical Skills (1-0 to 6-0) 1-6 hrs.

Introduces basic arithmetic skills including the fundamental operations with whole numbers, decimals, fractions and mixed numbers, verbal reasoning and measurement systems. Prepares the student for AED 043.

AED 043 Pre-GED Mathematical Skills (1-0 to 3-0) 1-3 hrs.

Reinforces arithmetic skills including the fundamental operations with decimals, fractions, mixed numbers, verbal reasoning and measurement systems. Introduces percents, ratio and proportion and charts and graphs. Introduces comprehension, application, analysis and evaluation levels of cognitive skills. Prepares the student for AED 045.

AED 045 GED Mathematics (1-0 to 3-0) 1-3 hrs.

Reviews arithmetic skills including decimals, fractions, numbers, verbal reasoning, measurement, percents, ratio and proportion and charts and graphs. Introduces algebra and geometry concepts, multi-step problem solving, using formulas and numeration statistics. Emphasizes review of comprehension, application, analysis and evaluation levels of cognitive skills. Prepares the student for the GED Mathematics Test.

AED 065 Adult Pre-Employment Skills (1-0 to 3-0) 1-3 hrs.

Introduces, reinforces or reviews the world of work and values clarification, interest, attitude and work inventories, aptitude and skill assessment, career exploration, job search, employment documents, interviewing, job retention skills and resignation or dismissal.

AED 071 Citizenship Training (1-0 to 3-0) 1-3 hrs.

Introduces the basic structure, functions and purposes of U.S. federal, state and local government and major aspects of American history. Reviews the responsibilities and application/test procedures for U.S. citizenship. Studies American customs and institutions.

Air Conditioning

See: Refrigeration and Air Conditioning

Anthropology

ANT 101 Introduction to Anthropology (3-0) 3 hrs.

Addresses such central questions as "What does it mean to be human?" and "How did we get to be the way we are?" Among the topics to be examined will be human, physical and cultural evolution, the origin of culture, language, religion, kinship, economics and the impact of contemporary life on the world's populations.

ANT 202 Cultural Anthropology (3-0) 3 hrs.

Describes and analyzes how people throughout the world define and resolve the problems of life that are found everywhere. Some of the specific topics studied will be religion, social structure, law, "the unknown," economics and the formation of behavior within particular groups.

ANT 203 American Indians (3-0) 3 hrs.

Designed to acquaint the student with our American heritage. There are detailed studies of various American Indian groups, both before and after the arrival of the Europeans. The religion, social organization, art work and relationship to the natural environment of the native American is viewed as offering solutions for some of the problems that confront the Western world today.

ANT 204 Archeology and Physical Anthropology (3-0) 3 hrs.

Describes 20 million years of human development and evolution, through viewing the fossil record and other sources of archeological information. The rise and development of modern civilization are studied, as are the archeological methods of scientists who examine culture change through the long prehistorical growth of mankind.

ANT 250 Field Methods in Archeology I (1-4) 3 hrs.

Provides intensive introduction to the methods and techniques of archeological survey and excavation through practical fieldwork, accompanied by lecture and discussion. The student will participate in laboratory analysis of materials excavated within the Midwest. Prerequisite: ANT 101 and/or consent of the instructor.

(NOTE: This course is taught only at an archeological site during the summer.)

ANT 255 Field Methods in Archeology II (1-4) 3 hrs.

Designed for students who have had previous field school experience at the introductory level. This is an intensive course in advanced field methods in archeology. In addition to the continued pursuit of excavation procedures and techniques, the student will be concerned with some of the theoretical and interpretative aspects of archeological analysis.

Prerequisite: ANT 101, ANT 250 and/or consent of instructor.

(NOTE: This course is taught only at an archeological site during the summer.)

Architectural Technology

ATE 101 Introduction to Architectural Technology I (1-6) 4 hrs.

Introduces pragmatic fundamentals of architecture and general technical procedures. Covers drafting and sketching, working drawings, mechanical and electrical services and estimating and specification formats.

ATE 102 Introduction to Architectural Technology II (1-6) 4 hrs.

Introduces orthographic, oblique and perspective projections. Covers cross-referencing, indexing, specifications and cost control budgeting. Includes development of working drawings and specifications.

ATE 103 Building Materials Technology I (2-4) 4 hrs.

Covers typical brick bearing walls and their methods of bonding. Includes wood floor, wall and ceiling construction based on balloon and platform framing.

ATE 104 Building Materials Technology II (2-4) 4 hrs.

Covers column, beam, girder and cladding assemblies based on bolted and welded construction techniques.

Prerequisite: ATE 103 or consent of instructor.

ATE 105 Computer Mathematics for Architectural Technologies I (3-0) 3 hrs.

Covers 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.

ATE 106 Computer Mathematics for Architectural Technologies II (3-0) 3 hrs.

Covers algebra, trigonometry and analytic geometry related to computer techniques applicable to architectural building materials. SYMAP planning, critical path and building geometry.

Prerequisite: ATE 105 or consent or instructor.

ATE 201 Comprehensive Building Project I (0-8) 4 hrs.

Covers finish materials, zoning and building ordinance formats, specification, mechanical and electrical equipment coordination, site utilities, working drawings, shop drawing format and building optimization in estimating.
Prerequisite: ATE 102.

ATE 202 Comprehensive Building Project II (0-8) 4 hrs.

Analyzes zoning and building code requirements applicable to developing and completion of building projects. Covers architectural practice, construction, scheduling, itemized cost estimates, contingency provisions, general condition and architect-engineer-contractor fee schedule.
Prerequisite: ATE 201.

ATE 203 Construction Problems I (2-4) 4 hrs.

Covers detailing, investigation and analysis of fire resistivity of materials, construction types. Underwriters Laboratories hourly ratings, fire-proofing, sprinkling and insurance requirements.
Prerequisite: ATE 104.

ATE 204 Construction Problems II (2-4) 4 hrs.

Covers detailing of stairs, glazing, sealants, millwork, suspended ceiling systems, doors, windows, ceramic tile and roofing. Investigates bronze, aluminum, stainless steel, interior terrazzo, granite and marble.
Prerequisite: ATE 203.

ATE 205 Computer Graphics and Optimization (3-0) 3 hrs.

Covers basic principles of differential and integral calculus for computer applications related to graphics, zoning ordinances and building codes.
Prerequisite: ATE 106.

ATE 206 Computer Applications in Architecture (3-0) 3 hrs.

Covers special problems emphasizing actual job conditions using total computer techniques for building specifications, perspectives, working drawings and optimization programs in estimating.
Prerequisite: ATE 205.

ATE 207 Behavior of Architectural Materials I (3-0) 3 hrs.

Covers the strength of materials with integrated topics from physics. Introduces major concepts in scientific thought, interpretation of physical measurement and structural development of matter. Emphasizes application to building construction.
Prerequisite: ATE 104.

ATE 208 Behavior of Architectural Materials II (3-0) 3 hrs.

Continues ATE 207. Covers interactions of matter interpreted through concepts of force, motion and energy, the visible and invisible electromagnetic spectrum and the nature of electric fields and forces. Includes Hooke's Law, elasticity, shear and moment diagrams.
Prerequisite: ATE 207.

ATE 209 Building Construction Principles for Realtors (3-0) 3 hrs.

Covers fundamental aspects of building principles. Includes legal description, surveys, foundations, masonry and frame walls, roofing, insulation, interior finishes, painting, heating, ventilating, air conditioning, plumbing and electrical installations. Covers the fundamentals of cost estimating.

ATE 210 Cost Estimating (3-0) 3 hrs.

Introduces methods of preparing estimates for various types of building contracts. Covers order of magnitude, scope, fast track, guaranteed maximum, guaranteed minimum with cost saving contingency and lump sum contract.
Prerequisite: ATE 203 or consent of instructor.

ATE 211 Solar Energy Architecture (3-0) 3 hrs.

Surveys fundamentals of solar energy for low temperature applications. Covers history of solar energy, sun power, climatic data, energy conservation, heat loss calculations, state of solar use, solar calculations, systems and costs.

Art

ART 100 Art Seminar (1-0) 1 hr.

Problems relating to the artist and art student. Required of all majors. May be repeated up to two hours credit.

ART 105 Introduction to Arts (3-0) 3 hrs.

Introduction to study of visual arts with an emphasis on the following aspects: building the student's awareness of aesthetic concepts, theory and criticism; developing sensitivity to works of art; and acquainting the student with vocabulary applicable to describe visual situations. Required of all majors.

ART 110 Drawing I (0-6) 3 hrs.

Studio course emphasizing the design elements and principles as applied to visual imagery.

ART 111 Drawing II (0-6) 3 hrs.

Studio course emphasizing the interaction between design abilities, image and content.
Prerequisite: ART 110 or consent of instructor.

ART 121 Design I (0-6) 3 hrs.
Studio course emphasizing the use of design elements and principles as applied to concepts of second dimension.

ART 122 Design II (0-6) 3 hrs.
Studio course emphasizing the use of design elements and principles as applied to concepts of the third dimension.
Prerequisite: ART 121 or consent of instructor.

ART 201 Drawing Studio (0-6) 3 hrs.
Studio course emphasizing drawing as visual idea. May be repeated up to six hours credit.
Prerequisite: ART 111 or consent of instructor.

ART 206 Printmaking Studio (0-6) 3 hrs.
Emphasizes traditional and contemporary methods of graphic reproduction of visual ideas pertaining to the fine arts. May be repeated up to six hours credit.
Prerequisite: ART 111, ART 121 or consent of instructor.

ART 225 Figure Drawing Studio (0-6) 3 hrs.
Studio course with primary emphasis on drawing the human figure in action and from still poses. Rapid sketching, long poses, memory work, studio and lecture. May be repeated up to six hours credit.
Prerequisite: ART 111 or consent of instructor.

ART 236 Composition (0-6) 3 hrs.
Emphasizes pictorial composition in line, value, pattern and color. May be repeated up to six hours credit.
Prerequisite: ART 111 and ART 121.

ART 240 Computer Graphics Studio (0-6) 3 hrs.
Presents a computer software-based approach to visual image manipulation and generation. Includes the integration of computer hardware, software and peripheral devices as tools to manufacture, capture and combine traditional and contemporary visual ideas as applied to art and design.
Prerequisite: ART 111, ART 121 or consent of instructor.

ART 261 Painting Studio (0-6) 3 hrs.
Emphasizes the relationship between painting and visual ideas. May be repeated up to six hours credit.
Prerequisite: ART 122 or consent of instructor.

ART 270 Stagecraft (0-6) 3 hrs.
Emphasizes the technical processes of the stage. Includes stage structures and scenery, construction processes, lighting theory and practices, costuming and relating equipment and hardware. Laboratory work will be correlated with the school's theatrical productions.

ART 291 Ceramics Studio (0-6) 3 hrs.
Emphasizes the exploration of ceramic media as related to the expression of visual ideas. May be repeated up to six hours credit.
Prerequisite: ART 122 or consent of instructor.

ART 296 Sculpture Studio (0-6) 3 hrs.
Emphasizes the exploration of sculptural media as related to visual ideas. May be repeated up to six hours credit.
Prerequisite: ART 122 or consent of instructor.

Astronomy

AST 101 Introductory Astronomy (3-2) 4 hrs.
Introduces the various topics of astronomy using a non-mathematical approach. Covers the origin of the universe, structure and composition of galaxies, the solar system, historical astronomy, constellations, meteors, comets and the latest from space exploration. Laboratory experience will complement the above.

Automation Skills

AUT 101 Analog Electricity-Electronics (2-4) 4 hrs.
Presents a practical comprehensive introduction to students who are new to electricity-electronics. Material focuses upon properties, measurement and uses of electricity. Basic theory and extensive applications are the goal.
Prerequisite: Placement test for automation.

AUT 105 Digital Electronics (2-4) 4 hrs.
Details the basics of combinatorial digital logic elements. The emphasis is on applied skills in the laboratory environment to compliment the theory. Introduces digital applications to controls: timers, counters, shift registers, display circuits.
Prerequisite: AUT 101.

AUT 110 Safety and OSHA (1-0) 1 hr.
Studies safety relating to the individual and his co-workers in the world of work. OSHA right to know materials are presented.

AUT 125 Optics: Fiber (1-2) 2 hrs.
Investigates optics for the purpose of working with communication control and measuring systems. Principles of physical and geometric optics are presented.

AUT 130 Pneumatics and Hydraulics (1-4) 3 hrs.
Considers the properties of hydraulic fluids as a medium to transmit control energy and supply power to do work. Studies the individual components and circuits found in typical pneumatic-hydraulic applications. Electrical and hydraulic servo controls are introduced.

AUT 135 Sensors (1-2) 2 hrs.
Investigates sensor operation and application for a variety of applications: tactile, photo, fiber-optic, magnetic, thermal, sonic, pressure and vision systems.
Prerequisite: AUT 105.

AUT 140 Controllers—PLC's (1-2) 2 hrs.
Examines the procedures and mechanisms by which programmable controller's functions are used. Programming in ladder logic and controller code focuses on the direct application of a variety of input and output devices. Hardware, programming, peripherals and accessories are emphasized.
Prerequisite: AUT 125, AUT 130 and AUT 135.

AUT 145 Prints, Measurements and QC (1-4) 3 hrs.
Develops skill in reading blueprints, using basic precision measurement tools and fundamentals of Statistical Process Control (SPC) and Statistical Quality Control (SQC).

AUT 155 Machine Shop Practices (1-4) 3 hrs.
Presents activities in bench operations, selected power tools, welding, fabrication and repair techniques.
Prerequisite: AUT 145.

AUT 160 Robotic Systems (2-8) 6 hrs.
Investigates operation and maintenance of an automated system for manufacturing a specific product. Integrates all previous course topics with the focus on an automated manufacturing system.

Banking, Finance and Credit _____

BFC 101 Principles of Financial Institution Operations (3-0) 3 hrs.
Surveys the internal operations of a bank and of a savings and loan association. Emphasizes the general principles of operations applicable to institutions of all sizes. Provides a sound foundation for newcomers to the industry regardless of age or prior academic experience.

BFC 102 Commercial Law (3-0) 3 hrs.
Provides a general knowledge of, and prepares the banker or credit manager to act in accordance with, legal principles pertaining to business and to banking. Topics include contracts, commercial paper, bank deposits and collections, bankruptcy, the Statute of Frauds, insurance law and appropriate articles of the Uniform Commercial Code.

BFC 110 Principles of Insurance (3-0) 3 hrs.
Surveys the concepts of risk management for individuals and companies. Analyzes the various types of life, health, real property and liability insurance and the rights and obligations of the policy owner and the life insurance company.

BFC 112 Principles of Property and Casualty Insurance (2-0) 2 hrs.
Presents the fundamental principles of property and casualty insurance. Designed for those seeking to qualify for the insurance profession

in the State of Illinois. Subject matter includes the legal and ethical characteristics of property and liability insurance.

BFC 113 Principles of Life, Accident and Health Insurance (2-0) 2 hrs.
Presents the fundamental principles of life, accident and health insurance. Designed for those seeking to qualify for the insurance profession in the State of Illinois. Subject matter includes the contractual, legal and ethical characteristics of life, accident and health insurance.

BFC 115 Personal Banking/Advanced Principles (3-0) 3 hrs.
Continues the study of financial institution operations, emphasizing concepts relating to personal banking. Primary coverage will include customer investment counseling with emphasis on the services offered through a financial institution. Topics include checking accounts, N.O.W. accounts, time deposits, money market accounts and the contractual nature of these accounts. Also includes ownership methods, insurance coverage and an introduction to consumer lending.
Recommended prerequisite: BFC 101.

BFC 117 Marketing for Financial Institutions (3-0) 3 hrs.
Provides an overview of the essentials of public relations and marketing for financial institutions. Includes the goals, development, implementation and evaluation of internal and external public relations and marketing plans.

BFC 118 Credit Administration in Financial Institutions (3-0) 3 hrs.
Emphasizes the identification and examination of factors influencing and determining a financial institutional loan policy. Topics include methods of credit investigation and analysis, credit operation techniques, case problems in credit administration and standard and unconventional types of loans.

BFC 200 Investment Management (3-0) 3 hrs.
Studies the basic principles and fundamentals of public and corporate securities and their markets. Alternative investment practices, objectives and tax implications will be considered. Further presents advanced investment analysis techniques dealing with commodities, options, financial futures and precious metal selection.
Prerequisite: Prior or concurrent enrollment in ECO 115 or MGT 111.

BFC 201 Commercial Credit and Collection Principles (3-0) 3 hrs.
Presents the principles of commercial credit management. Emphasizes analysis and control of funds advanced to customers through sales

(Accounts Receivable Management). Topics include credit associations, asset management, credit policies, basic principles of credit analysis and collection principles.
Prerequisite: ACC 101 or consent of coordinator.

BFC 202 Advanced Commercial Credit and Collection (3-0) 3 hrs.

Continues study of commercial credit management. Emphasis is placed on Accounts Receivable Management. Topics include financial statement analysis, budgeting, bad debts and receivables cash flow and a detailed study of bankruptcy proceedings and international credit transactions.
Prerequisite: BFC 201.

BFC 211 Accounting for Financial Institutions (3-0) 3 hrs.

Basic accounting procedures, techniques and systems used in banks, savings and loans and other financial institutions. Emphasis on the components of the Statement of Condition and Income Statement.
Prerequisite: ACC 101, BFC 101 and consent of coordinator.

BFC 212 Home Mortgage Lending (3-0) 3 hrs.

Emphasizes the role of the mortgage loan officer seeking to develop a sound mortgage portfolio. The mortgage market is described, followed by the acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan processing and servicing and finally the obligations of the mortgage loan officer in overall portfolio management.
Recommended prerequisite: ACC 211.

BFC 213 Trust Functions and Services (3-0) 3 hrs.

Introduction to trust operations. Presents the uses of, and services rendered by, institutions engaging in trust business, differentiating between the business and legal aspects of trust functions. Intended for all bankers and not limited to only those specializing in trust functions and services.

BFC 215 Financial Statements Interpretation and Analysis (3-0) 3 hrs.

Explores the characteristics of financial statements and financial statements analysis. Emphasis is on the income statement, balance sheet and sources and uses of funds statement. Effects of reserves, inventory valuations, depreciation, depletion, amortization, subsidiaries and affiliates. Cash flow, reported earnings and taxable earnings. Interpretation of the financial data by means of ratio analysis.
Prerequisite: ACC 101.

BFC 216 Bank Auditing and Internal Control (3-0) 3 hrs.

Explores principles, standards, techniques and professionalism in bank auditing. External audits and the role of the external auditor. Internal control, audit procedures and the role of the internal auditor. Audits by directors, trust department audits, EDP audits, other audits. Customer confirmations.
Prerequisite: ACC 101 (MGT 111 is recommended).

BFC 217 Uniform Commercial Code (3-0) 3 hrs.

The Uniform Commercial Code and related uniform acts and their impact upon common documents. Instruments considered include negotiable instruments, nonnegotiable instruments and quasi-negotiable instruments. Topics include formal requirements form and content, interpretation, delivery, negotiation, endorsement, presentment, notice of dishonor and protest, acceptance and certification and discharge.
Prerequisite: BFC 102.

BFC 219 Consumer and Commercial Credit in Financial Institutions (3-0) 3 hrs.

Emphasizes the practical aspects of both consumer and commercial credit management. Techniques of lending such as credit verification, secured and unsecured lending, slow loans and workouts.
Prerequisite: BFC 118 or minimum of six months lending experience.

BFC 220 Human Resource Management in Banking (3-0) 3 hrs.

Presents the theories and application of human resource management in banking. Surveys the techniques of selecting, motivating and controlling bank employees. Personal selection, interviewing, training and rewarding employees will be stressed in this course.
Prerequisite: BFC 101.

BFC 225 International Finance (3-0) 3 hrs.

Emphasizes international trade financing. Presents mechanics of importing and exporting, credit and political considerations. Focuses on credit considerations, market product profiles, letters of credit, collection, credit information outside the United States and entry into these markets.
Prerequisite: ACC 101.

BFC 235 Banking Internship (1-15) 3 hrs.

Provides cooperative work experience as a banking trainee. Credit for this course will be given for participation in supervised cooperative work experience. The experience must be provided through an organized training plan in a college-approved training station.

One lecture hour per week will be devoted to job analysis and banking issues.
Prerequisite: Consent of coordinator and completion of the first semester course work in the Banking and Savings Association Management Program.

Biology

BIO 101 Biology Survey (3-0) 3 hrs.

Surveys the science of biology, emphasizing chemical and physical properties of living things; overview of plant and animal kingdoms; systems of control; growth; differentiation; reproduction; genetics, ecology and evolution.

BIO 103 Man and Environment (3-0) 3 hrs.

Surveys and analyzes man's role as an environmental modifier. Ecological, social cultural, economic and political influences on environment are considered. The historical and current pollution problems and other environmental disruptions are analyzed and evaluated. Possible remedial courses of action are discussed and evaluated.

BIO 105 Heredity, Evolution and Culture (3-0) 3 hrs.

Examines life and the evolutionary record with emphasis on man and the gene pool. Factors such as social and environmental entities and the problems of the 20th century are considered.

(Formerly BIO 122.)

BIO 110 Principles of Biology (3-3) 4 hrs.

Studies and emphasizes cell structure and function by exploring the various patterns that have evolved within cells for carrying out important life functions. This includes cell ultra-structure, cell surface-volume relationships, cellular metabolism and energetics, mitosis and meiosis, genetics, DNA, RNA and protein synthesis, gene action, population genetics, development and environment.

Prerequisite: High school biology with "C" or better, BIO 101 or consent of instructor.

BIO 120 General Botany (3-3) 4 hrs.

Surveys the plant kingdom emphasizing ecological relationships, plants and their growth, structure, physiology and reproduction.

Prerequisite: High school biology with "C" or better, BIO 101 or consent of instructor.

BIO 130 Microbiology (2-4) 4 hrs.

Examines 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, BIO 101 or BIO 110 or consent of instructor. College chemistry or equivalent is desirable.

BIO 135 Introduction to Human Anatomy and Physiology (4-0) 4 hrs.

Surveys the human body, with emphasis on basic physical and chemical concepts, anatomy, physiology and embryology. Designed to meet the needs of students in certain allied health career programs.

BIO 136 Introduction to Human Disease (3-0) 3 hrs.

Surveys the nature of human disease, with emphasis on the functional disturbances within the body systems. Designed to meet the needs of students in certain allied health career programs.

Prerequisite: BIO 135, BIO 160 or consent of instructor.

BIO 140 General Zoology (3-3) 4 hrs.

Surveys the 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, BIO 101 or consent of instructor.

BIO 150 Field Biology (2-4) 4 hrs.

Emphasizes field and laboratory work with local soils, flora, fauna — their collection, identification and ecological relationships. Assists students in acquiring basic working knowledge in field work. Field work or field trips every class day, weather permitting.

Prerequisite: BIO 120, BIO 140 or consent of instructor.

BIO 151 Field Biology — Cape Cod (2-4) 4 hrs.

Emphasizes field and laboratory work with local, as well as Cape Cod coastal marine soils, floral, fauna — their collection, identification and ecological relationships. Assists students in acquiring basic working knowledge in field work. Weather permitting, field work or field trips will be offered every day including an extended trip to Cape Cod, Massachusetts.

Prerequisite: BIO 120, BIO 140 or consent of instructor.

BIO 152 Field Biology — Isle Royale (2-4) 4 hrs.

Emphasizes field and laboratory work with local, as well as Isle Royale soils, flora, fauna — their collection, identification and ecological relationships. Assists students in acquiring basic working knowledge in field work. Weather permitting, field work or field trips will be offered every day including an extended trip to Isle Royale, Michigan.

Prerequisite: BIO 120, BIO 140 or consent of instructor.

BIO 160 Human Anatomy (3-2) 4 hrs.
Introduces the anatomy of the human body; the following systems studied either regionally or systemically; integumentary, skeletal, articular, muscular, circulatory, lymphatic, nervous, respiratory, digestive, excretory, endocrine and reproductive. Includes some introductory histology. Specially designed for studies in health careers, biology and physical education. Prerequisite: Academic average of "C" or better or consent of instructor.

BIO 161 Human Physiology (3-2) 4 hrs.
Emphasizes physiological principles at the molecular, cellular, tissue, organ and system level, as they pertain to the human organism. The following systems are studied in detail: skeletal, muscular, circulatory, nervous, digestive, respiratory, urinary, reproductive and endocrine. In this course, special applications will be made to meet the needs of students in health careers, biology and physical education. Prerequisite: BIO 160.

BIO 210 Biological Principles (3-3) 4 hrs.
Emphasizes the following topics: the origin and evolution of life, cell structure and functions, transformation of energy, biological chemistry, physical and chemical life processes, regulatory mechanisms, cellular reproduction, inheritance, gene action and development. Primarily for biology major and minor students. Prerequisite: One semester of college chemistry (CHM 121) or two years of high school chemistry and physics.

BIO 220 Botanical Principles (3-3) 4 hrs.
Studies the plant kingdom emphasizing ecological relationships, evolutionary relationships, growth, structure, physiology, energy relationships, life cycles, and reproduction. Primarily for biology majors and minor students. Prerequisite: BIO 210.

BIO 240 Zoological Principles (3-3) 4 hrs.
Studies the animal kingdom emphasizing the evolutionary study from protozoans through vertebrates including organic evolution, morphology, histology, physiology, taxonomy, parasitology, embryology and ecology. Primarily for biology major and minor students. Prerequisite: BIO 210.

Building Codes and Enforcement

BCE 101 Basic Construction for Building Codes (3-0) 3 hrs.
Introduces materials used in building construction, their growth or manufacture, preparation and application. Emphasizes frame and masonry construction types, working drawings and structural details for code compliance.

BCE 102 Basic Code Enforcement Techniques (3-0) 3 hrs.
Introduces building inspection principles. Includes application of building codes to structures in the inspection process. Covers application of zoning restrictions and regulations, code interpretation using reference documents, components of field inspection and report requirements. Emphasizes plan and specification review, permit processes and issuance, legal ramifications in inspection law. Prerequisite: ENG 103 or consent of instructor.

BCE 104 Basic Mechanical and Energy Conservation Codes (3-0) 3 hrs.
Introduces the theory and code requirements for mechanical and energy conservation systems. Covers procedures, layouts and safety principles for heating, cooling and ventilation systems; application of HVAC code requirements for residential units (up to six dwelling units) and light commercial buildings. Includes application of energy conservation code requirements to principles of building inspection and identification of components in heating, ventilating and air conditioning systems to discern code violations.

BCE 105 Basic Plumbing Codes (3-0) 3 hrs.
Introduces basic theory and code requirements for plumbing systems and their installation. Concentrates on procedures, practices and layouts and code inspection problems for residential, commercial and industrial installations.

BCE 106 Basic Electrical Codes (3-0) 3 hrs.
Introduces basic theory and code requirements for electrical systems and their installation. Concentrates on procedures, practices and layouts, and code inspection problems for residential, commercial and industrial installations.

BCE 201 BOCA Basic Building Codes (3-0) 3 hrs.
Covers the latest edition of the BOCA Basic Building Code. Explains its use, intent, rationale and interpretation. Includes enforcement and administration, liability, plan review and permit process definitions, use groups, types of construction, general building limits, special uses, means of egress, materials and tests, fire resistive construction, mechanical equipment and systems, fire protection systems, electric wiring and equipment, elevators, plumbing systems and use of reference standards.

Business Information Management

BIM 170 Introduction to Information Applications and Technologies (2.5-1) 3 hrs.

Provides an overview of business information applications — technology, people and procedure — within organizational and environmental context. Improvements in productivity through appropriate application of office tools and techniques (manual or electronic) are stressed. Major technologies, both hardware and software, that support information (1) creation, (2) storage and retrieval, (3) manipulation and (4) distribution are covered.

BIM 175 Enterprise-Wide Information Analysis (2.5-1) 3 hrs.

Collecting and analyzing organizational needs, utilizing planning tools and collecting data for assessing the impact of change upon work groups and teams.

BIM 180 Information Applications Implementation (2.5-1) 3 hrs.

Examines the development and implementation processes, tactics and strategies based upon information analysis results. Application of tested methodologies through case or field-based projects. Particular attention is devoted to development of end-user office support systems.

Prerequisite: BIM 170 and BIM 175 or consent of coordinator.

BIM 210 Information Applications Resources (2.5-1) 3 hrs.

Examines the application of information automation technologies from the end-user perspective to enhance productivity of office employees — executive/managerial, professional and support personnel. Relationship of automated technologies and corporate goals. Comparative and evaluative techniques for appropriate selection of hardware and software.

Prerequisite: Prior or concurrent enrollment in BIM 180 or consent of coordinator.

BIM 220 Integration of Information Applications (2.5-1) 3 hrs.

Summarizes and provides synthesis and application of concepts related to current information systems topics.

Prerequisite: BIM 210.

BIM 250 Multi-Media Business Presentations (2.5-1) 3 hrs.

Provides application of communication theory, human relations concepts, research methods, and information technology combined with

multi-media resources to effect the internal communications of professionals who work in environments with automated information and communication systems.

Prerequisite: BIM 210 or consent of coordinator.

BIM 260 Training and Development in Information Management (2.5-1) 3 hrs.

Provides application of theories of learning and instructional development to the education and training of employees in business information.

Topics include instructional design, strategy, technology, and the implementation, evaluation and management of training in an organizational environment.

Prerequisite: BIM 210 or consent of coordinator.

Cardiac Exercise Technology

HPI 100 Introduction to the Cardiac Exercise Technology Program (1-0) 1 hr.

Exposes students to the exercise laboratory, defines major areas of study and their importance within the curriculum and examines the role of the exercise specialist in various health and fitness centers.

HPI 101 Fundamentals of Exercise Testing (2-2) 3 hrs.

Provides a fundamental understanding of the physiological parameters measured to assess physical fitness, the importance of each measurement and the significance of abnormal findings. In addition, considerable laboratory experience is offered in the operation of sophisticated diagnostic physiological instrumentation.

HPI 102 Exercise Physiology (3-0) 3 hrs.

Examines the effects of muscular activity on basic human functions and relates such effects directly to practice in physical education, athletic coaching and rehabilitative conditioning. Prerequisite: BIO 161.

HPI 103 Advanced First Aid Procedures (1-2) 2 hrs.

Provides practice in the recognition of cardiac arrhythmias, familiarizes students with the primary cardiac medications and their actions, defines the exercise specialist's role in emergency procedures and in the use of emergency equipment and identifies the legal responsibilities and guidelines under which the exercise specialist must function.

Prerequisite: HPI 101 and PED 201.

HPI 104 Data Analysis and Exercise Prescription (3-0) 3 hrs.

Defines guidelines for conducting physical fitness tests, provides an in-depth understanding of the physiological significance of data generated during fitness testing and outlines methods for translating such data into exercise prescriptions both for patients afflicted with cardiovascular disease and for noncardiac subjects.

Prerequisite: HPI 101.

HPI 105 Electrocardiography (3-2) 4 hrs.

Provides instruction and practice in the performance of both resting and exercise diagnostic electrocardiograms, develops skills in basic arrhythmia detection and ST segment analysis and examines the role of the cardiac exercise specialist in cardiovascular preventive/rehabilitative exercise programs.

Prerequisite: HPI 101 and BIO 160.

HPI 106 Cardiovascular Physiology and Pathology (3-0) 3 hrs.

Provides an in-depth understanding of the anatomy and physiology of the cardiovascular system, discusses the risk factors associated with the development and progression of coronary artery disease, examines the effects of coronary artery disease on heart pump function and evaluates the roles of exercise and pharmacotherapeutics in enhancing cardiovascular efficiency.

Prerequisite: HPI 102 and BIO 161.

HPI 107 Internship (0-20) 4 hrs.

Provides students with practical experience in diagnostic exercise testing, exercise prescription and class supervision with both cardiac and noncardiac subjects.

Prerequisite: DIT 101, HPI 102, HPI 103, HPI 104, HPI 105, HSC 112, PED 204, PSY 230.

HPI 108 Practical Experience in Administering Adult Fitness Program (1-2) 2 hrs.

Provides practical experience in organizing, administering and adapting a wide variety of physical education activities to meet the needs of special groups such as patients recovering from cardiovascular irregularities and individuals with multiple risk factors for heart disease. In addition, provides training in fitness testing and techniques for handling special problems related to training cardiac patients.

Chemistry

CHM 100 Chemistry for the Health Sciences (3-3) 4 hrs.

Introduces basic concepts of inorganic and organic chemistry and biochemistry. Emphasizes chemical principles applied to biological systems. Laboratory exercises apply theory to biological and consumer products. Especially

designed for students in allied health sciences. Meets the prerequisite of the Nursing Program.

CHM 110 Fundamentals of Chemistry (3-3) 4 hrs.

Introduces concepts of chemistry. Emphasizes the composition of matter, the periodic table, the chemistry of solutions and chemical calculations. For students whose preparation does not permit enrollment in CHM 121 and CHM 131. Prerequisite: MTH 102 or concurrent enrollment.

CHM 121 General Chemistry I (3-3) 4 hrs.

Studies principles of atomic structure, bonding, stoichiometry, states of matter and kinetic theory. Provides laboratory experience in volumetric, gravimetric, gas analytical methods and in molecular weight determinations. Prerequisite: Two semesters of high school chemistry or CHM 110, MTH 102 or concurrent enrollment.

CHM 122 General Chemistry II (3-3) 4 hrs.

Continues CHM 121. Principles of chemical kinetics, equilibria, electro-chemistry, thermodynamics, redox, descriptive chemistry of metals and non-metals, an introduction to organic chemistry and nuclear chemistry. Laboratory includes experiments related to the lecture material along with the theory and practice of qualitative analysis. Prerequisite: CHM 121.

CHM 125 Organic and Biochemistry for the Health Sciences (3-3) 4 hrs.

Introduces principles and health applications of organic chemistry and biochemistry. Studies the structure, nomenclature and reactions of organic compounds. Also studies carbohydrates, lipids, proteins, enzymes, nucleic acids, metabolic pathways and bioenergetics. Includes related laboratory exercises. Intended for students in the allied health sciences but open to all non-physical science majors. Prerequisite: CHM 110 or CHM 121 or placement exam and consent of the chemistry department chairperson.

CHM 131 College Chemistry I (3-6) 5 hrs.

Studies principles of chemistry including molecular, atomic and electronic theories of matter and their relations to the periodic table. Quantitatively treats thermochemistry, bonding, behavior of gases, solids and liquids, and solutions. Emphasizes interpretation of laboratory data. Primarily for students in chemistry, chemical engineering or physical sciences. Prerequisite: Two semesters of high school chemistry with a grade of "B" or better, or a grade of "B" or better in CHM 110, and credit or registration in MTH 103 or equivalent.

CHM 132 College Chemistry II (3-6) 5 hrs.
Continues CHM 131 with emphasis on kinetics, thermodynamics, equilibria, acid-base reactions, coordination chemistry, electrochemistry and nuclear chemistry. Primarily for students in chemistry, chemical engineering or physical science curricula. Laboratory includes qualitative analysis.
Prerequisite: CHM 131.

CHM 201 Basic Organic Chemistry (3-3) 4 hrs.
Survey of organic chemistry covering nomenclature, structure, reactions and synthesis of the major classes of organic compounds, including hydrocarbons, alcohols, aldehydes, ketones, carboxylic acids and amines. The laboratory includes experiments in distillation, crystallization, chromatography, extraction, synthesis and analysis.
Prerequisite: CHM 122 or consent of instructor.

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, thin-layer chromatography, polarimetry and refractometry.
Prerequisite: CHM 122 or CHM 132.

CHM 205 Organic Chemistry II (3-6) 5 hrs.
Continues CHM 204.
Prerequisite: CHM 204

CHM 210 Quantitative Analysis (3-6) 5 hrs.
Studies chemical, theoretical and applied methods relevant to sampling, gravimetric analysis, titrimetry, acid-base reactions, chemical separations, chromatography and spectroscopy.
Prerequisite: CHM 122 or CHM 132 or equivalent.

Child Development

CCA 101 Introduction to Child Development Careers (3-0) 3 hrs.
Surveys various career opportunities available in early childhood professions. Introduces history and application of child development philosophies. Self-examination of attitudes, skills and abilities needed in this field. Observation/participation in an early childhood program.

CCA 102 Child Development I (3.0) 3 hrs.
Presents research, theory and practical application related to development from conception through preschool years. Discusses social, emotional, physical and cognitive growth of the child, children in groups and professional practice.

CCA 103 Child Development II (3-0) 3 hrs.
Presents research, theory and practical application related to development from age 5 through maturity. Discusses social, emotional, physical and cognitive growth within age-related stages. Stresses relevance of developmental theory in working with children and adults in an early childhood program.
Prerequisite: CCA 102 or consent of instructor.

CCA 111 First Three Years of Life (3-0) 3 hrs.
Examines the theories and research related to infants and toddlers with a focus on methods of care given in home-based and school-based infant programs. Observation of infants and infant programs.

CCA 115 Principles of Day Care (3-0) 3 hrs.
Provides practicalities of day care programming. Emphasizes curriculum planning, implementation, assessment, use of materials and equipment. Includes participation in day care program.

CCA 209 Language Arts for the Young Child (3-0) 3 hrs.
Provides study of language development including methods for encouraging language growth, the development of vocabulary and listening skills. Surveys and analyzes children's prose and poetry. Stresses techniques of oral reading, story telling, puppetry and felt board presentations.

CCA 210 Creative Activities for Young Children (3-0) 3 hrs.
Examines the theoretical framework for art and creativity. Acquaints the student with a variety of creative art materials and methods appropriate for use in programs for young children. Includes firsthand experience with materials and planning an art program. Stresses the relationship of the art experience within the curriculum and the role of art experience within the early childhood program.

CCA 214 Principles of Preschool Education (5-2) 6 hrs.
Relates theory and practice of early childhood programming. Emphasizes curriculum, program planning, assessment, use of materials, equipment, role of teacher and techniques of classroom management. Students will observe and participate in early childhood programs.
Prerequisite: Sophomore standing in Child Development or consent of instructor.

CCA 218 Principles of Special Education (5-2) 6 hrs.
Examines the growth and development of severely and profoundly handicapped children. Children with special needs will be studied,

with a focus on special education programs, family issues and community concerns. The relevant laws at federal, state and local levels will be discussed. Students will observe and become involved with children in special education programs in the community and become conversant with the language of special education.
Prerequisite: PSY 101 or concurrent enrollment, and sophomore standing.

CCA 219 Psychology of Exceptional Children (3-0) 3 hrs.

Stresses identification, classification and programming of exceptional children, individually and in groups. Discusses local, state and federal legislation requirements. Studies specialized educational approaches for exceptional children, including gifted.
Prerequisite: PSY 101.

CCA 220 Child Development Practicum Internship (3-15) 6 hrs.

Places the student under supervision as a student teacher in an early childhood classroom. Utilizes skills, techniques and principles learned in child development courses. Student also meets weekly for seminar.
Prerequisite: Consent of instructor.

CCA 221 Workshop in Early Childhood Education (3-0) 3 hrs.

Concentrates on the application of Piaget's principles in math and science. Provides experience in planning, implementing and assessing math and science activities; includes construction of teacher-made materials.

CCA 225 Mental Health in Child Development (3-0) 3 hrs.

Focuses on exploration of students' personal experiences within the family and cultural institutions; discusses impact of sex roles, school and family systems; deals with separation issues and family trauma; emphasizes team building and the development of effective interpersonal communication skills.
Prerequisite: PSY 101

CCA 226 Child Guidance (3-0) 3 hrs.

Emphasizes theory and practice of effective methods for guiding children's behavior. Includes problems of aggression, passivity and overactivity and methods for guiding emotional growth.

CCA 230 Movement and Rhythms for the Young Child (3-0) 3 hrs.

Presents research, theory and practical application as it relates to teaching music and movement; illustrates appropriate methods, materials and equipment for use in classroom programming.

CCA 235 Principles of School Age Care (3-0) 3 hrs.

Relates theory and practice of school age programming. Emphasizes program planning, implementation and assessment, use of materials, principles of growth and development, role of teacher and techniques of classroom management. Students will observe and participate in school age child care.

CCA 236 Administration of School Age and Child Care (3-0) 3 hrs.

Focuses on the elements which are necessary to administer school age child care programs: establishment and operations, legal issues, policy setting, staff selection, parent and community relationships, physical facilities, programming, budgeting and administrative responsibilities.
Prerequisite: CCA 235 or consent of instructor.

CCA 252 Child-Family-Community (3-0) 3 hrs.

Concentrates on teacher's role in working with the child's family and community, stresses parent education, changing families and legal responsibilities. Specifies criteria and methods for effective parent-teacher communication. Includes an in-depth study of community resources.

CCA 253 Administration of Early Childhood Programs (3-0) 3 hrs.

Provides guidelines for the establishment and operation of a child development center. Emphasizes the director's role in programming, school policies, budgeting, record keeping, licensing, municipal codes, insurance, staff development, evaluation procedures, parent communication and community resources.

Communication Skills_____

CMN 094 Grammar and Usage Review (1-0) 1 hr.

Presents sequential instruction to review grammar and usage. Concentrates on applying basic principles of grammar to the conventions of correct usage. Covers such topics as sentence structure and frequent sentence errors. Carries no transfer credit.

CMN 095 Punctuation Review (1-0) 1 hr.

Presents sequential instruction to review punctuation and mechanics. Covers various punctuation marks and other conventions of form for written communication, such as capitalization and abbreviations. Carries no transfer credit.

CMN 096 Organization Skills (1-0) 1 hr.

Presents sequential instruction in the organizational skills related to written communication. Course will cover outlining, patterns of organization, paragraph structure and other pre-writing topics. Carries no transfer credit.

CMN 097 Spelling Improvement (1-0) 1 hr.

Presents a sequential program of instruction for the student who needs assistance in improving spelling skills. Carries no transfer credit.

CMN 098 Vocabulary Development (1-0) 1 hr.

Presents sequential instruction for the student who desires techniques to acquire a broader vocabulary. Carries no transfer credit.

Computer Science

CSC 208 FORTRAN Computer Programming (3-2) 4 hrs.

Develops working knowledge of FORTRAN 77. Includes problem formulation, data storage and retrieval techniques, algorithm analysis and development, flow chart or pseudocode construction. Introduces student to numerical methods and simulations. Intended for the computer science, engineering, mathematics or science student. (Formerly MTH 208.) Prerequisite: MTH 103 or MTH 107 with grade of "C" or higher or consent of instructor.

CSC 209 Pascal Computer Programming (3-2) 4 hrs.

Develops working knowledge in use of the computer in the Pascal programming language. Includes problem formulation, data storage and retrieval, algorithms, flowcharts or pseudocode, numerical analysis and structured programming. Intended for the computer science, engineering, mathematics or science student. (Formerly MTH 209.) Prerequisite: MTH 103 or MTH 107 with grade of "C" or higher or consent of instructor.

CSC 211 Introduction to "C" Programming and UNIX (3-2) 4 hrs.

Develops working knowledge in the use of the computer in the "C" programming language. Includes problem formulation, data storage and retrieval, algorithms, flowcharts or pseudocode, numerical analysis and structured programming, lexical analysis and string manipulation. Introduces student to a UNIX-like operating system environment. Intended for the computer science or engineering student. (Formerly MTH 211.) Prerequisite: CSC 208 or CSC 209 with grade of "C" or higher or consent of instructor.

CSC 215 Introduction to Computer Science (3-0) 3 hrs.

Introduces computer arithmetic and error analysis, machine organization, storage and retrieval of data, numerical methods, data structures and problem analysis; numeric and non-numeric applications. (Formerly MTH 215.)

Prerequisite: CSC 208 or CSC 209 with grade of "C" or higher.

CSC 216 Programming Structures and Techniques (2-2) 3 hrs.

Provides exposure to techniques for storing and manipulating data using bulk data storage devices. Includes discussions of addition, deletion and insertion of algorithms for stacks, queues, dequeues, linked lists and trees. Intended for computer science majors. (Formerly MTH 216.)

Prerequisite: CSC 209 or CSC 211 with grade of "C" or higher or consent of instructor.

CSC 217 Assembly Language Programming and Computer Organization (3-2) 4 hrs.

Introduces the organization of the VAX computer system from the hardware and software standpoint. Includes a review of internal data representation, how the various hardware units interact and an introduction to the VAX/MACRO assembly language. The assembly language portion will cover addressing modes, instruction format and usage in writing assembly language programs. (Formerly MTH 217.)

Prerequisite: CSC 215 with grade of "C" or higher or consent of instructor.

Criminal Justice

CRJ 101 Introduction to Criminal Justice (3-0) 3 hrs.

History, role, development, and constitutional aspects of law enforcement and public safety. Review of agencies and functions involved in processes of administration of criminal justice.

CRJ 104 Introduction to Corrections (3-0) 3 hrs.

Provides the student with an integrated knowledge about the system through which the criminal offender is processed. Emphasis will be placed upon the philosophical bases of punishment and treatment techniques in institutional community-based programs plus parole programs.

CRJ 105 Criminal Courts of the U.S. (3-0) 3 hrs.

Provides the student with a broad body of knowledge concerning the court structures of the United States. The course will examine the historical development of the judicial branch of government, the role of the courts in the criminal justice system, levels of courts and roles of persons employed in this unit of the Criminal Justice program.

CRJ 116 Introduction to Forensics (3-0) 3 hrs.

Introduces student to the use of scientific disciplines in crime investigation. Identifies the variety of sources of evidence and the means by which comparative analysis can be made. Introduces student to probability theory. Develops skills in crime scene technology, fingerprinting, photography and recording.

CRJ 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.

CRJ 202 Criminal Law II (3-0) 3 hrs.

Continues CRJ 201. Principles of arrest, search and seizure; evaluation of evidence and proof, including kinds, degrees, admissibility and competence. Rules of evidence of particular importance of operational level in law enforcement. Courtroom and criminal trial procedures. Prerequisite: CRJ 201 or consent of coordinator.

CRJ 203 Law and Society (3-0) 3 hrs.

Focuses on the concept of law and its relationship to crime and the administration of criminal justice in a democratic society. Attention is directed toward the historical background of American law, social norms, criminal law, law and force, morals, justice, freedom and custom. An examination of the functions of the executive, legislative and judicial branches of government is made in relationship to law and the administration of criminal justice in present and future societal problems.

CRJ 205 Juvenile Delinquency (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.

CRJ 207 Vice and Drug Control (3-0) 3 hrs.

Historical and sociological development 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.

CRJ 209 Police-Public-Community Relations (3-0) 3 hrs.

Examines current issues in relationships between the police and the community, with emphasis on distinguishing between the concepts of public and community relations, problem areas of racial minority groups, juveniles, the adult criminal offender, the press and the prevention of crime.

CRJ 210 Introduction to Criminology (3-0) 3 hrs.

Examines the nature and extent of crime in American society, theories of crime causation and control of criminal behavior.

CRJ 213 Crime Prevention (3-0) 3 hrs.

Crime prevention as a specific function of police service requiring inputs from both private and public interests. Explores deterrent-reducing programs and introduces contemporary concepts of site-hardening and opportunity education. Examines the philosophy and organization structure of crime prevention units, their service targets and potential problem areas.

CRJ 215 Alternatives to Confinement (3-0) 3 hrs.

Study of formal and informal alternatives to custodial handling of offenders. Takes systems approach to examine traditional and contemporary offender diversion programs. Theories, objectives and the systematic consequences of change are examined.

CRJ 216 Investigative Process (3-0) 3 hrs.

Studies the art of investigation to reconstruct facts and circumstances of any event. Prepares students to plan and execute investigations commonly performed in civil and criminal work with concentration on obtaining direct evidence through interviewing, interrogation, observation and the use of documents and records.

CRJ 220 Police Administration (3-0) 3 hrs.

Introduces basic principles of police administration and management as applied to the police function. Emphasis on organization structure and management processes, identifying the police role in staff functions.

CRJ 222 Police Operations (3-0) 3 hrs.

Examines police operations, including patrol, investigation, traffic, juvenile and special operations. Manpower distribution, analysis of operations and enforcement policy will be stressed.

CRJ 224 Police Supervision (3-0) 3 hrs.

Focuses on supervisory problems within a police organization, equating sound principles of human relations and supervisory techniques to effective police performance. Course includes the topics of morale and discipline motivation, authority and control, the supervisory process and its responsibilities, principles of communications, professional ethics and the decision-making process. Prerequisite: CRJ 101 or consent of coordinator.

CRJ 226 Case Management (3-0) 3 hrs.
Studies the investigative process from a supervisory and managerial perspective. Emphasizes means of assessing case priorities, resource allocation, performance evaluation and the investigator's relationships with others, influencing the successful completion and prosecution of criminal investigation.

CRJ 235 Street Procedures (3-2) 4 hrs.
Introduces techniques and procedures used by police and security personnel in job-related activities. Includes discussion and practice in areas such as vehicle stops, initiating investigations, responding to calls, building checks, emergency situations, crowd control and report preparation.
Prerequisite: Sophomore standing

CRJ 238 Defensive Techniques (2-2) 3 hrs.
Introduces principles of self-defense and weaponless control for police and security personnel. Includes psychology, physical and mental preparation, practice in defense and control techniques.
Prerequisite: Sophomore standing and consent of instructor.

CRJ 250 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.

CRJ 252 Industrial Fire Protection Disaster and 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.

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

CRJ 299 Criminal Justice Practicum (1-10) 3 hrs.
Provides students with a broad educational experience through appropriate observation and directed experience in operating segments of the criminal justice system. Students will be assigned to a criminal justice agency in addition to participation in a seminar.
Prerequisite: Sophomore standing and consent of coordinator.

Data Processing

DPR 100 Computer Literacy (2-2) 3 hrs.
Provides the student with an understanding of computers and software as they are used in the business environment. Laboratory time will be used to look at a few applications of software packages (like word processing, possibly spreadsheets, data bases and/or graphics) with the intent of helping students become familiar with a microcomputer. This course is not intended for data processing majors and does not include programming.

DPR 101 Introduction to Data Processing (2-2) 3 hrs.
Introduces a student to the computer through lecture and laboratory assignments. No prior knowledge of computers is necessary. The student will learn the fundamentals of computers and how computers are used in a business environment, including learning how to use a word processor, data base manager, spreadsheet and other packages. The student will also learn to write simple programs using the BASIC language.
(NOTE: Transfer students should check with the school they will be transferring to regarding the transferability of this course.)

DPR 106 Computer Logic and Programming Technology (2-2) 3 hrs.
Familiarizes the student with the necessary tools to design efficiently the steps in a business computer program. Includes advanced concepts of the BASIC programming language. Requires the students to code and debug their own samples cases. Also teaches documentation, problem analysis, structured programming logic, decision tables, system flowcharting, table utilization and file maintenance.
Prerequisite: DPR 101 or concurrent enrollment.

DPR 108 Computer Programming — COBOL (4-4) 5 hrs.
Provides an in-depth study of COBOL. Extensive laboratory experience in writing, testing, debugging and documenting programs for business applications. Emphasis on structured design and documentation.
Prerequisite: DPR 101, DPR 106 and MTH 102 with grade of "C" or better or consent of instructor.

DPR 110 Computer Programming — Assembler Language (4-4) 5 hrs.
Utilizes program writing, testing, debugging and documentation, using the IBM S/360-370, 4300, etc., assembler language. Extensive laboratory experience in planning, writing and testing programs for typical business applications.
Prerequisite: DPR 108 with grade of "C" or better or consent of instructor.

DPR 120 Introduction to Business Software Packages (2-2) 3 hrs.

Provides an opportunity to become proficient in the use of currently popular software packages on a variety of microcomputers.

DPR 121 General Accounting Applications for Micros (1-2) 2 hrs.

Provides an opportunity to become proficient in the use of a currently popular general accounting package.

Prerequisite: ACC 101 with a grade of "C" or better or consent of instructor.

DPR 122 Data Base for Micros (.5-1) 1 hr.

Provides an opportunity to become proficient in the use of a currently popular data base package. May be repeated up to a maximum of three credit hours utilizing different software packages for each unit of credit.

DPR 123 Spreadsheet/Budgeting for Micros (.5-1) 1 hr.

Provides an opportunity to become proficient in the use of a currently popular spreadsheet package. May be repeated up to a maximum of three credit hours utilizing different software packages for each unit of credit.

DPR 124 Advanced Spreadsheet for Micros (.5-1) 1 hr.

Provides an opportunity to become proficient in the use of a currently popular advanced spreadsheet package. May be repeated up to a maximum of three credit hours utilizing different software packages for each unit of credit.

Prerequisite: DPR 123 with a grade of "C" or better or consent of instructor.

DPR 125 Word Processing for Micros (.5-1) 1 hr.

Provides an opportunity to become proficient in the use of a currently popular word processing package. Previous typing helpful but not required. May be repeated up to a maximum of three credit hours utilizing different software packages for each unit of credit.

DPR 126 Graphics for Micros (.5-1) 1 hr.

Provides an opportunity to become proficient in the use of a currently popular microcomputer business graphics package. May be repeated up to a maximum of three-credit hours utilizing different software packages for each unit of credit.

DPR 130 BASIC for Business (3-2) 4 hrs.

Utilizes elementary as well as some extended features of the BASIC programming language, with particular emphasis on practical business-oriented applications appropriate for the types of microcomputers and minicomputers used in small businesses.

Prerequisite: DPR 101 with a grade of "C" or better or consent of instructor.

DPR 131 Microcomputer Printers (.5-1) 1 hr.

Includes a survey of current printer hardware. Methods of communicating commands to printers from the operating system, programming languages and software packages will be included as well as programming micros for printers and creating new characters or fonts.

DPR 132 Advanced Business Software Packages (3-2) 4 hrs.

Provides an opportunity to build a business system using BASIC programming and software packages. These systems will be developed on a variety of microcomputers. Prerequisite: DPR 130, ACC 101, SEC 110 and three credit hours chosen from: DPR 120, DPR 121, DPR 122, DPR 123, DPR 124 and DPR 125 with a grade of "C" or better or consent of instructor.

DPR 133 Personal Computer Programming — Assembler Language (3-2) 4 hrs.

Introduces assembler language programming on a personal computer with emphasis on writing well-formed programs for a variety of business applications.

Prerequisite: DPR 130 with a grade of "C" or better or consent of instructor.

DPR 134 Personal Computer (DOS) (2-2) 3 hrs.

Covers beginning and advanced personal computer DOS commands with a special emphasis on business file management.

Prerequisite: Some previous personal computer experience helpful.

DPR 135 Computer Operator (3.0) 3 hrs.

Covers the terminology in a computer operations environment including learning about the major functions in a computer operations department and how other areas interface with operations.

Prerequisite: Prior to concurrent enrollment in DPR 101 and DPR 106.

DPR 136 Job Control/Utilities (3-1) 3 hrs.

Provides the student with an understanding of Job Control Language and utility programs. Emphasis is placed on the operational aspects of these topics. There will be numerous assignments requiring coding and running of utility programs and job control.

Prerequisite: DPR 101, DPR 106 and DPR 135 with a grade of "C" or better or consent of instructor.

DPR 137 Internship/Computer 3 hrs.**Operator Field Project (1-15)**

Provides students with coordinated computer operations or related experience in a data processing installation. Case studies will be used in the event that training stations are not available.

Prerequisite: Second semester standing with a GPA of 2.5 overall and 3.0 in data processing courses and consent of coordinator.

DPR 140 RPG II 3 hrs.**Programming (2-2)**

Gives experience in writing, testing, debugging and documenting programs for business applications using a report writing-type language (RPG II).

Prerequisite: DPR 101 and DPR 106 with a grade of "C" or better or consent of instructor.

DPR 142 PL/1 Programming 3 hrs.**Language (2-2)**

Programming techniques in the PL/1 language will be developed for a wide variety of programs of both a business and a non-business nature.

Prerequisite: DPR 101 and DPR 106 with a grade of "C" or better or consent of instructor.

DPR 150 Business FORTRAN (2-2) 3 hrs.

Introduces FORTRAN 77 as it applies to business applications. Programming projects will include applications such as finance, marketing and accounting.

Prerequisite: DPR 101, DPR 106 and MTH 102 with grade of "C" or better or consent of instructor.

DPR 152 Data Base Programming, 3 hrs.**Microcomputers (2-2)**

Uses the command language from a currently popular data base package for microcomputers. A set of business-oriented programs will be developed making extensive use of the command language.

Prerequisite: DPR 106 and DPR 122.

DPR 153 Expert Systems (2-2) 3 hrs.

Contrasts the types of expert systems available. Uses a currently popular expert system package and develops business applications using the package.

Prerequisite: DPR 120 or consent of instructor.

DPR 154 Desktop Publishing (2-2) 3 hrs.

Introduces the concepts and practices found in microcomputer based desktop publishing. Provides an opportunity to become proficient in the use of a currently popular desktop publishing software package with the associated hardware.

DPR 160 Introduction to Pascal 4 hrs.
Programming (3-2)

Provides an introduction to the elements of

Pascal programming. The course uses the Pascal programming language to develop problem-solving skills for business applications.

Prerequisite: DPR 101 and DPR 106 with grade of "C" or better or consent of instructor.

DPR 166 Introduction to 4 hrs.
Programming in C (3-2)

Introduces and develops programming techniques in the C language. A wide range of problems of both a business and non-business nature will be studied, including system programming type problems. Language features unique to C will be addressed, along with problem-solving techniques.

Prerequisite: DPR 101 and DPR 106 or DPR 130 with a grade of "C" or better or consent of instructor.

DPR 170 Introduction to Data 3 hrs.
Communications (3-0)

Provides an introduction to telecommunications, information analysis, system design, terminal equipment, data modems, common carrier facilities and communications processing equipment.

Prerequisite: DPR 101 with grade of "C" or better or consent of instructor.

DPR 171 Microcomputer 3 hrs.
Networks (2-2)

Introduces the concept of computer networks and when to use them in the business environment. The advantages and disadvantages of micro to mainframe or mini-computer and micro to micro links will be discussed. Various configurations will be compared.

Prerequisite: DPR 170 or consent of instructor.

DPR 200 Introduction to Business 4 hrs.
Computer Programming (3-2)

Surveys the meaning and function of hardware, software, data, procedures and personnel in a business computer system for students intending to major in business. Includes basic systems analysis and design techniques, file processing and database concepts, writing and executing programs in a single structured computer language, and the use of business software packages for data analysis.

Prerequisite: MTH 103 or MTH 124 with a grade of "C" or better or consent of instructor.

DPR 202 Programming Systems (3-0) 3 hrs.

Indicates purpose and function of various programming systems such as program compilers, operating systems, utility programs, sort/merges and job control language.

Prerequisite: DPR 110 with grade of "C" or better or consent of instructor.

DPR 203 Systems Analysis and Design I (3-0) 3 hrs.

Includes the functions and techniques of systems analysis, design and development using the Life Cycle Methodology. These include analyzing information flow, developing, organizing and using management data, establishing system specifications and equipment needs and implementing management information systems. Stresses methods and tools used in systems analysis and design and stresses communications with users in order to design systems meeting the user's needs.
Prerequisite: DPR 101 with grade of "C" or better.

DPR 204 Advanced Systems Analysis and Design (3-0) 3 hrs.

Continues DPR 203. The student will individually, or in a group, actually carry a project from the beginning (study phase) to the finish (implementation) including interviewing and making presentations. Various software, if appropriate, will be utilized to aid in the design and implementation of the project.
Prerequisite: DPR 203 with a grade of "C" or better or consent of instructor.

DPR 208 Computer Programming — Advanced COBOL (3-2) 4 hrs.

Familiarizes the student with advanced features of COBOL. The course includes extensive table handling, the SORT feature, indexed file handling, report writing and modular programming.
Prerequisite: DPR 108 and DPR 110 with grade of "C" or better or consent of instructor.

DPR 210 Computer Programming — Advanced Assembler Language (3-4) 4 hrs.

Continues DPR 110. Programming magnetic tape, random storage devices and remote terminal systems. Includes use of IOCS for input-output devices.
Prerequisite: DPR 110 with grade of "C" or better or consent of instructor.

DPR 215 Accounting Information Systems (3-0) 3 hrs.

Provides the student with an understanding of the structure and function of modern computerized business systems. Emphasis is placed on analysis as opposed to system design. Topics studied include forms design, information gathering techniques, coding and methods of evaluation and review.
Prerequisite: DPR 101, DPR 106 and DPR 108 with grade of "C" or better or consent of instructor.

DPR 220 Topics in Data Processing 1-6 hrs.

Studies selected problems, computer software or computer languages in data processing. The exact content and instructional methodology

will vary semester to semester depending on the material to be studied. A syllabus or course outline containing additional information with preregistration materials will be available each time that the course is offered. This course may be repeated up to a maximum of 6 credit hours.

Prerequisite: Consent of instructor.

DPR 230 Internship and/or Case Study (1-15) 3 hrs.

Applies data processing skills in practical situation. Field project or case study in local data processing installation. Open only to data processing degree candidates.
Prerequisite: Fourth semester standing with an overall GPA of 3.0 and 3.50 GPA in data processing courses.

DPR 231 Advanced BASIC with Graphics (3-2) 4 hrs.

Presents the basic principles for the design, use and understanding of computer graphics in business. Other advanced topics include designing menu driven interactive software and data file management. Emphasis is on building various software tools in BASIC to solve common business programming problems, using relevant data structures and algorithms.
Prerequisite: DPR 130 or equivalent.

DPR 240 Advanced RPG II (2-2) 3 hrs.

Provides instruction in advanced concepts of the RPG language. Emphasis is on disk and tape applications involving multiple input and output files, tables, arrays and subroutines.
Prerequisite: DPR 140 with grade of "C" or better or consent of instructor.

DPR 266 Advanced C and C++ (3-2) 4 hrs.

Reviews the concepts of pointers and structures in the C language. Introduces the concept of object-oriented programming in general and C++ as a programming language and as a superset of the C language will be presented. Problems will be presented and solved both as a tool for learning C++ and as a means of learning the overall philosophy of object-oriented programming.
Prerequisite: DPR 166 or consent of instructor.

DPR 270 Data Communications Applications (3-2) 4 hrs.

Introduces Customer Information Control System (CICS) as a data communications operating system. Command level CICS will be used.
Prerequisite: DPR 170, DPR 202 and either DPR 208 or DPR 210 with a grade of "C" or better or consent of instructor.

DPR 280 Introduction to Data Base (3-0) 3 hrs.

Provides an overview of the theory of data base systems and the principal data base management systems current in the field. The course includes physical representation, modeling, commercial systems and implementation. Prerequisite: DPR 208, or DPR 210 with a grade of "C" or better or consent of instructor.

Dental Hygiene

DHY 100 Pre-Clinic (3-6) 5 hrs.

Introduces the student to clinical dental hygiene with emphasis on the role of the dental hygienist in the control and prevention of dental disease.

Prerequisite: Freshman standing in Dental Hygiene program.

DHY 101 Clinical Dental Hygiene I (2-9) 5 hrs.

Applies theoretical concepts in a clinical setting and introduces periodontology. Refines clinical skills and emphasizes the preventive aspects of dentistry. The student performs traditional dental hygiene clinical functions.

Prerequisite: Freshman standing in Dental Hygiene program.

DHY 103 Dental Health Education (0-2) 1 hr.

Introduces principles of dental health education. Develops skills as a dental health educator and dental health resource person. Emphasizes communication skills and the development of learning and teaching strategies, motivation techniques, activities and visual aids for classroom and private office use.

Prerequisite: Completion of first year of Dental Hygiene program.

DHY 111 Dental Radiology (2-3) 3 hrs.

Provides theory in radiation physics, safety and the biological effects of ionizing radiation. Intraoral exposure techniques, darkroom procedures and film interpretation are emphasized in the laboratory. Practical experience provided on manikins and selected patients.

Prerequisite: Freshman standing in Dental Hygiene program.

DHY 151 Clinical Dental Hygiene II (0-6) 2 hrs.

Provides clinical practice in oral prophylaxis on adult patients, including preventive techniques, exposing radiographs and patient management.

Prerequisite: Completion of first year of Dental Hygiene program.

DHY 159 Head and Neck Anatomy (3-0) 3 hrs.

Introduces anatomy of the head and neck regions with special emphasis on the human

dentition. Skeletal, muscular, glandular, circulatory, nervous and epithelial structures are considered in detail. Also includes introductory material on human histology and orofacial embryology.

Prerequisite: Freshman standing in Dental Hygiene program.

DHY 161 Dental Anatomy (1-2) 2 hrs.

Introduces the student to terms and anatomic structures of the oral cavity including a detailed study of crown and root morphology of both primary and permanent dentitions.

Prerequisite: Freshman standing in Dental Hygiene program.

DHY 190 General and Oral Pathology (2-0) 2 hrs.

Studies fundamentals of microscopic and gross pathology and general pathological processes. Specially emphasizes diseases of dental and periodontal tissues and of the supporting oral structures. Correlates clinical manifestations of disease with dental hygiene practice.

Prerequisite: Freshman standing in Dental Hygiene program.

DHY 200 Periodontology (1-2) 2 hrs.

Reviews etiological and histological components of periodontal disease emphasizing current theoretical concepts in treatment and management of periodontally involved patients. Provides laboratory experience to refine non-surgical techniques.

Prerequisite: Sophomore standing in Dental Hygiene program.

DHY 201 Ethics, Jurisprudence and Practice Management (2-0) 2 hrs.

Studies the development of dental office and clinic practice management procedures and professional interrelationships. Considers the role of the dental hygienist in the various dental specialties and various employment modalities.

Prerequisite: Sophomore standing in Dental Hygiene program.

DHY 202 Radiology I (0-2) 1 hr.

Continues practice in the techniques of exposing, processing, mounting and evaluating dental radiographs.

Prerequisite: DHY 111, DHY 151 and sophomore standing in Dental Hygiene program.

DHY 203 Radiology II (0-2) 1 hr.

Continues DHY 202.

Prerequisite: DHY 202 and sophomore standing in Dental Hygiene program.

DHY 220 Community Dentistry I (1-2) 2 hrs.
Emphasizes the theory and practice of public health principles including the planning, development and implementation of community dental programs. Provides an orientation and field experiences with the aged, physically and mentally handicapped populations. Statistical and research methods are introduced.
Prerequisite: DHY 103 and sophomore standing in Dental Hygiene program.

DHY 221 Community Dentistry II (2-2) 3 hrs.
Continues DHY 103 and DHY 220 principles including field experiences with special populations. Introduces hospital and/or clinical, rotational experiences. Emphasizes the presentation of dental health information in group situations, in-service programs, health promotion strategies and consumer advocate activities.
Prerequisite: DHY 220.

DHY 240 Dental Pharmacology (2-0) 2 hrs.
Examines the principles of drug actions and characteristics of major drug groups. Emphasis is placed on drugs used in dentistry and the management of dental patients who receive drug treatment for medical problems.
Prerequisite: Sophomore standing in Dental Hygiene program.

DHY 250 Clinical Dental Hygiene III (1-12) 5 hrs.
Continue clinical practice of dental hygiene with emphasis on the comprehensive treatment of periodontally involved patients.
Prerequisite: DHY 151 and sophomore standing in Dental Hygiene program.

DHY 251 Clinical Dental Hygiene IV (1-12) 5 hrs.
Continues DHY 250.
Prerequisite: DHY 250 and sophomore standing in Dental Hygiene program.

DHY 280 Dental Materials (1-2) 2 hrs.
Introduces the student to the use and manipulation of materials used in dentistry. Includes familiarization with techniques and procedures used in the dental profession.
Prerequisite: Sophomore standing in Dental Hygiene program.

Dietetic Technician _____

DIT 100 Introduction to the Dietetic Technician Program (2-3) 3 hrs.
Introduces the program including the history of nutrition care services and role of the dietetic technician. Includes dietetic clinical laboratory practice in a local hospital.
Prerequisite: Freshman standing in Dietetic Technician Program and prior or concurrent enrollment in BIO 135, DIT 101 and FSM 114.

DIT 101 Basic Nutrition (3-0) 3 hrs.
Introduces the principles of human nutrition and their application to the needs of normal individuals of all age groups.

DIT 102 Advanced Nutrition (3-0) 3 hrs.
Studies the nutritional care of a patient through the prescription of modified diets. Emphasis on techniques of diet counseling.
Prerequisite: Freshman standing in Dietetic Technician Program or consent of instructor, DIT 101 and concurrent enrollment in BIO 136.

DIT 110 Principles of Food Preparation (2-2) 3 hrs.
Introduces the scientific principles of food preparation, menu planning for individuals and families of different socioeconomic backgrounds, grocery shopping. Laboratory practice includes adjusting recipes for modified diets, demonstration and use of equipment.
Prerequisite: Freshman standing in Dietetic Technician program or consent of instructor and FSM 114.

DIT 150 Dietetic Clinical Laboratory I (1-6) 3 hrs.
Offers integrated clinical approach to the nutritional care of patients in a community hospital. Provides practice processing diet orders, assisting patients with menu selection, checking meal trays, taking diet histories, making nutrient analyses and giving diet instructions.
Prerequisite: DIT 100 and prior or concurrent enrollment in BIO 136, DIT 102 and DIT 110.

DIT 200 Dietetic Clinical Laboratory II (1-9) 4 hrs.
Offers clinical experience in community agencies that include nutrition as one of their services. Assigned progression can include school lunch, day care centers, retirement centers, home-delivered meals, commercial processors and hospitals.
Prerequisite: Sophomore standing in Dietetic Technician program and DIT 150.

DIT 201 Nutritional Services in Institutions (3-0) 3 hrs.
Surveys institutions, agencies and organizations that assist the community in meeting nutritional needs of its people. Studies nutritional needs of various age groups under different socioeconomic conditions.
Prerequisite: Sophomore standing in Dietetic Technician program.

DIT 202 Nutrition Care Seminar (2-0) 2 hrs.
Reviews planning, implementing and evaluating nutrition care given to individuals and groups of people having specific disease conditions, both acute and chronic.
Prerequisite: DIT 201.

DIT 203 Dietetic Seminar (1-0) 1 hr.
Identifies and discusses the employment opportunities in the nutritional care field, roles of the dietetic technician, responsibilities of allied health professionals and membership in professional organizations.
Prerequisite: DIT 201.

DIT 250 Dietetic Clinical Laboratory III (1-9) 4 hrs.
Offers student assigned clinical laboratory experience in approved community agencies. Provides opportunity to reach entry-level position competence by practicing skills under the supervision of a registered dietitian.
Prerequisite: DIT 200 and concurrent enrollment in DIT 202 and DIT 203.

Economics

ECO 115 Consumer Economics (3-0) 3 hrs.
Introduces the concepts of personal financial planning within the current economic environment. Emphasizes topics such as basic macroeconomic theory, obtaining credit, purchasing insurance, investment alternatives, basic real estate finance and tax planning.

ECO 200 Introduction to Economics (3-0) 3 hrs.
Descriptive rather than a quantitative approach to the study of economics. Major topics cover economic history, the elements of macroeconomics, microeconomics and a comparative look at other economic systems. Specifically designed for students in career-vocational curricula.

ECO 201 Principles of Economics I (3-0) 3 hrs.
Economic problems faced by our society. Examination of resource allocation, national income and economic development, from a macroeconomic approach.

ECO 202 Principles of Economics II (3-0) 3 hrs.
Continues ECO 201. Economic problems faced by the individual and the firm. Examination of market structures, price and output determination. The microeconomic approach.
Prerequisite: ECO 201.

ECO 210 Money and Banking (3-0) 3 hrs.
Stresses the practical aspects of money and banking, and emphasizes the basic monetary theory needed by the banking student to apply his knowledge to his particular job. Historical treatment has been kept to a minimum. Emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, governmental fiscal policy, balance of payments and foreign exchange, showing their repercussions on the banking industry in affecting yield curves and the structuring of

portfolios.
Prerequisite: ECO 200 or ECO 201.

ECO 225 Introduction to Comparative Economic Systems (3-0) 3 hrs.
Compares and analyzes economic conditions as they exist in different economic systems. Emphasizes the trade-offs between efficiency and equity, between economic freedom and economic order. Compares the working of the "market" system with that of "central planning." The approach to these topics will utilize both the theoretical and the case study method.
Prerequisite: ECO 201.

Education

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

EDU 202 Pre-Student Teaching Clinical Experience (0-2) 1 hr.
Provides an in-depth study of classroom practices in the subject and age category that each student is training to teach. Students will observe classrooms in their area of interest and will attend a seminar once weekly to discuss their experience.

EDU 211 Educational Psychology (3-0) 3 hrs.
Psychology 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.
Prerequisite: PSY 101 or consent of instructor.

Electronics

ELT 101 Circuits I, Resistive Circuit Analysis (3-4) 5 hrs.
Studies resistive circuits with time-varying source voltage. Physics of electricity, definitions, symbols and notations for electrical quantities are taught. Circuit properties and their applications to significant circuit configurations are examined.
Prerequisite: High school algebra or consent of instructor and placement test with acceptable score.

ELT 102 Circuits II, Single Time Constant Circuits (3-3) 4 hrs.
Examines R-C and R-L single time constant circuits. Treats these circuits with sinusoidal square wave and step voltages as sources.
Prerequisite: ELT 101, MTH 106 or consent of instructor.

ELT 103 Circuits III, Networks (3-4) 5 hrs.
Covers resonance, factors affecting Q and bandwidth, RLC filters, power matching with pi, T and L networks. In addition, double tuned circuits, ringing and transient response of RLC circuits are discussed.
Prerequisite: ELT 102 or consent of instructor.

ELT 105 Electro-Mechanical Drafting (1-6) 3 hrs.
Introduces drafting fundamentals for electronic design and packaging. Introduces computer aided design of printed circuit boards. Basic fabrication processes are covered. The course focus is the design and construction of an individual project.

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.
Prerequisite: Placement test with acceptable score.

ELT 111 Electronics I, Resistive (2-3) 3 hrs.
Resistive circuits involving electronic devices. Volt-ampere characteristics and physics of diodes, transistors and other semiconductor devices. The emphasis is upon biasing and the setting of DC levels to make the device function.
Prerequisite: ELT 110 or consent of instructor.

ELT 203 Electronics II, Digital (3-4) 5 hrs.
Examines the building blocks of digital circuits. These elements are then blended into topics and applications. Topics include Boolean algebra, Karnaugh mapping, counters and microprocessors.
Prerequisite: ELT 110.

ELT 204 Electronics III, Advanced Electronics (3-4) 5 hrs.
Examines electronic circuits using diodes, transistors and operational amplifiers. Applies linear equivalent circuits as an analysis tool. Studies amplifiers, feedback principles and operational amplifier configurations as practical applications of the linear analysis techniques.
Prerequisite: ELT 111 or consent of instructor.

ELT 205 Electronic Instrumentation (3-4) 4 hrs.
Studies methods of sending and controlling physical industrial processes. Components involved are transducers, indicators, recorders and programmable controllers.
Prerequisite: ELT 215 or consent of instructor.

ELT 206 Electronic Computers (3-4) 5 hrs.
Studies computer architecture through the use of microprocessors, digital computer algorithms and software programming. The utilization of microprocessors is extensive.

Prerequisite: ELT 203 and ELT 210 or consent of instructor.

ELT 207 UHF Communications and Reception (3-4) 5 hrs.
Emphasizes design techniques in communication circuits, the relationship of modulation systems to bandwidth requirements and frequency spectrum. A design project is part of the course work.
Prerequisite: ELT 103 or consent of instructor.

ELT 210 Computer Programming (3-0) 3 hrs.
Presents the use of the computer and micro-processor as special tools and introduces the student to computer architecture, languages and programming with emphasis on electronic applications.
Prerequisite: Placement test with acceptable score.

ELT 215 Electrical Controls and Motors (3-4) 5 hrs.
Examines industrial pneumatic and hydraulic control circuits. Covers an introduction to fractional horsepower and programmable logic controllers (PLC). Process control applications are introduced.
Prerequisite: ELT 110 or consent of instructor.

ELT 216 Microprocessor Software Applications (3-4) 5 hrs.
Applies assembly language programming to practical software problems. Studies computational algorithms in depth. May develop monitor programs along with multi-programming examples. Stresses debugging and documentation.
Prerequisite: ELT 206 or consent of instructor.

ELT 217 Microprocessor Peripheral Systems (3-4) 5 hrs.
Examines interfacing and operation of peripheral systems commonly used with microprocessor and minicomputers. Includes video displays, teleprinters, modems, codecs and smart terminals.
Prerequisite: ELT 206 or consent of instructor.

ELT 218 Principles of Micro-processor Systems Design (3-4) 5 hrs.
Examines central processor unit architecture, monitor program structure, system control timing, input-output control and data bus structures. Considers input-output hardware design, interrupts, hardware and software design.
Prerequisite: ELT 206 or consent of instructor.

Engineering

EGR 100 Introduction to Engineering (1-1) 1 hr.

Introduces engineering techniques, methods and history. Explores career options and requirements for various engineering fields. Covers interrelationships within and between engineering, technology and science to allow differentiation between various career choices.

EGR 120 Engineering Graphics I (1-5) 3 hrs.

Covers lettering, orthographic projection, size and location, dimensioning, surface finishes, auxiliary view, sketching. Stresses basic conceptual design through working drawings, assembly views, intersections and developments.

EGR 121 Engineering Graphics II (1-5) 3 hrs.

Covers analysis of common geometric magnitudes of points, planes and curved surfaces. Includes rotations, auxiliary views, developments and nomography. Stresses applications of geometrical methods in projections, assemblies and details.

Prerequisite: EGR 120.

EGR 122 Introduction to CAD/Graphics (2-3) 3 hrs.

Surveys components and concepts of computer graphic systems. Applies principles of engineering graphics to create dimensional drawings using graphics, terminals, digitizers, plotters and related software. Emphasizes general applications on various computer systems.

Prerequisite: EGR 120 or consent of instructor.

EGR 150 Analytical Mechanics (Statics) (3-0) 3 hrs.

Covers resultants of force systems using vectors. Emphasizes analysis of forces acting on members of trusses, frames and machines. Includes forces due to friction, centroids and movements of inertia.

Prerequisite: PHY 201 or consent of instructor.

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 and influence of properties of materials.

Prerequisite: EGR 150.

EGR 260 Introduction to Circuit Analysis (3-0) 4 hrs.

Introduces electric circuits, electrical components, network theorems, phasor representation of signals and steady state response.

Covers power, transformers and network topology. Includes computer analysis techniques. For engineering transfer students.

Prerequisite: PHY 202 and concurrent registration in MTH 212 or consent of instructor.

EGR 262 Electrical Circuits Laboratory (1-2) 2 hrs.

Introduces standard electrical instruments and measurement techniques. Includes practical applications to topics of EGR 260. Covers circuit response, elementary filter response and resonance measurements. Includes basic measurements of transistors and operational amplifiers.

Prerequisite: EGR 260 or concurrent enrollment.

EGR 270 Introduction to Digital Systems (3-2) 4 hrs.

Introduces binary arithmetic and codes, logic gates, Boolean functions and minimization.

Covers analysis and synthesis of combinatorial gates and sequential circuits using integrated circuit components. Introduces computer organization and microprocessors. For engineering transfer students.

Prerequisite: PHY 202 or consent of instructor.

English

ENG 098 Composition (3-0) 3 hrs.

Provides instruction in developing basic writing skills essential for effective written discourse by giving students the conceptual tools necessary for developing a basic framework for writing. Prepares students for entry into ENG 100.

Carries no transfer credit. (Formerly CMN 099.)

Prerequisite: English placement exam.

Recommended corequisite: RDG 098.

ENG 100 Composition (3-0) 3 hrs.

Develops skills in writing and using clear, correct English. Includes sentence structure, paragraphs, mechanics and reading. Concludes with mastery of the well organized, literate essay. This course carries no transfer credit.

Prerequisite: Satisfactory score on English placement test or ENG 098 with grade of "C" or higher.

ENG 101 Composition (3-0) 3 hrs.
Emphasizes the organization and development of expository prose. Introduction to the critical reading of selected essays.
Prerequisite: Satisfactory score on English placement test or ENG 100 with grade of "C" or better. ESL students who have achieved a grade of "B" or better in ESL 074 or ESL 099 will be admitted.

ENG 102 Composition (3-0) 3 hrs.
Continues ENG 101. Reading and writing of various types of prose. Introduces methods used in writing investigative papers.
Prerequisite: ENG 101 with grade of "C" or better or consent of instructor or department chair.

ENG 103 Technical and Report Writing (3-0) 3 hrs.
Introduces the various types of writing and communication used in business and technology. Includes instructions, procedures, abstracts, proposals, visuals and reports.
Prerequisite: ENG 101 with grade of "C" or better or consent of instructor or department chair.

ENG 130 Business Writing I (3-0) 3 hrs.
Teaches formal and psychological aspects of business correspondence. Introduction to various kinds of business letters, memoranda and reports. Improvement of grammar, spelling and word usage.
Prerequisite: Satisfactory score on English placement test or ENG 100 with grade of "C" or better.

ENG 201 Advanced Composition (3-0) 3 hrs.
Teaches advanced skills in expository and argumentative writing.
Prerequisite: ENG 102 with grade of "C" or better or consent of instructor.

ENG 220 Creative Writing (3-0) 3 hrs.
Provides guided practice in various types of creative writing. Emphasizes skills common to creative expression, including description, plotting, narration, dialogue and verse.
Prerequisite: ENG 102 with grade of "C" or better or consent of instructor.

English as a Second Language

ESL 010 ESL: Basic Language Skills I (1-0 to 6-0) 1-6 hrs.
Introduces basic grammatical structures and patterns of English within a communicative framework. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit.

Prerequisite: Native language literacy, placement tests or AED 004.

ESL 015 ESL: Conversation I (1-0) 1 hr.
Introduces the beginning English as a Second Language student to basic American English survival conversation skills and pronunciation. Carries no transfer credit.
Corequisite: ESL 010 or ESL 016.

ESL 016 ESL: Grammar I (2-0) 2 hrs.
Concentrates on basic grammatical structures and patterns of English for beginning English as a Second Language students. Emphasizes aural comprehension and speaking ability. Carries no transfer credit.
Prerequisite: Placement tests.

ESL 020 ESL: Basic Language Skills II (1-0 to 6-0) 1-6 hrs.
Continues the development of basic grammatical structures and patterns of English within a communicative framework. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit.
Prerequisite: Placement tests or ESL 010 with a grade of "C" or better.

ESL 023 ESL: Basic Reading (2-0) 2 hrs.
Introduces ESL reading skills for high beginning English as a Second Language students who read proficiently in their native languages. Carries no transfer credit.
Corequisite: ESL 016 or ESL 020.

ESL 024 ESL: Basic Writing (2-0) 2 hrs.
Introduces kernel sentence patterns of written English for high beginning English as a Second Language students. Includes basic sentence transformations. Carries no transfer credit.
Corequisite: ESL 016 or ESL 020.

ESL 025 ESL: Conversation II (1-0) 1 hr.
Continues the development of basic American English conversation skills and pronunciation patterns for the high beginning English as a Second Language student. Carries no transfer credit.
Corequisite: ESL 020.

ESL 026 ESL: Grammar II (2-0) 2 hrs.
Continues to concentrate on basic grammatical structures and patterns of English for beginning English as a Second Language students. Emphasizes aural comprehension and speaking ability. Carries no transfer credit.
Prerequisite: Placement tests or ESL 016 with a grade of "C" or better.

ESL 030 ESL: Intermediate 1-6 hrs.

Language Skills I (1-0 to 6-0)

Continues the development of increasingly complex grammatical structures and patterns of English within a communicative framework. Recycles previously presented patterns and functions using more complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit.

Prerequisite: Placement tests or ESL 020 with a grade of "C" or better.

ESL 033 ESL: Intermediate 2 hrs.
Reading I (2-0)

Develops reading skills for the low intermediate English as a Second Language student. Focuses on the reading of simple narratives.

Carries no transfer credit.

Prerequisite: Placement tests or ESL 020 or ESL 023 with a grade of "C" or better.

ESL 034 ESL: Intermediate 2 hrs.
Reading II (2-0)

Continues the development of reading skills for the intermediate English as a Second Language student. Focuses on the reading of more complex narrative materials. Carries no transfer credit.

Prerequisite: Placement tests or ESL 033 with a grade of "C" or better.

ESL 035 ESL: Conversation III (1-0) 1 hr.

Focuses on common conversation strategies used in American English for the intermediate student of English as a Second Language. Increases the student's awareness of American cultural patterns. Continues the development of pronunciation and listening skills. Carries no transfer credit.

Corequisite: ESL 030 or ESL 036.

ESL 036 ESL: Grammar III (2-0) 2 hrs.

Concentrates on increasingly complex grammatical structures and patterns of English for intermediate English as a Second Language students. Continues practice of previously presented patterns using more complex language. Emphasizes aural comprehension and speaking ability. Carries no transfer credit.

Prerequisite: Placement tests or ESL 026 with a grade of "C" or better.

ESL 040 ESL: Intermediate 1-4 hrs.
Language Skills II (1-0 to 4-0)

Continues the development of increasingly complex grammatical structures and patterns of English within a communicative framework. Recycles previously presented patterns and functions using more complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills

systematically within situational contexts.

Carries no transfer credit.

Prerequisite: Placement tests or ESL 030 with a grade of "C" or better.

ESL 041 ESL: Intermediate 1 hr.
Language Skills IIA (1-0)

Continues the development of increasingly complex grammatical structures and patterns of English within a communicative framework. Continues to recycle previously presented patterns and functions using more complex language. Continues to integrate conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit.

Prerequisite: Placement tests or ESL 040 with a grade of "C" or better.

ESL 042 ESL: Intermediate 1 hr.
Language Skills IIB (1-0)

Completes grammar at the mid-intermediate level within a communicative framework.

Recycles previously presented patterns and functions using more complex language.

Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts.

Carries no transfer credit.

Prerequisite: Placement tests or ESL 040 with a grade of "C" or better.

ESL 043 ESL: Intermediate Writing 2 hrs.
Skills I (2-0)

Focuses on the development of sentence-level writing skills. Emphasizes English punctuation, capitalization and spelling for intermediate English as a Second Language students.

Carries no transfer credit.

Prerequisite: Placement tests, ESL 016 or ESL 030 with a grade of "C" or better.

ESL 044 ESL: Intermediate Writing 2 hrs.
Skills II (2-0)

Continues the development of sentence-level writing skills. Emphasizes English punctuation, capitalization and spelling for intermediate English as a Second Language students. Introduces English paragraph structure. Carries no transfer credit.

Prerequisite: Placement tests or ESL 043 with a grade of "C" or better.

ESL 045 ESL: Conversation IV (1-0) 1 hr.

Continues the development of conversation strategies used in American English for the intermediate student of English as a Second Language. Continues to increase the student's awareness of American cultural patterns and to develop pronunciation and listening skills.

Carries no transfer credit.

Corequisite: ESL 040.

ESL 046 ESL: Grammar IV (2-0) 2 hrs.

Continues to concentrate on increasingly complex grammatical structures and patterns of English for intermediate English as a Second Language students. Continues practice of previously presented patterns using more complex language. Emphasizes aural comprehension and speaking ability. Carries no transfer credit. Prerequisite: Placement test and ESL 036 with a grade of "C" or better.

ESL 050 ESL: Intermediate Language Skills III (1-0 to 4-0) 1-4 hrs.

Introduces complex grammatical structures and patterns of English at the high intermediate level within a communicative framework. Recycles previously presented patterns and functions using increasingly complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit. Prerequisite: Placement tests or ESL 040 with a grade of "C" or better.

ESL 051 ESL: Intermediate Language Skills IIIA (1-0) 1 hr.

Continues complex grammatical structures and patterns of English at the high intermediate level within a communicative framework. Recycles previously presented patterns and functions using increasingly complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit. Prerequisite: Placement tests or ESL 050 with a grade of "C" or better.

ESL 052 ESL: Intermediate Language Skills IIIB (1-0) 1 hr.

Completes complex grammatical structures and patterns of English at the high intermediate level within a communicative framework. Recycles previously presented patterns and functions using increasingly complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit. Prerequisite: Placement tests or ESL 050 with a grade of "C" or better.

ESL 053 ESL: Intermediate Reading III (2-0) 2 hrs.

Develops reading techniques for the high intermediate English as a Second Language student. Focuses on the reading of a variety of materials. Encourages students to read independently in English. Carries no transfer credit.

Prerequisite: Placement tests, ESL 036 or ESL 040 with a grade of "C" or better.

ESL 054 ESL: Intermediate Reading IV (2-0) 2 hrs.

Continues the development of reading techniques for the high intermediate English as a Second Language student. Focuses on the reading of a variety of materials. Encourages students to read independently in English. Carries no transfer credit. Prerequisite: Placement tests, ESL 053 with a grade of "C" or better.

ESL 055 ESL: Conversation V (1-0) 1 hr.

Emphasizes conversation skills, pronunciation, vocabulary development, listening skills and American cultural awareness for the high intermediate student of English as a Second Language. Carries no transfer credit. Corequisite: ESL 050 or ESL 056.

ESL 056 ESL: Grammar V (2-0) 2 hrs.

Focuses on complex grammatical structures and patterns for high intermediate English as a Second Language students. Continues practice of previously presented patterns using more complex language. Emphasizes aural comprehension and speaking ability. Carries no transfer credit. Prerequisite: Placement tests or ESL 046 with a grade of "C" or better.

ESL 058 ESL: Spelling Strategies (2-0) 2 hrs.

Focuses on the spelling system of American English. Includes compensatory techniques. Intended for high intermediate English as a Second Language students having difficulty with the spelling of American English. Carries no transfer credit. Prerequisite: Placement tests or ESL 044 with a grade of "C" or better.

ESL 060 ESL: Advanced Language Skills I (1-0 to 4-0) 1-4 hrs.

Introduces increasingly complex grammatical structures and patterns of English at the advanced level within a communicative framework. Recycles previously presented patterns and functions using more complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit. Prerequisite: Placement tests or ESL 050 with a grade of "C" or better.

<p>ESL 061 ESL: Advanced Language Skills IA (1-0) 1 hr.</p> <p>Continues the development of increasingly complex grammatical structures and patterns of English at the advanced level within a communicative framework. Recycles previously presented patterns and functions using more complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit. Prerequisite: Placement tests or ESL 060 with a grade of "C" or better.</p>	<p>presented patterns using complex language. Emphasizes aural comprehension and speaking ability. Carries no transfer credit. Prerequisite: Placement tests or ESL 056 with a grade of "C" or better.</p>
<p>ESL 062 ESL: Advanced Language Skills IB (1-0) 1 hr.</p> <p>Completes the development of increasingly complex grammatical structures and patterns of English at the advanced level within a communicative framework. Recycles previously presented patterns and functions using more complex language. Integrates conversation, aural comprehension, pronunciation, reading comprehension and writing ability and develops these skills systematically within situational contexts. Carries no transfer credit. Prerequisite: Placement tests or ESL 060 with a grade of "C" or better.</p>	<p>ESL 068 ESL: Cognitive Reading Skills (2-0) 2 hrs.</p> <p>Develops cognitive reading processes necessary for the successful reading and comprehension of authentic material for the advanced English as a Second Language student. Carries no transfer credit. Prerequisite: Placement tests, ESL 050 or ESL 056 with a grade of "C" or better.</p>
<p>ESL 063 ESL: Advanced Writing Skills I (2-0) 2 hrs.</p> <p>Develops writing of complex sentence structures with emphasis on sentence combination, transformation and transposition. Develops narrative and descriptive writing skills for advanced English as a Second Language students. Carries no transfer credit. Prerequisite: Placement tests, ESL 036 or ESL 060 with a grade of "C" or better.</p>	<p>ESL 069 ESL: Organization Skills for Writing (2-0) 2 hrs.</p> <p>Focuses on paragraph development with emphasis on unity, coherence and sentence transitions for advanced English as a Second Language students. Includes contrastive rhetoric. Carries no transfer credit. Prerequisite: Placement tests or ESL 064 with a grade of "C" or better.</p>
<p>ESL 064 ESL: Advanced Writing Skills II (2-0) 2 hrs.</p> <p>Continues the development of complex sentence structures with emphasis on sentence combination, transformation and transposition. Develops narrative and descriptive writing skills for advanced English as a Second Language students. Carries no transfer credit. Prerequisite: Placement tests or ESL 063 with a grade of "C" or better.</p>	<p>ESL 073 ESL: Advanced Reading (2-0) 2 hrs.</p> <p>Continues the development of reading techniques for the advanced English as a Second Language student. Focuses on cognitive reading processes. Develops the skills needed for independent reading of long, complex materials. Carries no transfer credit. Prerequisite: Placement tests or ESL 068 with a grade of "C" or better.</p>
<p>ESL 065 ESL: Conversation VI (1-0) 1 hr.</p> <p>Continues to emphasize conversation skills, pronunciation, vocabulary development, listening skills and American cultural awareness for the advanced student of English as a Second Language. Carries no transfer credit. Corequisite: ESL 060 or ESL 076.</p>	<p>ESL 074 ESL: Advanced Composition (2-0) 2 hrs.</p> <p>Introduces essay styles with an emphasis on rhetorical patterns of development for advanced English as a Second Language students. Carries no transfer credit. Prerequisite: Placement tests or ESL 069 with a grade of "C" or better.</p>
<p>ESL 066 ESL: Grammar VI (2-0) 2 hrs.</p> <p>Continues to focus on complex grammatical structures and patterns of English for high intermediate English as a Second Language students. Continues practice of previously</p>	<p>ESL 075 ESL: Advanced Conversation and Pronunciation (2-0) 2 hrs.</p> <p>Improves listening comprehension skills. Builds confidence in speaking ability and increases fluency. Refines pronunciation. Carries no transfer credit. Prerequisite: Placement tests, ESL 060 or ESL 086 with a grade of "C" or better.</p>
	<p>ESL 076 ESL: Advanced Grammar I (2-0) 2 hrs.</p> <p>Emphasizes the grammar of formal American English writing. Focuses on the grammatical structures most troublesome for advanced English as a Second Language students. Carries no transfer credit. Prerequisite: Placement tests, ESL 060 or ESL 066 with a grade of "C" or better.</p>

ESL 077 ESL: Advanced Vocabulary I (2-0) 2 hrs.

Emphasizes the vocabulary of informal American English speech and writing. Focuses on the idiomatic expressions most troublesome for advanced English as a Second Language students. Carries no transfer credit.
Prerequisite: Placement tests, ESL 060 or ESL 086 with a grade of "C" or better.

ESL 078 Introduction to American Culture (2-0) 2 hrs.

Surveys American culture for nonnative speakers of English, highlighting those areas necessary for success in college courses. Student will be introduced to American nonverbal communication and to the cultural phenomena and values needed to understand the inferences and allusions presented in American classrooms. Carries no transfer credit.
Prerequisite: Placement tests, ESL 060 or ESL 086 with a grade of "C" or better.

ESL 079 Preparation for TOEFL (1-0) 1 hr.

Focuses on the specific vocabulary, listening comprehension, reading comprehension and English structure skills needed to pass the TOEFL (Test of English as a Foreign Language). Carries no transfer credit.
Prerequisite: Placement tests, ESL 060 or ESL 066 with a grade of "C" or better.

ESL 085 ESL: Advanced Conversation and Pronunciation II (2-0) 2 hrs.

Continues emphasis on listening comprehension skills, speaking ability and increased fluency. Refines intonation, stress and pronunciation. Carries no transfer credit.
Prerequisite: Placement tests, ESL 060 or ESL 086 with a grade of "C" or better.

ESL 086 ESL: Advanced Grammar II (2-0) 2 hrs.

Emphasizes the syntactic constructions used in formal research papers and textbooks. Focuses on written mastery of these syntactic structures. Carries no transfer credit.
Prerequisite: Placement tests or ESL 076 with a grade of "C" or better.

ESL 087 ESL: Advanced Vocabulary II (2-0) 2 hrs.

Continues emphasis on the vocabulary of informal American English speech and writing. Focuses on expressions associated with particular styles and registers. Carries no transfer credit.
Prerequisite: Placement tests, ESL 060 or ESL 086 with a grade of "C" or better.

ESL 098 ESL: Listening and Speaking Skills for College (2-0) 2 hrs.

Develops in the advanced English as a Second Language student listening and speaking skills for adapting to instructional methods typical of American higher education. Carries no transfer credit.
Prerequisite: Placement tests or ESL 076 with a grade of "C" or better.

ESL 099 ESL: Writing Skills for College (2-0) 2 hrs.

Introduces research skills with emphasis on the paraphrasing and synthesizing of information for advanced English as a Second Language students. Reviews the development of paragraphs and essays. Carries no transfer credit.
Prerequisite: Placement tests or ESL 074 with a grade of "C" or better.

Fashion Design

FAS 101 Flat Pattern Design and Draping I (1-4) 3 hrs.

Introduces basic industrial techniques of pattern making and draping. Variety of slopers (bodices, skirts, sleeves, etc.) developed. Accuracy and professional standards stressed. Patterns tested in muslin for fit.
Prerequisite: Consent of coordinator.
Corequisite: FAS 103.

FAS 102 Flat Pattern Design and Draping II (2-4) 4 hrs.

Develops further basic sloper set. Patterns tested in muslin for fit.
Prerequisite: FAS 101.
Corequisite: FAS 104.

FAS 103 Apparel Design and Construction I (1-4) 3 hrs.

Introduces basic principles of using master basic sloper set to develop patterns for original designs. Professional design room techniques.
Prerequisite: Consent of coordinator.
Corequisite: FAS 101.

FAS 104 Apparel Design and Construction II (2-4) 4 hrs.

Develops patterns from basic sloper set. Actual construction of finished garments. Emphasis on styling, fit and professional finishing.
Prerequisite: FAS 103.
Corequisite: FAS 102.

FAS 105 Fashion Design Illustration I (0-2) 1 hr.

Introduces basic fashion sketching — front, back and side views. Relationship of figure and garment. Sketching of original design.
Prerequisite: Consent of coordinator.

**FAS 106 Fashion Design
Illustration II (0-2)** 1 hr.

Focuses on advanced fashion sketching and fabric rendering. Emphasis on development of individual style. Basic layout and presentation. Prerequisite: FAS 105 or consent of coordinator.

FAS 107 Textiles I (1-2) 2 hrs.

Studies basic design and color principles in development of creative fabrics. General analysis and identification of fabrics and employment of various methods such as weaving, printing and dyeing. Prerequisite: Consent of coordinator.

FAS 108 Textiles II (1-2) 2 hrs.

Continues FAS 107. Contemporary fabrics analyzed and studied. Prerequisite: FAS 107. Corequisite: FAS 109.

**FAS 109 Fashion Arts and
Design (2-0)** 2 hrs.

Focuses on theory and principles of design for fashion. The elements of design and color are covered. Develops the perception and awareness to judge good design and to analyze potential trends. Studies the influence of present-day cultural trends on the field of design. Corequisite: FAS 108.

FAS 110 Costume History (2-0) 2 hrs.

Introduces the elements of design and color in historical perspective. A survey of historical periods of design focusing on costumes. Examines the influences of social, political and economic forces on these periods. Prerequisite: Consent of coordinator.

**FAS 111 Twentieth Century
Costume and Trends (3-0)** 3 hrs.

Presents an overview of fashion history and current trends in the 20th century. Includes fashion design, merchandising and factors which influence fashion from the merchandiser's point of view such as arts, technology and socioeconomic aspects. Students participate in video production. Prerequisite: Consent of coordinator.

FAS 112 Fashion Basics (3-0) 3 hrs.

Presents fashion merchandise through evaluation of fashion products. Develops awareness of construction, as well as workmanship and design elements, such as fabric, color silhouette and taste.

FAS 114 Fashion Modeling (0-2) 1 hr.

Introduces the art of modeling for career or personal enrichment. Provides practice to achieve grace, assurance, poise and polish. Studies the mood of showing clothes and fashion shows.

**FAS 116 Fashion Industries
Career Practicum and
Seminar (1-10)** 3 hrs.

Studies an overview of career and employment possibilities in the fashion businesses and industries. Places emphasis on individual career path selections through interest testing and career counseling.

Prerequisite: Consent of coordinator.

**FAS 201 Advanced Flat Pattern
Design and Draping I (2-4)** 4 hrs.

Continues 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 and FAS 102.

Corequisite: FAS 203.

**FAS 202 Advanced Flat Pattern
Design and Draping II (2-4)** 4 hrs.

Continues FAS 201. Studies advanced technique of pattern making and draping, such as trend jacket and coat. Actual construction of jacket and coat will be involved.

Prerequisite: FAS 201.

Corequisite: FAS 204.

**FAS 203 Advanced Diversified
Apparel Design I (2-4)** 4 hrs.

Develops patterns for the translation of original designs into completed garments. Includes visits to manufacturers and speakers from industry.

Prerequisite: FAS 103 and FAS 104.

Corequisite: FAS 201.

**FAS 204 Advanced Diversified
Apparel Design II (2-4)** 4 hrs.

Continues FAS 203. Works on collection of individual design and actual construction of coordinated garments.

Prerequisite: FAS 203.

Corequisite: FAS 202.

FAS 205 Tailoring Techniques I (0-4) 2 hrs.

Introduces professional assembling procedures, details and finishes. Particular emphasis on coats and suits.

Prerequisite: Consent of coordinator.

FAS 206 Tailoring Techniques II (0-4) 2 hrs.

Continues FAS 205. Tailoring of original garments.

Prerequisite: FAS 205.

**FAS 209 Advanced Fashion
Illustration I (0-2)** 1 hr.

Emphasizes work on a professional studio level. Focuses on work sketches as well as finished art. Fashion illustration as advertising, publicity, promotion and display.

Prerequisite: FAS 106 or consent of coordinator.

FAS 210 Advanced Fashion Illustration II (0-2) 1 hr.
Continues FAS 209. Preparation of professional portfolio.
Prerequisite: FAS 209 or consent of coordinator.

FAS 212 Visual Fashion Merchandising (2-0) 2 hrs.
Studies the communications of design. Determining and interpreting consumer needs and motivations. Exploring the methods and techniques of educating the consumer and promoting good design through advertising, publicity, display, fashion shows, special events, employee development, etc.
Prerequisite: FAS 110 or consent of coordinator.

FAS 229 Promotion of Fashion (3-0) 3 hrs.
Introduces various techniques and media for methods to sell fashion. Emphasis on advertising: newspapers, magazines, direct mail, catalogs, radio and television. Includes sales promotion in window displays, interior displays, shops; special events, fashion shows and publicity. Analysis of practical creative assignments developed by the students.
Prerequisite: FAS 102 or consent of coordinator.

FAS 230 Contemporary Living (3-0) 3 hrs.
Focuses on the social, economic, political and psychological forces that influence fashion. The shifting patterns and population profiles will be examined. The consumer point of view of fashion in contemporary living will be observed by studying characteristics of Chicago and suburban stores. Fashion presented by these stores and those accepted by customers in their lifestyles of today will also be analyzed.
Prerequisite: FAS 102 or consent of coordinator.

FAS 240 Fashion Projects (3-0) 3 hrs.
Studies the use of oral and written communication in a fashion career with special emphasis on preparing for and staging fashion shows. Also, practice in effective speaking in small groups or to individuals; effect of grooming and etiquette on communication; style and technique in getting a job; and performing effectively in the fashion industry.
Prerequisite: Consent of coordinator.

Fine Arts

FNA 111 History of Art I (3-0) 3 hrs.
History of art from 20,000 B.C. to 1400 A.D. A survey of the outstanding works of art produced by Western civilizations presented inseparably with the cultural backgrounds of civilizations from the prehistoric age to Gothic Italy. Recommended for art majors as a sequential course after ART 105.

FNA 112 History of Art II (3-0) 3 hrs.
History of art from 1400 to 1890. A survey of the outstanding works of art produced in the Renaissance tradition presented inseparably with the cultural backgrounds of Western Europe from the Renaissance to Art Nouveau.
Recommended Prerequisite: FNA 111.

FNA 113 History of Art III (3-0) 3 hrs.
History of art from 1900 to the present. An historical critical analysis of the "isms" of modern art both stylistically and ideologically as it relates to our own century.
Recommended Prerequisite: FNA 112.

FNA 114 Introduction to Film (2-2) 3 hrs.
Examines different ways of looking at film to improve understanding and appreciation of the medium as an art form and social phenomenon as well as entertainment. Includes lecture/discussion and critical analysis of different directors, stars, film genres, historical trends, aesthetics and the technique and process of filmmaking. Approximately ten feature films will be screened each semester.

Fire Science

FIS 100 Introduction to Fire Science (3-0) 3 hrs.
Examines the basic fundamentals of fire protection. Studies briefly the many facets of fire protection.

FIS 101 Municipal Fire Administration I (3-0) 3 hrs.
Organization and function for fire protection, personnel management, distribution of equipment, records and fire safety problems.

FIS 102 Fire Management I (3-0) 3 hrs.
Discusses the function of the fire officer, focusing on the officer's role and responsibilities. Introduces management theories, practices and the function of management including planning, organizing, staffing, directing and controlling.

FIS 103 Fire Fighting Tactics I (3-0) 3 hrs.
Examines the fire ground situation and the tactical deployment of manpower and equipment. Studies the leadership styles and techniques dictated by differing conditions.
Prerequisite: FIS 100.

FIS 112 Fire Alarm and Extinguishing Systems (3-0) 3 hrs.
The function, classification and operating principles of fixed extinguishing systems, detection systems, alarm systems, signaling systems and portable extinguishing equipment installed for fire protection and fire prevention purposes.

FIS 115 Construction Design and Fire Safety (3-0) 3 hrs.

Development of skills and competencies needed to recognize various types of building construction and materials. Emphasis on how materials react and their effects in fires; materials and techniques that provide a firesafe environment.

FIS 121 Principles of Combustion (3-0) 3 hrs.

Introduces and familiarizes the student with the combustion process. Presents principles necessary for the oxidation and reduction of fuels. Considers various mechanical and chemical sources of heat and fire problems of solids, liquids and gases. Introduces basic computer applications for understanding combustion.

FIS 122 Fire Prevention Principles I (3-0) 3 hrs.

Introduces fire prevention, inspection, and investigation practices and procedures. Considers fire and building codes, fire protection systems and devices and the development and management of a fire prevention bureau.

FIS 123 Fire Prevention Principles II (3-0) 3 hrs.

Introduces principles of building construction as they relate to the fire officer, fire inspector and fire investigator. Demonstrates the plan review process, introduces N.F.P.A. Life Safety Code, and considers building occupancy requirements.

Prerequisite: FIS 122.

FIS 132 Hazardous Materials I (3-0) 3 hrs.

Review of basic chemistry, storage, handling, laws, standards and fire fighting practices pertaining to hazardous materials.

FIS 133 Hazardous Materials II (3-0) 3 hrs.

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.

Prerequisite: FIS 132.

FIS 145 Fire Instructor I (3-0) 3 hrs.

Introduces the fundamentals of developing, organizing and delivering training and instruction to fire service personnel. Emphasizes manual skills training and provides the fundamentals of fire service training necessary to meet the requirements for Fire Officer I certification.

FIS 201 Municipal Fire Administration II (3-0) 3 hrs.

Examines and defines management topics that involve fiscal budgeting, personnel management and labor relations, measuring and

evaluating productivity. Also examines resource management such as fire station locations and design, fire apparatus, communication and data collection and processing systems.

Prerequisite: FIS 101.

FIS 202 Fire Management II (3-0) 3 hrs.

Examines and discusses supervisory and various forms of communications that occur in the work setting. Examines work group dynamics and assists the fire officer to understand and function within the work group. Introduces health and safety within the work setting.

Prerequisite: FIS 102.

FIS 203 Fire Fighting Tactics II (3-0) 3 hrs.

Examines the tactical deployment of manpower and equipment for extra alarm fires, high-rise fires and often extraordinary incidents. Studies manpower and equipment necessary for large-scale fire ground operations.

Prerequisite: FIS 103.

FIS 220 Fire Instructor II (3-0) 3 hrs.

Introduces advanced instructional skills necessary in a vocational setting. Familiarizes the student with behavioral objectives, cognitive and psychomotor skills and different teaching methods and their applications in training sessions. Includes lesson plans, lesson development and production of instructional aids. Stresses use of reference materials and research for lesson plan development. Familiarizes the student with training records and reports and in the development and administration of test instruments.

FIS 222 Fire Prevention Principles III (3-0) 3 hrs.

Considers advanced fire prevention, inspection and investigation practices and procedures. Emphasizes laws, codes and standards which dictate recognized fire prevention practices.

Prerequisite: FIS 123.

FIS 223 Fire Prevention Principles IV (3-0) 3 hrs.

Emphasizes advanced fire prevention, inspection, and investigation principles, procedures and techniques. Emphasizes practices which work toward a reduction in fire incidents.

Prerequisite: FIS 222.

FIS 224 Fire Prevention Principles V (3-0) 3 hrs.

Concentrates on advanced training in installed extinguishing systems, alarm systems, detection devices and portable fire extinguishers. Examines certain hazards requiring installed systems, and covers specific inspection techniques.

Prerequisite: FIS 222.

FIS 242 Fire Hydraulics (3-0) 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, underwriter's requirements for pumps.

FIS 245 Fire Causes and Investigation (3-0) 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 juvenile court procedure and giving court testimony are covered.

FIS 252 Automatic Sprinkler Systems (3-0) 3 hrs.
Practical analysis of the various types of automatic sprinkler systems, codes governing installation, system devices and system design.

FIS 262 Water Supply Analysis (3-0) 3 hrs.
Study of municipal water supply requirements, system design and flow measurements for fire protection.

Food Service Management _____

FSM 107 Basic Quantity Bread and Pastry Arts (2-15) 5 hrs.
Introduces basic quantity baking of breads and pastries under the guidance of a master baker/instructor. Students will get theory and classroom discussion plus hands-on production experience as interns in the college bakeshop. (Formerly FSM 090.)
Prerequisite: Consent of coordinator or instructor.

FSM 108 Advanced Quantity Bread and Pastry Arts (2-15) 5 hrs.
Continues instruction in the finer arts of breads and pastry preparation, including emphasis on pastry arts work, pastries and breads as used in exclusive establishments and ornamental skills for culinary exhibits. Includes internship in the college bakeshop and classroom discussions. (Formerly FSM 091.)
Prerequisite: FSM 107.

FSM 109 Basic Quantity Culinary Arts (2-15) 5 hrs.
Introduces basic training by internship in the elements of quantity culinary production arts. The college kitchen, pantry, salad department, dishroom and other "back of the house" areas will be used to acquaint students with the production picture. Students will participate in direct production hands-on learning and culinary arts theory. (Formerly FSM 095.)
Prerequisite: Consent of instructor or coordinator.

FSM 110 Advanced Quantity Culinary Arts (2-15) 5 hrs.
Continues FSM 109 with special emphasis in fine dining experiences. Students will prepare meals for the college dining room, banquets, catered functions and special culinary arts events. Students will discuss theory as well as procedures in the "back of the house." (Formerly FSM 096.)
Prerequisite: FSM 109.

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 (3-3) 4 hrs.
Basic training in the theory and practice of quantity food preparation with emphasis placed on actual food preparation in the College kitchens under the guidance of master chefs and bakers.

FSM 113 Quantity Food Service (1-6) 4 hrs.
Introduces theory and practice of quantity food serving including practical experience in dining rooms and catering service. Involves set-up, tableside preparation and presentation. Examines various roles of dining room personnel.

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 Menu Planning (2-0) 2 hrs.
Practical applications of nutrition as related to 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 210 Hospitality Facility Maintenance (3-0) 3 hrs.
Focuses on the organization, duties and administration of a restaurant and lodging facility maintenance department. Discusses purchasing, furniture, carpeting, linens and supplies. Identifies and evaluates care and maintenance techniques of the areas serviced by a facility maintenance department.

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 and purchase standards for convenience foods.

FSM 212 Food Service Supervision (4-0) 4 hrs.

Study of the theory and techniques of supervision as related to the food service industry.

FSM 213 Seminar and Internship (2-15) 4 hrs.

Part of the credit for this course will be given for participation in a supervised cooperative work experience program in a College approved training station. Enrollment is restricted to sophomores in the Food Service Management program.

Prerequisite: FSM 212 or consent of instructor.

FSM 214 Cost Control (3-0) 3 hrs.

Practical application and theory of various food and beverage cost control systems.

FSM 215 Restaurant Layout and Equipment (3-0) 3 hrs.

Maximizing employee productivity through various types of food equipment and proper equipment arrangement. Effects of use of convenience foods on equipment planning.

FSM 216 Introduction to Wines and Spirits (3-0) 3 hrs.

Studies alcoholic beverage classifications, alcoholic beverage laws, wine regions, purchasing and control, promotion and service.

Prerequisite: Minimum age of 21.

FSM 230 Hospitality Law and Risk Management (4-0) 4 hrs.

Surveys our legal system as applied to the hospitality industry. Examines contracts, torts and various labor laws pertinent to the industry. Analyzes insurance costs, including fire, accident, worker's compensation and employee liability and their effect on various types of facilities.

French

FRN 101 Elementary French I (4-0) 4 hrs.

Beginning course in the language skills of listening, understanding, speaking, reading and writing in their logical sequence. Designed for students with no previous experience in French.

FRN 102 Elementary French II (4-0) 4 hrs.

Continues FRN 101. Situational conversations in French; reading and writing stressed.

Prerequisite: FRN 101, one year of high school French or consent of instructor.

FRN 201 Intermediate French (4-0) 4 hrs.

Conversation with emphasis on pronunciation, intonation, stress and rhythm. Introduction to composition, reading of short stories and grammar review.

Prerequisite: FRN 102, two years of high school French or consent of instructor.

FRN 202 Intermediate French (4-0) 4 hrs.

Continues FRN 201. Accuracy and speed in reading, study of syntax and extensive composition.

Prerequisite: FRN 201, 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. Designed to help students bridge the gap between the intermediate and advanced levels.

Prerequisite: FRN 202 or equivalent or consent of 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 discussion works read. Writing based on readings and class discussions. Designed to help students bridge the gap between the intermediate and advanced levels.

Prerequisite: FRN 202 or equivalent or consent of instructor.

Geography

GEG 101 World Geography (3-0) 3 hrs.

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 (3-2) 4 hrs.

Materials, structure and sculpture of the earth's surface. One-day field trip required.

GEO 102 Historical Geology (3-2) 4 hrs.

Geological history of the earth including principles employed to reconstruct this history. One-day field trip required.

Prerequisite: GEO 101, high school earth science or consent of instructor.

GEO 201 Rocks and Minerals (3-2) 4 hrs.

Physical description of minerals and rocks.

Introduction to crystallography, economic minerals, natural resources. Field trip required.

Prerequisite: GEO 101, CHM 121 or consent of instructor.

GEO 202 Paleontology (3-2) 4 hrs.

Fossil record of life, principles of evolution and ecology. One-day field trip required.

Prerequisite: GEO 102, BIO 101, BIO 140 or consent of instructor.

German

GER 101 Elementary German I(4-0) 4 hrs.
Beginning course in the language skills of listening, understanding, speaking, reading and writing in their logical sequence. Designed for students with no previous experience in German.

GER 102 Elementary German II (4-0) 4 hrs.
Continues GER 101. Situational conversations in German; reading and writing stressed.
Prerequisite: GER 101, one year of high school German or consent of instructor.

GER 201 Intermediate German (4-0) 4 hrs.
Conversation with emphasis on pronunciation, intonation, stress and rhythm. Introduction to composition, reading of short stories and grammar review.
Prerequisite: GER 102, two years of high school German or consent of instructor.

GER 202 Intermediate German (4-0) 4 hrs.
Continues GER 201. Accuracy and speed in reading, study of syntax and extensive composition.
Prerequisite: GER 201, 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 in pronunciation, stress and rhythm. Individual readings of modern German works discussed in class. Written and oral compositions based on readings. Designed to help students bridge the gap between the intermediate and advanced levels.
Prerequisite: GER 202, or equivalent or consent of instructor.

GER 210 Introduction to Modern German Literature (3-0) 3 hrs.
Readings of selected 20th century masterpieces. Introduction to poetry. Oral readings stressing pronunciation and diction. Speaking based on discussion of works read. Writing based on readings and class discussions. Designed to help students bridge the gap between the intermediate and advanced levels.
Prerequisite: GER 202, or equivalent or consent of instructor.

Habilitation Aide

CHA 105 Habilitation Aide I (4-0) 4 hrs.
Introduces students to residential care for the developmentally disabled, functions of long-term care facilities, support services, the interdisciplinary team and job descriptions of the habilitation aide.

CHA 110 Habilitation Aide II (1-5) 2 hrs.
Places students in appropriate situations where they observe and participate in a residential facility, where they will utilize, under

supervision, the skills and techniques which have been learned in the specialized methods course. The student will take part in scheduled seminar meetings with the instructor.
Corequisite: CHA 105.

CHA 140 Alternate Living Resident Supervisor I (4-0) 2 hrs.
Instructs the certified habilitation aide to supervise residents of small group homes and other residential facilities in ways to be more independent in the home, place of employment and community.
Prerequisite: Habilitation Aide certificate.

CHA 145 Alternate Living Resident Supervisor II (1-5) 2 hrs.
Places a student in appropriate situations in small group homes and other alternative living situations, where they will utilize, under supervision, the skills and techniques which have been learned in the specialized method courses. The student will also take part in scheduled seminar meetings with the instructor.
Prerequisite: CHA 140.

History

HST 111 The American Experience to 1877 (3-0) 3 hrs.
Survey of the American experience through the pre-revolutionary period, the expansion westward and the Civil War. Special stress is placed upon the social, economic, cultural, political and constitutional development of the United States.

HST 112 The American Experience Since 1877 (3-0) 3 hrs.
End of Reconstruction to the present, with primary stress on political and economic development. Also includes social, intellectual and cultural phases, expanded role of government in national affairs and the participation of the United States in international relations.

HST 121 History of Latin America (3-0) 3 hrs.
Surveys the political and constitutional history of the principal Latin American nations. The course will cover movements leading to independence and social and economic events which are pertinent to relationships with the United States.

HST 141 History of Western Civilization to 1650 (4-0) 4 hrs.
Stresses political, social, cultural, economic and technological developments from prehistoric times and concludes with the last manifestation of essentially medieval ideology, i.e., the Protestant Reformation.



HST 142 History of Western Civilization Since 1650 (4-0) 4 hrs.
Continues HST 141. Commences with the emergence of modern times, i.e., the development of royal absolutism and the beginnings of the modern nation state and concludes with the 20th century and the modern world.

HST 151 History of England: Norman Conquest to 1600 (3-0) 3 hrs.
Surveys the social, cultural, economic, political and religious history of England from the Norman Conquest through the age of Elizabeth I.

HST 152 History of England: 1600 to Present (3-0) 3 hrs.
Surveys the social, cultural, imperial, economic and political history of England from the Stuart Dynasty through the present era.

HST 153 British Culture and Society (3-0) 3 hrs.
Surveys the culture and society of England from the Norman Conquest to the present.

HST 210 Women: The American Experience (3-0) 3 hrs.
History of the status, roles and contributions of women in America, and a survey of the attitudes and movements that have affected the lives of women in America.

HST 214 The Afro-American and the American Experience (3-0) 3 hrs.
In-depth study of the American black from African slave trade through slavery, Reconstruction, years of neglect and Civil Rights Revolution in the United States and his contributions to American culture.

HST 218 Illinois and Local History (3-0) 3 hrs.
Surveys Illinois history from earliest times to the present day. Emphasizes the social and economic development of the prairie state. Gives special attention to the local setting. Projects in local history will be encouraged.

HST 243 The Far East in the Modern World (3-0) 3 hrs.
History of East Asia since 1800. The traditional cultures of China and Japan, the Western impact and the Asian response will be covered.

Horticulture

HRT 101 Ornamental Plants (3-3) 4 hrs.
Identifies landscape plant materials, their growth habits and cultural requirements, and discusses the use of ornamental shrubs, trees, vines, ground covers and herbaceous plants adapted to Illinois and the Midwestern area. (Formerly PKM 101.)

HRT 102 Plant Diseases and Pests (3-3) 4 hrs.
Identifies diseases and discusses methods of prevention and control used in landscape and park operations, pests significant to the turf, soils and plant materials found in parks and other landscape areas. (Formerly PKM 102.)

HRT 104 Floral Design (2-3) 3 hrs.
Presents basic principles of floral design including classic designs, centerpieces, corsages, boutonnieres, dried flower arrangements, holiday and special occasion designs. Emphasis is placed on design elements of color, line and form utilizing foliage and flowers of different varieties. Attention is given to commercial floral piece arrangements and mechanics of construction. (Formerly PKM 104.)

HRT 106 Introductory Horticulture (2-0) 2 hrs.
Presents a general study of the fundamental knowledge essential for installation and maintenance of plants either as a hobby, as a necessity or as a cost saving measure. Emphasis is on the cultivation of certain plant varieties, techniques of improving established gardens, and methods of reducing expenses for landscaping and maintenance. (Formerly PKM 106.)
Recommended corequisite: HRT 108.

HRT 108 Introductory Horticulture Laboratory (0-4) 2 hrs.
Complements and reinforces concepts developed in HRT 106, including actual hands-on planting and maintenance practices. (Formerly PKM 108.)
Prerequisite: HRT 106 or concurrent enrollment.

HRT 110 Soil Science (3-3) 4 hrs.
Studies the properties and use of soils in relation to plant growth and development. Special emphasis on soil texture, structure, moisture relations, biological activity, organic matter content and plant nutrients as they relate to park management. (Formerly PKM 110.)

HRT 111 Basic Horticultural Skills (3-3) 4 hrs.
Develops specialized skills in ornamental horticulture including planting, transplanting, fertilizing, watering and pruning of trees, shrubs and herbaceous plants in both indoor and outdoor locations. Details seed and vegetable plant propagation methods; causes of plant disorders; installation, care and maintenance of plants used in landscape. (Formerly PKM 111.)
Prerequisite: BIO 120 or concurrent enrollment.

HRT 204 Advanced Floral Design (2-3) 3 hrs.

Presents advanced principles of floral design including wedding flowers, funeral arrangements, home interiors and current trends of floral art. Emphasis on design qualities, salesmanship and commercial floral accounts. (Formerly PKM 204.)

Prerequisite: HRT 104 or consent of instructor.

HRT 212 Turfgrass Science (3-3) 4 hrs.

Identifies and discusses basic characteristics, soil requirements, environmental adaptation, propagation and uses of turfgrass. Special emphasis on the establishment of grasses and their identification. The management of established turfgrasses, emphasizing the essential maintenance practices of fertilization, weeds and their control, mowing, aerification, verticutting, renovation, and spraying for disease and insect control. A study of business procedures essential to turfgrass managers, including budgeting, recordkeeping, purchasing and time studies.

(Formerly PKM 212.)

Prerequisite: HRT 110.

HRT 244 Nursery Management (2-3) 3 hrs.

Studies operations fundamental to the nursery business including the propagation, planting, culture, harvesting and handling of nursery crops. Emphasis is placed on equipment, materials, procedures and ornamental plant dissemination through production and care of nursery plant materials. (Formerly PKM 244.)

Prerequisite: HRT 111.

HRT 247 Floral Shop Management (2-3) 3 hrs.

Introduces floral shop operations which include equipment, materials used, plant and nonliving materials, floral shop design and construction and the operations which go on each day in the shop.

Prerequisite: HRT 104.

HRT 248 Garden Center Operations (2-3) 3 hrs.

Details the fundamental skills and facilities required to properly plan and implement the operation of a garden center. Included are financing, material and supply selections, seasonal requirements and associated business needs.

Humanities

HUM 101 Introduction to Western Culture I (3-0) 3 hrs.

Surveys the humanities: architecture, art, history, literature, music, philosophy and theatre of Western culture from the beginnings to the Renaissance.

HUM 102 Introduction to Western Culture II (3-0) 3 hrs.

Surveys the humanities: architecture, art, dance, film, history, literature, music, philosophy and theatre of Western culture from the Renaissance to the present.

HUM 110 Women and Creativity (3-0) 3 hrs.

Explores the nature of female creativeness, focusing on women in the traditionally male arenas of art and literature and on areas in which the female creative impulse manifests itself under other names: the shaping of social attitudes, domestic arts and religious experiences.

HUM 115 International and Regional Studies in Humanities 1-4 hrs.

Students travel with faculty to international or regional locations which may vary from year to year to study the humanities. May emphasize the literature, language, philosophy or humane arts of the locale visited. Presentation by on-site individualized study, lectures, field trips. Classes held on campus prior to and following the off-campus learning experience. Travel expenses are paid for by the student.

One Credit: Students must attend all classes and field trips, submit a daily log covering one week of travel and write a personal essay of at least five typewritten pages.

Two Credits: Students must attend all classes and field trips, submit a log covering one-two weeks of travel and write a research paper of at least eight typewritten pages, plus bibliography and footnotes.

Three Credits: Students must attend all classes and field trips, submit a log covering three weeks of travel and write a research paper of at least ten typewritten pages, plus bibliography and footnotes.

Four Credits: Students must attend all classes and field trips, submit a log covering four weeks of travel and write a research paper of at least twelve typewritten pages, plus bibliography and footnotes.

HUM 120 Classical Mythology (3-0) 3 hrs.

Studies the myths of Greece and Rome. Focuses on the stories of gods and heroes in classical literature and art. Considers the influence of classical mythology on later Western culture.

Human Services

HSC 100 Computer Usage in Health Services (0-2) 1 hr.

Offers a generalized brief orientation to computer utilization with specific software applications pertaining to careers in the health care field.

HSC 110 Emergency Medical Technician Training (4-2) 5 hrs.

Designed to train emergency medical technicians, covers all emergency care procedures short of those rendered by physicians or by allied medical personnel under direct supervision of a physician. Emphasizes the development of student skills in recognition of symptoms of illnesses and injuries and proper procedures of emergency care. Reliance is heavily placed on demonstration and practice as a teaching method.

(Note: This course has special admission requirements. Contact the Admissions Office for details.)

HSC 112 Medical Terminology (2-0) 2 hrs.

Emphasizes the basic structure of medical words and includes prefixes, suffixes, roots, combining forms and plurals. Pronunciation, spelling and definition of medical terms. Emphasis will be on rendering a professional vocabulary required for work in the medical field.

HSC 190 Clinical Procedures I (1-3) 2 hrs.

Introduces basic clinical procedures in the physician's examination suite. Includes medical asepsis, patient interrogation, communication and assisting the physician with patient preparation and examination. Emphasis placed on demonstration of clinical office skills. Prerequisite: BIO 135 or BIO 160 and prior or concurrent enrollment in HSC 112 or MOA 101.

HSC 211 Clinical Procedures II (2-6) 4 hrs.

Offers advanced clinical techniques in the physician's examining suite. Includes diagnostic testing, principles of medications and assisting the physician in specialty examinations and minor surgical procedures. Demonstration of clinical skills in the medical office is emphasized. Prerequisite: HSC 190 with a grade of "C" or better and MOA 151 or permission of program coordinator. Prior or concurrent enrollment in NUR 200.

HSC 212 Clinical Laboratory Procedures (2-4) 4 hrs.

Offers basic medical laboratory procedures requested by the physician, including urinalysis, hematology, venipuncture and blood chemistries. Emphasis placed on various specimen collections, specimen handling, techniques and reports. Prerequisite: BIO 135 or BIO 160, HSC 112, MOA 101 and MOA 151.

HSC 213 Medical Law and Ethics (3-0) 3 hrs.

Acquaints the student with the legal and ethical responsibilities of the physician, patient, and

allied health personnel in the health care team. Emphasis given to professional attitudes and behavior. Recommended Prerequisite: Sophomore standing.

HSC 220 Health, Nutrition and Safety (3-0) 3 hrs.

Focuses on common health problems of young children, principles of nutrition and elements of safety in early childhood education programs. Emphasis will be placed on prevention of health problems, the specifics of a healthy diet and the treatment of childhood accidents. As a part of this course, students will complete the American Red Cross Standard First Aid course.

Independent Study _____

IDS 290 Independent Study 1-4 hrs.

Designed to permit the student to pursue a course of study not typically available under traditional course structure. The student will contract with the appropriate faculty member for the objectives to be accomplished in the course. May be repeated up to a maximum of four credit hours.

Prerequisite: Sophomore standing, "C" average or consent of instructor.

Interior Design _____

IND 101 Basic Interior Design I (2-6) 5 hrs.

Surveys today's customer, elements in design of scale, balance and proportion, functional planning, visual sales presentation techniques, color, product sources and applied principles of planning.

IND 102 Basic Interior Design II (2-6) 5 hrs.

Studies pattern and texture. Introduces window treatments, function room analysis and advanced planning. Continues application of color. Prerequisite: IND 101 with a grade of "C" or better.

IND 103 Furniture History (3-0) 3 hrs.

Surveys furniture, design motifs and structures from antiquity to the present. Studies authentic designs and their relationship to contemporary applications. Emphasizes the basis for determining the taste level and quality of reproductions and adaptations on the market today. Includes current sources of other home furnishings products. Corequisite: IND 101 or IND 102.

IND 104 Basic Color I CADD (2-2) 3 hrs.
Introduces color theories, analysis and visualization techniques for interior design. Emphasizes visualization through studio methods and computer aided design and drafting. Develops awareness of spatial planes and relationships of color for interiors.
Corequisite: IND 101 or IND 102, or previous graduate of Interior Design program.

IND 201 Advanced Interior Design I (3-6) 6 hrs.
Concentrates on textiles, furniture history review, mixing styles of furniture and stylizing. Introduces sales presentation techniques and manufacturing sources.
Prerequisite: IND 102, IND 103 and IND 104 with a grade of "C" or higher and ART 121, ATE 101 and ATE 102.

IND 202 Advanced Interior Design II (3-6) 6 hrs.
Continues advanced planning and color. Details budgeting, window, wallcovering and flooring estimating. Examines lighting, construction and client analysis. Includes preparation of advanced portfolio with professional critique.
Prerequisite: IND 201.

IND 204 Advanced Color II/CADD (2-2) 3 hrs.
Continues color analysis and visualization through studio methods and computer aided design and drafting. Introduces lighting and its effect on interior colors. Introduces color psychology and its interpretation in interiors. Develops further awareness of spatial planes and coordination of color relationships for interiors.
Prerequisite: IND 102 and IND 104.

Interpreter Training

ITP 110 Manual Interpreting/Transliterating I (3-0) 3 hrs.
Studies the continuum of signing styles used by hearing impaired persons with an emphasis on American Sign Language (ASL). Introduction to the grammar, semantics and pragmatics of ASL compared to those of English. Outlines various systems available to manually code English and discusses ways of determining what system is most appropriate in a given situation. Focuses on development of ability to use ASL expressively and to transliterate and interpret from English into a variety of signing systems.
Prerequisite: Sign language evaluation.

ITP 111 Voice Interpreting/Transliterating I (3-0) 3 hrs.
Studies techniques needed to render manually presented communication into appropriate spoken or written English. Develops ability to transliterate materials presented through finger-

spelling, manually coded English and pidgin sign language.
Prerequisite: Sign language evaluation.

ITP 120 Manual Interpreting/Transliterating II (3-0) 3 hrs.
Focuses on the development of a working understanding of American Sign Language (ASL) and the expansion of the student's lexicon. Provides in-depth study of ASL's grammatical properties; continues development of skills needed to transliterate and interpret materials from English into ASL, pidgin sign language and manually coded English.
Prerequisite: ITP 110 with a grade of "C" or better.

ITP 121 Voice Interpreting/Transliterating II (3-0) 3 hrs.
Continues development of the ability to transliterate and interpret spoken and written English. Emphasizes presentation factors (voice quality, facial expression, body language) and maintaining accuracy of non-verbal components.
Prerequisite: ITP 111 with a grade of "C" or better.

ITP 201 Issues in Interpreting (3-2) 4 hrs.
Studies the Code of Ethics from the Registry of Interpreters for the Deaf, the history of interpreting/transliterating, and laws, agencies and professional organizations pertaining to the field. Includes the role-playing and interpreter observations in a variety of professional settings.
Prerequisite: PSY 150 or equivalent.

ITP 210 Special Areas of Interpreting (3-0) 3 hrs.
Presents specialized vocabulary for various settings — legal, medical, psychological, educational, vocational and artistic. Continues development of skills in areas of individual weakness.
Prerequisite: ITP 120 with a grade of "C" or better.

ITP 211 Voice Interpreting/Transliterating III (3-0) 3 hrs.
Emphasizes the development of advanced skills in transliterating and interpreting from American Sign Language (ASL) and nonstandard forms of sign language into appropriate spoken and written English.
Prerequisite: ITP 121 with a grade of "C" or better.

ITP 220 Interpreting Practicum (1-5) 2 hrs.
Requires supervised interpreting/transliterating in a variety of educational settings, businesses and public agencies. In addition to field work, students will meet several times during the semester to discuss issues encountered during the practicum experience.
Prerequisite: ITP 210 and ITP 211 with a grade of "C" or better and consent of instructor.

Journalism

JNM 130 Fundamentals of Journalism (3-0) 3 hrs.

Focuses on the history and current role of the newspaper. Emphasizes grammar and writing skills through assignments and a major project.

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 coordinator.

JNM 133 Feature Writing (3-0) 3 hrs.

Stresses the feature approach to non-fiction writing for magazines and newspapers. Develops techniques for writing and selling freelance articles.

JNM 134 Media Adjuncts (2-4) 4 hrs.

Planning and production work in advertising, public relations and publication — business, industrial and consumer magazines.

JNM 135 Principles of Photography (0-2) 1 hr.

Introduces the basic procedures for taking pictures. The 35mm camera, the study television camera and the portable television camera are used.

Prerequisite: JNM 130.

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 international, national, regional and local settings.

JNM 235 Copy Reading and News Editing (2-4) 4 hrs.

Focuses on preparation of copy for newspaper publication. Incorporates headline writing, copy editing, treatment of story placement and effective display of typographically pleasing make-up. A newspaper is prepared by the class.

Prerequisite: JNM 130 and JNM 131 or consent of coordinator.

JNM 236 Radio and Television News (3-2) 4 hrs.

Studies reporting and writing of broadcast news. Emphasizes broadcast style in all phases of newswriting and editing. Radio and television newscasts are prepared.

Prerequisite: JNM 130 and JNM 131 or consent of coordinator.

JNM 237 Externship Study (2-15) 5 hrs.

Provides practical media experience through on-the-job assignments at print and broadcast newsrooms, advertising and public relations firms, cable television studios and others. Lecture sessions include preparation of the resume and portfolio and the complete job search.

Prerequisite: Successful completion of three program semesters and consent of coordinator.

Legal Technology

LTE 101 Introduction to Legal Technology (3-0) 3 hrs.

Survey of the functions of law; courts and lawyers in modern society; analysis of the origin, training and role of the legal technician; professional responsibilities of the lawyer; outline of the fields and specializations within the practice of law; and instruction in legal research and writing upon a review of the sources and works of law.

Prerequisite: Legal Technology entrance examination and consent of coordinator.

LTE 102 Fundamentals of Legal Research (3-0) 3 hrs.

Orients students to law library and a variety of legal publications, treatises and other legal writings encountered in day-to-day practice of law. Emphasizes developing student capability to analyze, interpret and communicate facts, ideas and law through comprehension of legal research techniques.

Prerequisite: LTE 101 or consent of coordinator.

LTE 103 Litigation (3-0) 3 hrs.

Analysis of civil procedure and instruction in preparation of documents used in lawsuits, covering pre- and post-trial matters, evidentiary problems and assistance during trials.

Prerequisite: LTE 101 or consent of coordinator.

LTE 105 Family Law (3-0) 3 hrs.

Examination of domestic relations law with emphasis on marriage, divorce, annulment, separation agreements, adoption and other legal matters involving the family.

Prerequisite: LTE 101 or consent of coordinator.

LTE 123 Real Property Law (3-0) 3 hrs.

Provides historical study of common law estates and interests, and statutes. Emphasizes the role of and relationship between the attorney and the paralegal in preparing the more common types of real property transactions and conveyances, such as deeds, contracts, leases; drafting problems involving these various instruments; special research projects related to the subject matter; and a study of the system of recording and search of public documents.

Prerequisite: Legal Technology entrance examination or consent of coordinator.

LTE 200 Probate (3-0) 3 hrs.

Survey of principles, history and sources of probate law: examination of probate court forms and tax returns; and detailed instruction in gathering information and preparing documents for the paralegal assistant's supervising attorney. Prerequisite: Legal Technology entrance examination or consent of coordinator.

LTE 201 Tort and Insurance Law (3-0) 3 hrs.

Study of basic tort and insurance law principles; examination of insurance claim procedures and pleading forms used in litigation of various actions.

Prerequisite: Consent of coordinator.

LTE 202 Estate Planning (3-0) 3 hrs.

Examination of common forms of wills and trusts; survey of legal principles applicable thereto; and instruction in draftsmanship of documents by the paralegal assistant for the supervising attorney.

Prerequisite: Legal Technology entrance examination or consent of coordinator.

LTE 203 Income Taxation I (3-0) 3 hrs.

Detailed examination of federal and state income taxation as applicable to individuals, and instruction in preparation of returns and forms; survey of administrative and judicial procedures relative thereto.

Prerequisite: Consent of coordinator or instructor.

LTE 204 Income Taxation II (3-0) 3 hrs.

Detailed examination of federal, state and local taxes with instruction in preparation of corporate, partnership, fiduciary and other returns and forms.

Prerequisite: Consent of coordinator or instructor.

LTE 206 Conference Course in Legal Technology (3-0) 3 hrs.

Personalized study designed to provide advanced training in the student's speciality area.

Prerequisite: Legal Technology entrance examination or consent of coordinator.

LTE 210 Corporate and Securities Law (3-0) 3 hrs.

Prepares paralegal student to aid in incorporation, corporate recordkeeping and compliance with administrative regulations. This includes the understanding of statutes, rules, forms and releases pertaining to the principal acts administered by the Securities and Exchange Commission.

Prerequisite: Consent of coordinator.

LTE 212 Law Office Systems (3-0) 3 hrs.

Study of law office management relying on the systems analysis approach to examine design, method and processes necessary for integrating the paralegal into the hierarchy of the organization of a law office with emphasis on defining functions of the lawyer, paralegal and legal secretary.

Prerequisite: Consent of coordinator.

LTE 220 Community Law (3-0) 3 hrs.

Development of skills and competencies needed to recognize legal problems and comply with the procedures relating to various government

agencies. Emphasis will be on federal housing and landlord-tenant law; mental and civil commitments; welfare laws; labor law; social security law; and consumer protection law.

Prerequisite: Consent of coordinator.

Linguistics

LNG 105 Introduction to General Linguistics (3-0) 3 hrs.

Introduces the nature and structure of language. Includes language universals and forms and functions of phonology, morphology and grammars.

Literature

LIT 105 Poetry (3-0) 3 hrs.

Emphasizes enjoyment, appreciation and understanding of poetry. The course may include the study of poets and their work from the time of Chaucer to the 20th century. Typical of the various areas which may be studied are the Romantic and Victorian periods as well as schools of poetry such as the Imagist. Among the techniques presented to aid the student's understanding are diction, meter, rhythm, theme and symbol.

LIT 110 Drama (3-0) 3 hrs.

Presents a survey of drama from various countries and eras. The course will include representative selections from such modes as tragedy, comedy, melodrama, romance, satire and social commentary as well as absurdist drama. The selections would include such authors as Ibsen, Miller, Moliere and Shakespeare. (See SPE 111 for theatrical study of drama.)

LIT 112 Literature and Film (3-0) 3 hrs.

Introduces methods of reading, interpreting and analyzing literary works as well as examining methods used in translating those works to the media of film. Presents the short story, the novel and the drama in conjunction with their cinematic counterparts. Focuses on understanding and appreciating each form on its own and in relation to the others through reading, viewing and writing.

LIT 115 Fiction (3-0) 3 hrs.

Presents short stories and novels of high interest level. The selections typify authors and styles representative of major American and European literary movements and philosophies. Challenges the student to develop skills in literary analysis. Students will study characterization, narration, dialogue, plot and various other techniques of fiction. Individual sections may concentrate on particular periods, authors or topics.

LIT 206 World Literature to 1800 (3-0) 3 hrs.

Selected works of universal significance contributed by people and civilizations from ancient times to 1800.

LIT 207 World Literature Since 1800 (3-0) 3 hrs.

Continues LIT 206. Selected works of universal significance contributed by people and civilizations from 1800 to the present.

LIT 210 Introduction to Shakespeare (3-0) 3 hrs.

Introduces Shakespeare's acting company, theater and audience. Discusses his techniques in building scenes, developing characters, handling dialogue. Readings and interpretations will consist of representative comedies, tragedies, histories and problem plays.

LIT 216 Science Fiction (3-0) 3 hrs.

Surveys science fiction short stories and novels. Considers science fiction as popular literature and assesses its unique contribution to the history of ideas.

LIT 217 Detective and Mystery Fiction (3-0) 3 hrs.

Presents detective and mystery fiction from its beginning to the present. Includes long and short works representing the various types of mystery fiction. Examines the literature's contributions to, and influences upon, contemporary popular fiction.

LIT 219 Children's Literature (3-0) 3 hrs.

Introduces the various types of children's literature. Includes the history of children's literature, as well as the classic and current authors and illustrators. Covers such areas as picture and concept books, myths, poetry, fantasy and realism.

LIT 221 American Literature 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 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 and social and historical novels. Established criteria for judging American literary output.

LIT 224 Women in Literature (3-0) 3 hrs.

Examines the many images, impressions and stereotypes of women presented in literature. Includes literature written about women and by women, encompassing many countries, eras, authors and genres. The student will read

selections from such authors as Chekov, Chopin, Colette, Flaubert and Porter.

LIT 231 English Literature to 1800 (3-0) 3 hrs.

Survey of English writers from beginning English literature to 1800. Reading and interpretation of writers such as Boswell, Chaucer, Congreve, Donne, Dryden, Johnson, Jonson, Malory, Milton, Pope and Swift.

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 Austen, Browning, Byron, Conrad, Dickens, Hardy, Keats, Shaw, Tennyson and Wordsworth.

LIT 241 20th Century British and American Literature (3-0) 3 hrs.

Survey of important writers and writings in British and American literature since World War I.

Management

MGT 111 Introduction to Business Organization (3-0) 3 hrs.

Nature of business and the 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.

MGT 150 Business Math (3-0) 3 hrs.

Introduces 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 graph and chart design.

Prerequisite: Students must score satisfactorily on a mathematics placement test.

MGT 154 Small Business Management (3-0) 3 hrs.

Organization and operation of the 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: MGT 111 or consent of instructor.

MGT 160 Principles of Supervision (3-0) 3 hrs.

Introduces the responsibilities of the first or second echelon supervisor in either the industrial or administrative environment. Leadership qualities, human relations skills, motivation, communications, training techniques and problems of the work group are discussed.

MGT 165 International Management (3-0) 3 hrs.
 Analyzes the problems and practices in international business management activities. The issues include American management techniques in foreign settings, comparative management among different countries and the complexity introduced by the management of international companies. The course focuses on international organizational functioning to help the student gain a diversity of views.
 Prerequisite: MGT 111.

MGT 167 Records Management (3-0) 3 hrs.
 Includes the study and analysis of what records to keep, how to store them, how to find them quickly when needed and how to apply the criteria for determining their disposition or retention.

MGT 168 OSHA Standards and Compliance Procedures (3-0) 3 hrs.
 Development of skills and competencies needed in instituting proper occupational safety and health environment in commercial and manufacturing business establishments for compliance with federal OSHA standards.

MGT 170 Principles of Individual Financial Planning (3-0) 3 hrs.
 Introduces investment principles, methods and opportunities of personal investments. The course deals with the markets, stocks and bonds, investment funds and insurance with emphasis on starting a personal portfolio.

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

MGT 225 Applied General Statistics (3-0) 3 hrs.
 Introduces both descriptive and inductive statistics. Collection of data; frequency distributions and measures of data; frequency distributions and measures of location (mean, median, mode); measures of variation; probability, theoretical distributions including sampling distributions, estimation, tests of hypotheses; correlation, regression analysis and index numbers; and time series. Computer applications are included.
 Prerequisite: MTH 124.

MGT 226 Elementary Quantitative Methods (3-0) 3 hrs.
 Introduces 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.

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

MGT 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: MGT 270 or consent of instructor.

MGT 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 factor in management.
 Prerequisite: MGT 111.

MGT 274 Industrial Management (3-0) 3 hrs.
 Introductory course in industrial management stressing operational problems. The characteristics of industrial enterprise, the problems of materials procurement, plant organization and layout, labor relations and personnel policies, efficiency techniques, automation and production development are considered. Related problems of inventory control, quality control, production control and budgetary control are included.
 Prerequisite: MGT 270 or consent of instructor.

MGT 275 Labor-Management Relations (3-0) 3 hrs.
 Deals with the processes and the framework that influence both the day-to-day and the long-run relationships between management and labor. The history of the union movement, collective bargaining, arbitration procedures, labor legislation, union organization and the characteristics of the labor market are discussed.
 Prerequisite: MGT 270 or consent of instructor. (Prior or concurrent enrollment in ECO 201 recommended.)

MGT 280 Human Relations in Business (3-0) 3 hrs.

Emphasizes a managerial and interpersonal relations process approach to problem solving, communication and group dynamics. Specific treatment is given to managing change, appraisal and reward, solving communication problems, status needs of the work force, understanding individuals, group dynamics and reducing conflict.

Prerequisite: MGT 160 or MGT 270.

MGT 291 Problems in Management and Supervision (3-0) 3 hrs.

Provides the student with a logical integration of management principles with representative supervisory problems found in business firms. Emphasis is given to decision making. Case problems, simulation and directed reading. Prerequisite: MGT 160 and MGT 270 or consent of the instructor. (Prior or concurrent enrollment in ECO 201 is recommended.)

Marketing

MKT 106 Merchandising of Furnishings and Softline Goods (3-0) 3 hrs.

Focuses upon retailing of furnishings, apparel and other softline merchandise including the role and qualifications of the buyer and the influence of consumer preference. Includes budgeting by dollars and assortment, pricing strategy, managing assortments, the selection and promotion of merchandise and the coordination of merchandising functions and processes.

MKT 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.

MKT 141 Sales Management (3-0) 3 hrs.

Focuses on the responsibilities of the sales executive as he or she plans and evaluates sales activities as well as supervises a sales force. Attention is given to the administrative activities of sales managers at all levels with emphasis directed to the management of sales forces of manufacturers, service marketers and wholesaling middlemen.

Prerequisite: MKT 140 or consent of coordinator.

MKT 190 Export Documentation (3-0) 3 hrs.

Provides an understanding of the procedures and necessary documentation for exporting both goods and services. Course content will cover shipping documentation as well as insurance, banking and finance and governmental forms required for export marketing.

Prerequisite: MKT 260 or consent of instructor.

MKT 217 Advertising (3-0) 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 process.

Prerequisite: MKT 245 or consent of instructor.

MKT 240 Advanced Sales Skills (3-0) 3 hrs.

Develops and refines sales skills established in previous course work and/or on-the-job experience. Through role playing and simulated sales presentations, opportunities will be offered to apply specific selling skills to various situations and product categories.

Prerequisite: MKT 140 or consent of coordinator.

MKT 245 Principles of Marketing (3-0) 3 hrs.

Principles of methods involved in distribution of goods and services. Roles and functions of marketing institutions in business system. Product, price, promotion and distribution channel policies.

Prerequisite: MGT 111. (Prior or concurrent enrollment in ECO 200 or ECO 201 recommended.)

MKT 246 Industrial Marketing (3-0) 3 hrs.

Provides a comprehensive understanding of industrial marketing by analyzing concepts and techniques in each of the major functional areas of industrial marketing. Topics to be investigated would include market development, product planning, price competition, promotional strategies, customer relations and marketing logistics.

Prerequisite: MKT 245 or consent of coordinator.

MKT 247 Consumer Buying Behavior (3-0) 3 hrs.

Reviews and analyzes areas of consumer and organizational buying behavior that guide marketing management decisions. The focus of this course will be directed toward the application of concepts on buying behavior to specific functional areas of marketing management in both the industrial and consumer markets.

Prerequisite: MKT 245 or consent of coordinator.

MKT 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: MKT 245 or consent of coordinator.

MKT 251 Retail Merchandise Management (3-0) 3 hrs.

Emphasizes the nature and importance of retail merchandise management to the success of the retail firm. The buyer's role and activities are considered. Main thrust in the areas of merchandise assortment planning; models for merchandise management, retail pricing strategies and policies; and retail operating statement analysis.

Prerequisite: MKT 106 or MKT 250.

MKT 255 Marketing Research (3-0) 3 hrs.

Provides students with a basic overview of marketing research. Includes an understanding of how and why marketing research is conducted and how it interacts with marketing decision making.

MKT 260 International Marketing (3-0) 3 hrs.

Allows students to gain a broad understanding of the field of international marketing. It also provides insight into how international marketing is conducted, the requisites for effective performance and a knowledge of the special problems involved in language, finance and customs. Most importantly, it assists students in understanding international marketing problems and how marketing procedures apply to international business.

MKT 265 Marketing Planning and Decision Making (3-0) 3 hrs.

Centers around three major activity areas: managerial analysis of the marketing environment; marketing opportunity analysis; and design, implementation and control of marketing strategy — all consistent with the organizational framework of the mission of the organization.

MKT 280 Marketing Problems (3-0) 3 hrs.

Designed for the marketing/management major unable to participate in the sophomore internship phase of the curriculum. The focus of attention will be on the application of marketing skills and knowledge to marketing problems, case studies, projects, decision-making simulation, and independent study. This course should be one of the last courses taken in the sequence.

Prerequisite: Consent of coordinator.

MKT 290 Principles of Exporting (3-0) 3 hrs.

Provides a conceptual overview of the world market environment with emphasis on recognition of overseas marketing opportunities. Introduces students to marketing program strategy and procedures to capitalize on overseas business potential.

Prerequisite: MKT 260.

MKT 292 International Marketing Research (3-0) 3 hrs.

Provides the student with the concepts and procedures for successfully completing international marketing research studies. Specific marketing research subject areas studied will include marketing problem definition, international information source definition, utilizing governmental data, survey design, collection and analysis techniques.

Prerequisite: MKT 290 and MKT 260.

MKT 293 International Marketing Channel Strategy (3-0) 3 hrs.

Provides a comprehensive understanding of the strategies for exporting both goods and services through alternative marketing channels of distribution. Will address both cost and profit considerations in utilizing multi-level marketing channel intermediaries.

Prerequisite: MKT 290.

Material Management

MAT 101 Fundamentals of Material Management (3-0) 3 hrs.

Provides an introduction and overview of the field of material management. Topics covered include objectives, benefits, relationships with other functions, organization, planning, inventory control, production control, purchasing, receiving and stores, material handling, physical distribution, computer applications, implementation and pitfalls, measurement and control and finance.

MAT 120 Production Control Concepts (3-0) 3 hrs.

Describes the development, scope and objectives of production control. Specific attention will be given to scheduling, control, critical path, machine loading, materials requirements planning and other techniques, functions, and activities which are implicit in this aspect of material management operations.

Prerequisite: MAT 101 or consent of coordinator.

MAT 121 Principles of Physical Distribution (3-0) 3 hrs.

Movements of goods from production to delivery to distribution of channel intermediaries. Attention is focused upon distribution channels, traffic management, warehousing, inventories, organization, control and communication. Heavy emphasis is given to distribution system design and distribution system analysis.

Prerequisite: MAT 101 or consent of coordinator.

MAT 122 Inventory Control (3-0) 3 hrs.

Provides an overview of the dynamics of managing inventory in the constantly changing industrial and commercial environment. Topics include forecasting sales and inventory requirements, computer applications to inventory control problems, building inventory models, simulation and the relationships of inventory control to marketing management and production control.

MAT 123 Traffic and Transportation (3-0) 3 hrs.

Overview of transportation systems and the impact on cost and service that each system provides. Examines costs in various modes and routings. Reviews operational aspects of the transportation function.

MAT 124 Material Handling and Packaging (3-0) 3 hrs.

Presents material handling and packaging as tools for use in a total system of material management. Material handling concepts include palletization, containerization, conveyor systems, fully automated warehousing and integrated production lines. Packaging is treated as a function with ramifications far beyond the mere protection of a product. Prerequisite: MAT 101 or consent of coordinator.

MAT 125 Purchasing (3-0) 3 hrs.

Covers the 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: MAT 101 or MKT 245.

MAT 221 Distribution Center Operations (3-0) 3 hrs.

Continues MAT 121. Concepts of warehousing, location strategies and techniques. Administrative aspects, including order processing, recordkeeping, computerization and control will be covered. Includes a project on warehousing layout and design. Prerequisite: MAT 121 or consent of coordinator.

MAT 223 Legal Aspects of Material Management (3-0) 3 hrs.

Examines the law especially as it pertains to material management activities. Topics include purchasing, transportation, U.C.C., commercial laws, labor contracts and laws, torts, product liability, trade and supply agreements, international business, real estate, and S.E.C. and anti-trust laws.

MAT 224 Advanced Material Handling and Warehousing (3-0) 3 hrs.

Continues MAT 124. Material handling ramifications for warehousing, shipping and receiving operations are considered. Plan layout,

facility layout, automated warehousing and equipment (mobile, racks, conveyors and other specialized types) are considered. Prerequisite: MAT 124 or consent of coordinator.

MAT 226 Material Requirements Planning (MRP) (3-0) 3 hrs.

Covers computer based Material Requirements Planning (MRP) systems, important to modern material management. Focuses on using MRP systems to reduce inventories, set priorities, initiate orders, purchase requirements and develop master production schedules. Prerequisite: MAT 122 or consent of coordinator.

MAT 227 Just-In-Time(JIT) (3-0) 3 hrs.

Provides a comprehensive study of the JIT philosophy/technique for improving manufacturing practices. Results in improved material flow systems, low inventories, improved manufacturing activities, increased capital turnover and maximized profits.

MAT 228 Finance for Material Managers (3-0) 3 hrs.

Blends managerial accounting concepts pertinent to material managers with distribution cost analysis techniques. Factors influencing capital outlay decisions such as ROI, present value, make or buy, depreciation and tax considerations are considered. Prerequisite: ACC 102.

MAT 230 International Material Management (3-0) 3 hrs.

Provides a comprehensive study of the material management function related to the international environment: business/cultural customs, legal considerations, purchasing strategies, financial aspects, international distribution and counter-trade. Prerequisite: MAT 101 or consent of instructor.

MAT 259 Advanced Purchasing (3-0) 3 hrs.

Continues MAT 125. Emphasis to be given to managerial aspects of purchasing, contract negotiation and administration and speculative purchasing. Prerequisite: MAT 125.

MAT 280 Material Management Policy (3-0) 3 hrs.

Seminar-type course designed to integrate material management concepts developed throughout the Material Management sequence. Broad higher-level management concerns and current topics relative to the material management function are developed. Should be one of the last courses taken by Material Management majors. Prerequisite: 11 credit hours in MAT course work or consent of coordinator.

Mathematics

MTH 051 Arithmetic of Whole Numbers (1-0) 1 hr.

Covers whole number operations. In addition to the four basic processes of addition, subtraction, multiplication and division, estimation is introduced as an aid to better computation. Factors of whole numbers are also included. Optional unit on use of hand-held calculators is available but not required. Course material will be individualized. Carries no transfer credit.

MTH 052 Arithmetic of Common Fractions (1-0) 1 hr.

Covers the operations associated with addition, subtraction, multiplication and division of common fractions and mixed numbers, and an introduction to ratio and proportion. Course material will be individualized. Carries no transfer credit.

Prerequisite: MTH 051.

MTH 053 Arithmetic of Decimals Percent and Metric Measurement (1-0) 1 hr.

Covers operations with decimals, percent and SI Metric Measurement System. Course material will be individualized. Carries no transfer credit.

Prerequisite: MTH 052.

MTH 060 Elementary Algebra (3-0) 3 hrs.

Introduces operations with signed numbers, linear equations, inequalities, word problems, exponents, operations with polynomials, factoring, quadratic equations, linear equations in two variables, graphing and systems of linear equations. Equivalent to the first year of high school algebra, this course includes MTH 061, MTH 062 and MTH 063, and is offered as a lecture course. Carries no transfer credit.

Prerequisite: Math placement test.

MTH 061 Elementary Algebra: Basic Concepts and Components (1-0) 1 hr.

Introduces basic algebraic vocabulary and operations with signed numbers, linear equations and word problems. Course is individualized and is offered in the Math Laboratory. Carries no transfer credit.

Prerequisite: Math placement test.

MTH 062 Elementary Algebra: Equations, Inequalities, and Polynomials (1-0) 1 hr.

Continues MTH 061 and covers ratio and proportion, linear inequalities, exponents, operations with polynomials and factoring. Course is individualized and offered in the Math Laboratory. Carries no transfer credit.

Prerequisite: MTH 061 with grade of "C" or better.

MTH 063 Elementary Algebra: Quadratic Equations, Linear Equations in Two Variables and Systems of Equations (1-0) 1 hr.

Continues MTH 062 and covers quadratic equations, rectangular coordinates, linear equations in two variables, graphing and systems of linear equations. Course material is individualized and offered in the Math Laboratory. Carries no transfer credit.

Prerequisite: MTH 062 with grade of "C" or better.

MTH 096 Geometry (3-0) 3 hrs.

Introduces concepts of Euclidean geometry, including lines, angles, polygons and circles. Course material is individualized. Carries no transfer credit.

Prerequisite: One year of high school algebra with grade of "C" or better or MTH 063 with grade of "C" or better, or placement test.

MTH 100 Basic Applied Mathematics (3-0) 3 hrs.

Introduces topics in arithmetic, algebra, trigonometry and problem solving with calculators. Intended for students in career-vocational programs.

(NOTE: Cannot be used for Group II or V General Studies requirement for A.A. or A.S. degree.)

MTH 102 Intermediate Algebra (4-0) 4 hrs.

Introduces roots of quadratic equations, complex numbers, rational exponents, radicals, logarithms, inequalities and the binomial theorem.

Prerequisite: MTH 063 and MTH 096 with a grade of "C" or better, or placement test.

MTH 103 College Algebra (4-0) 4 hrs.

Studies equations and inequalities, polynomial, rational, exponential and logarithmic functions, inverse functions, systems of equations, determinants and matrices, sequences and series and theory of equations.

Prerequisite: MTH 102 with a grade of "C" or better, or placement test.

MTH 104 Plane Trigonometry (3-0) 3 hrs.

Develops trigonometric functions and relations, solutions of triangles, complex numbers, identities, equations and applications.

Prerequisite: MTH 102 or equivalent with grade of "C" or better, or placement test.

MTH 105 Analytic Geometry (4-0) 4 hrs.

Develops rectangular and polar coordinate systems, the straight line and conic sections. Introduces vectors, coordinate transformations, parametric equations and analytic geometry in three dimensions.

Prerequisite: MTH 103 and MTH 104 with grade of "C" or better, or placement test.

MTH 106 Mathematics I (5-0) 5 hrs.

Introduces topics in algebra, vectors, trigonometry and problem solving by computer using FORTRAN or BASIC language. For students in Electronics Technology or Mechanical Engineering Technology.

Prerequisite: Two years of high school mathematics or consent of instructor.

MTH 107 Mathematics II (5-0) 5 hrs.

Continues MTH 106 with additional topics in trigonometry, analytic geometry, logarithms, differential and integral calculus.

Prerequisite: MTH 106 with grade of "C" or better or consent of instructor.

MTH 108 BASIC Computer Programming (1-2) 2 hrs.

Introduces computer programming in the BASIC language. Emphasizes applications in fields other than business data processing.

Prerequisite: MTH 103 or consent of instructor.

MTH 120 Introduction to Modern Mathematics (3-0) 3 hrs.

Introduces sets, logic, numeration systems and probability. Reviews selected topics in algebra and geometry. A general education course in mathematics.

Prerequisite: MTH 063 and MTH 096 or equivalent with grade of "C" or better.

MTH 124 Finite Mathematics (3-0) 3 hrs.

Develops the mathematics of simple models in behavioral, social and management sciences. Studies applications of set theory, vectors and matrices, linear programming, probability rules, Markov chains and with computer assistance.

Prerequisite: MTH 102 with grade of "C" or better or placement test.

MTH 134 Calculus for Social Scientists (4-0) 4 hrs.

Develops an intuitive approach to concepts of differential and integral calculus. Applies these concepts to problems in social, behavioral and management sciences. Not for physical science or mathematics majors.

Prerequisite: MTH 103 with grade of "C" or better or placement test.

MTH 165 Elementary Statistics (3-0) 3 hrs.

Introduces representation and analysis of data statistical inference, sampling distribution of means, regression and correlation analysis and probability. Demonstrates use of statistics in education, business, natural and social sciences. Computer software is used throughout the course.

Prerequisite: MTH 102 with grade of "C" or better or consent of instructor.

MTH 200 Calculus with Analytic Geometry I (5-0) 5 hrs.

Studies vectors, limits, the derivative and the definite integral with applications to geometry, science and engineering.

Prerequisite: MTH 103 and MTH 104 with a grade of "C" or better or placement test.

MTH 201 Calculus with Analytic Geometry II (5-0) 5 hrs.

Continues MTH 200. Studies differentiation of transcendental functions, techniques of integration, series, conics, polar coordinates and parametric equations with applications to science and engineering.

Prerequisite: MTH 200 with a grade of "C" or better.

MTH 202 Calculus with Analytic Geometry III (4-0) 4 hrs.

Continues MTH 201. Studies vector functions, multivariable functions, differentials, multiple integration and vector calculus with applications to science and engineering.

Prerequisite: MTH 201 with a grade of "C" or better.

MTH 203 Linear Algebra (3-0) 3 hrs.

Introduces vector spaces, linear dependence, bases and transformations using systems of linear equations, matrices and determinants. Studies geometric, physical and business applications.

Prerequisite: MTH 134 or MTH 200, or concurrent enrollment, or consent of instructor.

MTH 206 Mathematics III (3-0) 3 hrs.

Continues MTH 107. Introduces differential equations and Laplace transforms. For students in Electronics Technology.

Prerequisite: MTH 107 with a grade of "C" or better or consent of instructor.

MTH 212 Differential Equations (3-0) 3 hrs.

Continues MTH 202. Emphasizes solutions of first order differential equations, linear differential equations, special second order equations and series solutions. Studies selections from these topics: Laplace transforms, Fourier series, numerical methods and applications of matrix algebra.

Prerequisite: MTH 202 with a grade of "C" or better.

MTH 265 Statistics (3-0) 3 hrs.

Includes the study of probability spaces, random variables and distributions, laws of large numbers and central limit theorem, joint probability distributions, sampling distributions, theory of estimation, simple linear regression and introduction to SPSS.

Prerequisite: MTH 202.

Mechanical Engineering Technology

MET 101 Drafting for Air Conditioning and Heating (1-4) 3 hrs.

Introduces lettering, orthographic projection, dimensioning and auxiliary views. Emphasizes shop drawings, developments and piping drawings.

MET 102 Technical Drafting (1-5) 3 hrs.

Lettering, orthographic projection, size and location, dimensioning, surface finishes, auxiliary view, sketching, diazo printing techniques.

MET 103 Descriptive Geometry (0-6) 3 hrs.

Analysis of common geometrical magnitudes of points, planes and curved surfaces. Includes rotations, auxiliary views, developments and nomography. Applications of geometrical methods in projections, assemblies and details. Prerequisite: MET 102, MTH 106 or consent of instructor.

MET 105 Basic Machine Shop (1-5) 3 hrs.

Fundamentals of machine shop theory and practices. Familiarization with tools, equipment and practices of tool, die and precision metal working industries. Students make working tools and fixtures.

MET 108 Manufacturing Processes and Materials (3-0) 3 hrs.

Materials, principles, utilization, expectations and evaluation of principal manufacturing processes. Manufacture of metals and alloys. Iron and steel types and classification systems. Machinability, cutting fluids and power requirements. Elements of metrology. Production and facilities planning. Prerequisite: MTH 106, or concurrent enrollment or consent of instructor.

MET 110 Basic Welding (1-5) 3 hrs.

Fundamentals of welding theory and practices. Includes equipment, set-up procedures and practice of oxyacetylene and electric arc welding techniques. Students will practice welding of various horizontal joints; butt; fillet; lap and tent.

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. Prerequisite: MTH 107 or consent of instructor.

MET 205 Advanced Machine Shop (1-5) 3 hrs.

Advanced application of machine shop theory and practice. Use of equipment such as lathes; O.D. and I.D. grinders, tool grinder and mills;

and study of production machining, feed and speed application and quality control techniques are included.

Prerequisite: MET 105 or consent of instructor.

MET 206 Metallurgy and Heat Treatment (1-3) 2 hrs.

Selected principles and concepts of physical metallurgy. Principles are applied to heat treatment of metals.

Prerequisite: MET 108 or consent of instructor.

MET 207 Machine Design (2-6) 4 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 are examined. Emphasis on principles and calculations necessary to determine fits, stresses, loads, deformations, economy and finishes.

Prerequisite: MET 201, MET 204 and MET 206.

MET 210 Advanced Welding (1-5) 3 hrs.

Advanced welding theory and practice. Includes discussions of equipment, setup procedures and practice of unusual positions in welding using oxyacetylene, electric arc, MIG and TIG techniques. Students will practice welding in various unusual positions on joints such as butt and fillet; also practice welding pipe and Bearing Journal Surfaces.

Prerequisite: MET 110 or consent of instructor.

MET 211 Process Planning and Tool Design (3-3) 4 hrs.

Studies topics in mechanical and tooling systems. Drafting presentation of tooling details, jigs and fixtures and geometric tolerancing is included. Organization of manufacturing steps and process planning will be emphasized. Prerequisite: MTH 106 and MET 108 or consent of instructor.

MET 228 Automated Manufacturing and Robotics (2-2) 3 hrs.

Continues MET 108. Advanced concepts of manufacturing systems with automation techniques, robotics applications and flexible manufacturing systems. Introduces automation controls, robotic cell design, automatic storage/automatic retrieval and automated quality control. Includes the interdependent relationship of industrial robots, microprocessors and advanced numerical control.

Prerequisite: MET 108.

MET 235 Computer Graphics (3-4) 5 hrs.

Surveys components and concepts of computer graphic systems. Applies principles of engineering graphics to create dimensional drawings using graphics, terminals, digitizers, plotters and related software. Emphasizes application of various computer design systems. (Formerly MET 114 and MET 214.)

Prerequisite: MET 102.

MET 236 Special Problems in Three-Dimensional Graphics (1-4) 3 hrs.
Provides detailed study of wire-framing, detailing and graphical modeling. Examines methods and solutions to individual problems using 3-D computer graphics methods. (Formerly MET 224.)
Prerequisite: MET 235.

MET 237 3D/CAD Modeling (1-4) 3 hrs.
Examines methods and solutions to individualized problems using advanced computer graphics techniques. (Formerly MET 234.)
Prerequisite: MET 236.

MET 240 Strength of Materials and Statics (5-0) 5 hrs.
Introduces the concepts of force systems, equilibrium of force system, analysis of forces acting on members of trusses, frames, etc., forces due to friction. Includes elastic relationships between external forces acting on deformable bodies and stresses, and deformations produced, tension and compression members, members subjected to torsion and bending, buckling, combined stresses and influence of properties of materials. (Formerly MET 104 and MET 204.)
Prerequisite: MTH 106.

MET 245 Applied Digital Control (3-4) 5 hrs.
Studies the principles and techniques of controls applied to mechanical systems, electrical motors and electro-mechanical systems. Consists of topics in motors and controls, hydraulic and pneumatic components, open-closed loop systems, programmable micro-processor controllers, and robotic control devices (limit switches, relays, solenoids, end-of-arm sensors). Includes control logic and Boolean algebra. (Formerly MET 209.)
Prerequisite: MTH 106 or consent of instructor.

Medical Office

MOA 101 Introduction to the Health Care Field (3-0) 3 hrs.
Surveys many careers and career skills within the health care team. Emphasizes the health care professional's responsibilities to the community, health care trends and professionalism. Introduces medical communications and records. (Formerly SEC 101.)
Prerequisite: Recommended typing speed of at least 30 words per minute.

MOA 151 Math Applications in Health Care (1-0) 1 hr.
Develops knowledge necessary to calculate medication dosages and solutions. A basic math ability, including decimals, fractions and percentages, is necessary to be successful in this course. Use of electronic calculators emphasized, with related health care applications.

Prerequisite: Successful completion of math requirement or consent of program coordinator.

MOA 195 Health Insurance and Coding (1-2) 2 hrs.
Compares the major classes of health insurance contracts and describes their benefits and limitations. Provides practice in systematizing and processing insurance claim forms. Offers CPT coding procedures for optimal reimbursement. Introduces ICD-9-CM coding.
Prerequisite: Typing speed of 30 words per minute and prior or concurrent enrollment in MOA 101 and HSC 112.

MOA 240 Introduction to Medical Transcription (2-2) 3 hrs.
Develops speed and accuracy in transcribing various basic medical reports using a transcribing machine and word processor. Familiarizes student with medical report formats. (Formerly SEC 240.)
Prerequisite: Typing speed of 40 words per minute, MOA 241 with a grade of "C" or better, BIO 135 or BIO 160 and NUR 200.

MOA 241 Basic Office Procedures in Health Care (3-3) 4 hrs.
Offers development of skills in basic office procedures used in a health care facility. Emphasizes patient relations in health care and office simulations. Extensive use of transcriber and word processor. (Formerly SEC 241.)
Prerequisite: Typing speed of 40 words per minute, HSC 100, HSC 112, MOA 101, MOA 151 and SEC 230.

MOA 242 Medical Transcription for the MT (2-2) 3 hrs.
Offers speed and accuracy development in transcribing various basic medical reports and familiarizes student with many medical report formats, using a transcribing machine and word processor. Progresses to advanced, specialized hospital dictation. (Formerly SEC 242.)
Prerequisite: Typing speed of 50 words per minute, HSC 100, HSC 112, HSC 211, MOA 101, NUR 200 and SEC 230.

MOA 245 Advanced Office Procedures in Health Care (3-0) 3 hrs.
Introduces the duties and responsibilities necessary to supervise a physician's office or other large health care facility. Includes human relations skills, coordinating and supervising office personnel, maintaining office facilities, health facility policy manuals, records management, patient education, time management and computer software applications utilized in health care. Offers extensive role playing and participation in community professional organizations.
Corequisite: Concurrent enrollment in externship or permission of program coordinator.

MOA 260 Medical Transcriptionist Seminar and Externship (1-5) 2 hrs.

Provides supervised experience in a hospital, clinic, or group practice to enhance the student's technical skills of medical transcription. One-hour seminar each week devoted to health care issues. (Formerly SEC 244.)

Prerequisite: MOA 242 with a grade of "C" or better, MOA 245 or concurrent enrollment and consent of program coordinator.

MOA 270 Medical/Dental Secretarial Seminar and Externship (1-10) 3 hrs.

Provides supervised experience in a medical or dental office to enhance student's administrative technical skills. One-hour seminar each week devoted to health care issues. (Formerly SEC 245.)

Prerequisite: MOA 241 with a grade of "C" or better and consent of program coordinator. Corequisite: MOA 240 and MOA 245.

(NOTE: CPR Basic Rescuer certification and a health examination are required prior to placement in externship.)

MOA 280 Medical Office Assistant Seminar and Externship (1-10) 3 hrs.

Provides supervised administrative and clinical experience in medical offices to enhance the student's technical skills. One-hour seminar each week devoted to health care issues. (Formerly SEC 246.)

Prerequisite: HSC 211, HSC 212 and MOA 241 with a grade of "C" or better and consent of program coordinator. Corequisite: MOA 245.

Music

MUS 100 Introduction to Music Careers (1-0) 1 hr.

Issues relating to the successful pursuit of a career in music. Recommended for anyone pursuing a professional music career.

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 prepare for study of harmony and for practical music activity.

MUS 103 Music Appreciation (3-0) 3 hrs.

Surveys music from primitive to modern times through listening to outstanding examples of the various periods, with explanations of content and structure. Vocal and instrumental works, examples of folk music, church music and symphonic forms for non-music majors.

MUS 104 Introduction to American Music (3-0) 3 hrs.

For non-music majors. Develops a stylistic frame of reference for judging popular music. Surveys characteristic elements of jazz, rhythm and blues, popular music and their relation to western classical music.

MUS 111 Theory of Music I (3-0) 3 hrs.

Provides intensive training in the fundamentals of musicianship, dealing principally with mechanical aspects of music: clefs, notation, scales, intervals, meters, rhythm, etc. Analysis and composition procedures of the Common Practice period.

Corequisite: MUS 115.

MUS 112 Theory of Music II (3-0) 3 hrs.

Provides harmony, counterpoint and analysis, with emphasis on the 18th and 19th century techniques; basic principles of 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 Aural Skills I (0-2) 1 hr.

Develops skills in melodic, harmonic and rhythmic dictation and sight singing.

Corequisite: MUS 111.

MUS 116 Aural Skills II (0-2) 1 hr.

Develops skills in melodic, harmonic and rhythmic dictation and sight singing.

Corequisite: MUS 112.

MUS 120 Introduction to Music Literature (3-0) 3 hrs.

A survey of the styles, periods, literature and personalities in each of the commonly accepted music periods, with primary emphasis on hearing music of each style.

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. May be repeated up to maximum of 4 credit hours.

Prerequisite: Consent of instructor.

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. May be repeated up to a maximum of 4 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. May be repeated up to a maximum of 4 credit hours.

Prerequisite: Consent of instructor.

MUS 145 Ensembles (0-3) 1 hr.

Ensembles such as string or vocal quartets, brass or voice ensembles, stage bands, madrigal groups or other combinations. For students with advanced proficiency on an instrument or in voice. To further skills, musical understanding and enjoyment. May be repeated up to a maximum of 4 credit hours.

Prerequisite: Consent of instructor.

MUS 150 Orchestra (0-3) 1 hr.

Open to all students proficient in playing orchestral instruments. Orchestral music of various types and styles. Sight reading and musicianship stressed. May be repeated up to a maximum of 4 credit hours.

Prerequisite: Consent of instructor.

MUS 161 Woodwind Instrument Class I (1-2) 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. May be repeated up to a maximum of 4 credit hours.

MUS 162 Brass Instrument Class I (1-2) 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. May be repeated up to a maximum of 4 credit hours.

MUS 163 Percussion Instrument Class I (1-2) 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. May be repeated up to a maximum of 4 credit hours.

MUS 165 Class Piano I (1-2) 2 hrs.

Develops a rudimentary knowledge of the keyboard and playing skills sufficient to cope with simple, practical situations. Emphasis is on tonal notation, harmonization, transposition, sight reading, improvisation, ensemble playing and basic piano literature.

MUS 166 Class Piano II (1-2) 2 hrs.

Continues MUS 165.

Prerequisite: MUS 165 or proficiency examination.

MUS 167 Class Guitar (1-2) 2 hrs.

Similar to MUS 161. For students who desire to learn to play the guitar. May be repeated up to a maximum of 4 credit hours.

MUS 168 String Instrument Class I (1-2) 2 hrs.

Similar to MUS 161. For students who desire to learn to play a string instrument. May be repeated up to a maximum of 4 credit hours.

MUS 169 Class Voice (1-2) 2 hrs.

For students who have no refined skills in vocal technique and who desire to sing.

Prerequisite: MUS 101.

MUS 180 - 199 Minor Applied Music Subject (1-6) 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. May be repeated up to a maximum of eight credit hours.

Flute and Piccolo, 180; Oboe and English Horn, 181; Clarinet, 182; Bassoon and Contra Bassoon, 183; Saxophone, 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; and Classical Guitar, 199.

MUS 211 Theory of Music III (3-0) 3 hrs.

Studies form, harmonic content and composition procedures common in works of the 19th century. Review of various analytical approaches that may be applied to this literature. A comprehensive musicianship approach to romantic music.

Prerequisite: MUS 112.

Corequisite: MUS 215.

MUS 212 Theory of Music IV (3-0) 3 hrs.

Introduces the multiple styles of the 20th century, beginning with the later works of Richard Wagner. An examination of representative works and possible analytical approaches, with particular emphasis on imitative writing. Comparison of the techniques with later medieval and proto-Renaissance writing.

Prerequisite: MUS 211.

Corequisite: MUS 216.

MUS 215 Aural Skills III (0-2) 1 hr.

Develops skills in melodic, harmonic and rhythmic dictation and sight singing.

Corequisite: MUS 211.

MUS 216 Aural Skills IV (0-2) 1 hr.

Develops skills in melodic, harmonic and rhythmic dictation and sight singing.

Corequisite: MUS 212.

MUS 223 Instrumental Literature (3-0) 3 hrs.

A survey of the music literature available for performance by musical instruments, excluding keyboard instruments and voice.

MUS 224 Keyboard and Vocal Literature (3-0) 3 hrs.

Survey of music literature available for performance by keyboard and voice, including opera.

MUS 265 Class Piano III (1-2) 2 hrs.

Continues MUS 166. Greater emphasis on keyboard harmony, ensemble playing and jazz improvisation.

Prerequisite: MUS 166 or proficiency examination.

MUS 266 Class Piano IV (1-2) 2 hrs.

Continues MUS 265.

Prerequisite: MUS 265 or proficiency examination.

MUS 271 Piano Pedagogy I (3-0) 3 hrs.

Surveys the basic teaching philosophies, methods, materials and skills needed to teach the beginning piano student. Observation of individual and group instruction.

Prerequisite: MUS 265 or consent of instructor.

MUS 272 Piano Pedagogy II (2-2) 3 hrs.

Continues development of skills begun in MUS 271. Emphasis will be placed on methods and materials for teaching the intermediate piano student. Lab includes supervised student teaching to aid in individual development.

Prerequisite: MUS 271.

MUS 280 - 299 Major Applied Music Subject (2-12) 4 hrs.

Instruction for those desiring to become professional performers. One hour lesson per week. Minimum of 12 hours of practice per week. Jury examination required. May be repeated up to a maximum of 16 credit hours.

Prerequisite: Successful audition.
Flute and Piccolo, 280; Oboe and English Horn, 281; Clarinet, 282; Bassoon and Contra Bassoon, 283; Saxophone, 284; French Horn, 285; Trumpet, 286; Trombone, 287; Baritone, 288; Tuba, 289; Percussion, 290; Violin, 291; Viola, 292; Cello, 293; String Bass, 294; Harp, 295; Piano, 296; Organ, 297; Voice, 298; and Classical Guitar, 299.

Numerical Control (CNC Technician)

NMC 101 Introduction to NC/CAM (3-0) 3 hrs.

Introduces information on numerical control, computer aided manufacturing and robotics applications; introduces manual and computer programming for numerical control; discusses

the relationship of computer aided manufacturing (CAM) and robotics to modern manufacturing.

NMC 105 Part Programming I (2-2) 3 hrs.

Manual programming of point-to-point and contouring systems. Discussion and practice in programming of various manufacturers' equipment. Includes running programs on N/C lathe and mill.

Prerequisite: NMC 101.

NMC 215 Part Programming II (2-2) 3 hrs.

Introduces use of APT programming languages for controlling metalcutting machines. Emphasizes PATTERN, COPY, TRACUT and LOOP features. Introduction to other interactive languages.

Prerequisite: NMC 105.

NMC 216 Computer Aided Manufacturing (1-3) 3 hrs.

Continues NMC 215. Advanced problems in APT and/or COMPACT II using computer graphic programming techniques of a total CAD/CAM system. Advanced features such as multi-axis contouring, tool design and planning, scheduling and efficient use of the languages will be included.

Prerequisite: NMC 101 and NMC 215.

NMC 220 Special Problems (0-6) 3 hrs.

Special projects in numerical control to strengthen specific areas of weakness. Projects to be arranged with instructor before registration.

Nursing

NUR 101 Nursing Fundamentals (4-15) 9 hrs.

Study and practice of principles and fundamentals of nursing skills basic to the nursing care of patients of all age groups. Human needs basic to all individuals will be identified and assessed. Accomplishment of these fundamental skills in the simulated setting will precede application in the clinical setting.

NUR 102 Nursing Care of Hospitalized Patients (4-15) 9 hrs.

Discusses the effects of parenting and common physical and emotional needs. Includes theory and concurrent practice of nursing interventions for hospitalized patients of all ages. Emphasizes skills needed to identify the effects of the patient's physical condition on his or her physical and emotional needs and those of the patient's family, and to assure implementation of the plan of care.

Prerequisite: BIO 160, NUR 101 and PSY 101.

NUR 104 Nursing Field Experience (0-12) 4 hrs.

Application of knowledge and skills obtained through the study of nursing and supportive courses to the direct care of patients with common physical health problems and emotional needs. Opportunity for experience as a member of a nursing care team, assuming the role and responsibilities of the practical nurse, under the supervision of an instructor, will be provided. The student will have opportunity to develop the technical skills required of the practical nurse in providing care for patients of all age levels with common health problems and emotional needs.

Prerequisite: NUR 102, BIO 161 and PSY 216.

NUR 200 Pharmacology (2-0) 2 hrs.

Examines the mechanism of action of the major drug groups and relates the action to use in physiological and psychological disorders. Identifies examples of drugs in each category, common dosage ranges, routes of administration and side effects.

Prerequisite: Sophomore standing in the Nursing program.

NUR 201 Advanced Nursing I (4-12) 8 hrs.

Applies the nursing process to assist individuals with common health problems in the achievement of optimum wellness. Focuses on physical and emotional needs and problems common to the childbearing family, pediatric patients and adults with chronic physical problems. Concurrent practicum provides opportunity for the assessment of needs, formulation of a nursing diagnosis and the planning, provision and evaluation of direct patient care based upon that diagnosis.

Prerequisite: BIO 161, NUR 102 and PSY 216.

NUR 202 Advanced Nursing II (4-12) 8 hrs.

Provides theory and concurrent practice in caring for patients hospitalized for illnesses of body and mind. Focuses on the refinement of skills needed to effectively plan, deliver and evaluate care, and to communicate therapeutically with the patient and family.

Prerequisite: BIO 130 and NUR 201.

NUR 204 Nursing Survey (1-0) 1 hr.

Surveys nursing roles and current issues in nursing. Content will include history of the nursing profession, patterns of health care delivery, current trends in nursing and health care, ethical and legal concerns of all levels of nurses, provisions of the Nurse Practice Act in the State of Illinois, organizations for practical and registered nurses, the role of the nurse in the political process, the need for continued education to maintain competence and advance professionally, principles of supervision and adjustments expected in the work setting, the process of seeking a position in nursing and the role of the nurse in clinical research.

Office and Administrative Services

SEC 099 Typewriting Review (1-2) 2 hrs.

Reviews all the basics for office production work, i.e., setting up letters, centering, and typing tables, and will help improve speed and accuracy. Will also help those students interested in entering SEC 122 to reach the required entry rate of 45 wpm. Designed for those with knowledge of the touch system of the keyboard.

Prerequisite: Knowledge of touch system on the typewriter or approximately 25 words per minute typing skill.

SEC 100 Introduction to Secretarial Administration (3-0) 3 hrs.

Provides insight into the role of the professional secretary in today's office. Emphasizes the overall responsibilities of a secretary, personal qualities, career paths, office structure, time management skills and records management techniques.

SEC 102 Survey of Law Office Practice (2-0) 2 hrs.

Introduces the student to numerous types of law practices and the skills and duties necessary for a legal secretary in each type of practice. Familiarizes the student with the legal secretary's role in the court process and ethical considerations in the legal field.

SEC 110 Basic Keyboarding (0-2) 1 hr.

Provides basic keyboarding skill for students desiring personal use or for vocational purposes other than secretarial. Includes alphabetic, symbols and top line numeric instruction.

SEC 121 Elementary Typing (1-3) 2 hrs.

Introduces the operation, use and care of typewriters. Typing by the touch system, emphasizing basic typing problems. Drills on speed and accuracy building will be used throughout the course.

SEC 122 Intermediate Typing (1-3) 2 hrs.

Development of production work in typing manuscripts, business letters, forms and tables. Prerequisite: Typing speed of 45 words per minute.

SEC 125 Shorthand I (4-2) 5 hrs.

Introduces theory leading to development of skill in reading, fluency in writing shorthand, vocabulary development, mechanics of English, and transcription techniques.

Prerequisite: Typing speed of 50 words per minute, or prior or concurrent enrollment in SEC 122.

SEC 131 Business Machines (1-2) 2 hrs.
Develops skills necessary to operate electronic business calculators with emphasis on business-related problems. A student must have a thorough basic math knowledge.
Prerequisite: Prior or concurrent enrollment in MGT 150 or consent of instructor.

SEC 133 Word Processing 1 hr.
Equipment: IBM Personal Computer I (0-2)

Introduces the features and operation of the IBM Personal Computer with the most popular word processing software programs to prepare business correspondence and reports with extensive editing. May be repeated up to a maximum of three credit hours utilizing different software programs for each unit of credit.
Prerequisite: Typing speed of 50 words per minute.

SEC 141 Word Processing 1 hr.
Equipment: IBM Personal Computer II (0-2)

Introduces the features of the currently most popular word processing software packages to prepare business correspondence and reports. May be repeated up to a maximum of three credit hours utilizing a different software package for each unit of credit.
Prerequisite: Typing speed of 50 words per minute.

SEC 150 Survey of Word Processing Software Applications (.5-1) 1 hr.

Explores the efficient use of word processing software applications utilized by anyone with a personal computer. Combines hands-on practice on an IBM personal computer with demonstrations, discussions and lectures on how software packages may be used more efficiently.

SEC 170 Introduction to Word Processing (3-0) 3 hrs.

Introduces fundamentals of word processing. Emphasizes office practices, changes in organization structure, word processing work flow (origination, processing, reproducing, filing and distribution), equipment, role of management and secretary and career opportunities.

SEC 200 Advanced Word Processing Techniques (0-2) 1 hr.

Provides students who want to continue to strengthen their word processing skills with proofreading and editing, desktop publishing, and executive spreadsheet techniques. Each student will receive 32 hours of hands-on training with each software. This course may be repeated up to a maximum of three credit hours utilizing different software packages for each unit of credit.
Prerequisite: SEC 133 or consent of program coordinator.

SEC 220 Automated Office Practices (2-4) 4 hrs.

Simulates an electronic office utilizing the personal computer for word processing, spreadsheet and data base software packages to produce materials found in executive, professional and technical offices. Emphasis includes office management, records control, telecommunications, networking and human relations.

Prerequisite: SEC 122 with a grade of "C" or better or consent of the instructor.

SEC 225 Shorthand II (4-2) 5 hrs.

Continues strengthening of dictation speed and developing competence in transcribing mailable letters. Drills to reinforce vocabulary, mechanics of English, and office style dictation will be extensively used.

Prerequisite: SEC 125 with a grade of "C" or a writing speed of 80 words per minute and SEC 122.

SEC 230 Executive Machine Transcription (1-2) 2 hrs.

Provides training and extensive skill building in machine transcription, including the operation of machine transcribers and application of correct grammar, punctuation, spelling, and format in transcripts.

Prerequisite: SEC 122 or a minimum typing speed of 40 words per minute.

SEC 234 Legal Office Procedures (3-0) 3 hrs.

Organization and operation of a law office, with emphasis on office management, records control and procedures used in the preparation of legal documents.

SEC 235 Legal Dictation and Transcription (2-2) 3 hrs.

Introduces legal terminology frequently dictated in a law office. Develops speed and accuracy in transcribing legal correspondence, documents and forms using a transcription machine and automated office equipment.

Prerequisite: SEC 133 or equivalent and typing speed of 50 words per minute.

SEC 236 Secretarial Procedures (3-0) 3 hrs.

Emphasizes secretarial responsibilities in the office, including office organization, mail handling, travel arrangements, meeting and conference planning, telephone techniques, office visitors and employer's appointments, knowledge of up-to-date office supplies and equipment, researching business information, human relations, exploring job opportunities and interviewing techniques.

SEC 237 Secretarial Seminar and Internship I (1-15) 3 hrs.

Preparation for, and cooperative work experience in, secretarial science. Part of the credit for this course will be given for participation in supervised cooperative work experience where in an organized training plan will be followed in a College approved training station. One lecture hour per week for a seminar devoted to issues dealing with preparation for success in a secretarial career.

Prerequisite: Consent of instructor and admission in either the Executive Secretarial or Legal Secretary programs.

SEC 238 Secretarial Seminar and Internship II (1-15) 3 hrs.

Continues SEC 237.

Prerequisite: Consent of instructor.

SEC 247 Professional Development (2-0) 2 hrs.

Provides an awareness of the "people" skills essential for job success. Emphasis is on business ethics, business and social etiquette, influencing behavior of others, listening and non-verbal skills, office politics and power, problem solving, teamwork, employer/employee rights and professional image and growth.

SEC 260 Behavioral Science in Business (1-0) 1 hr.

Offers an understanding of human relations, group dynamics and effective communications as they contribute to the success of the role and function of the secretary in dealing with people in the office environment. Emphasizes the relationship between the secretary or administrative assistant, the supervisor and people with whom the secretary comes in contact in the business setting.

Prerequisite: One year of full-time secretarial experience or consent of instructor.

SEC 261 Business Law (1-0) 1 hr.

Emphasizes knowledge of business law as it applies in the secretary's work-a-day world and the implications of governmental controls as they impact upon business and office operations.

Prerequisite: One year of full-time secretarial experience or consent of instructor.

SEC 262 Economics and Management (1-0) 1 hr.

Furnishes an understanding of the basic concepts of economics and management underlying the U.S. business system as they relate to the secretary's role in business.

Prerequisite: One year of full-time secretarial experience or consent of instructor.

SEC 263 Accounting (1-0) 1 hr.

Stresses fundamental accounting principles that a secretary must possess in order to assist

the supervisor in the preparation, summarization and interpretation of financial data.

Emphasizes the secretary's application of basic math to business situations.

Prerequisite: One year of full-time secretarial experience or consent of instructor.

SEC 264 Office Administration and Communication (1-0) 1 hr.

Emphasizes office administration and communication skills including executive travel, office management, records management and reprographics as well as written business communication, editing, abstracting and preparing communications in final format.

Prerequisite: One year of full-time secretarial experience or consent of instructor.

SEC 265 Office Technology (1-0) 1 hr.

Covers the secretary's responsibilities created by data processing, communications media, advances in office management, technological applications, records management, technology and office systems.

Prerequisite: One year of full-time secretarial experience or consent of instructor.

Operating Room Technician

ORT 101 Operating Room Techniques I (6-0) 6 hrs.

Fundamentals of operating room techniques involving the principles of sterile technique in relation to the pre-operative, operative and post-operative care of the surgical patient. Introductory principles of microbiology are included in relation to surgical asepsis.

Prerequisite: Admission into the Operating Room Technician program.

ORT 102 Operating Room Techniques II (6-0) 6 hrs.

Continues ORT 101. Provides the student with the principles and techniques used to prepare for and assist with common operative procedures within various surgical specialties. Included is the use of anesthesia and its effects on the surgical patient.

Prerequisite: ORT 101, ORT 111, HSC 112 and BIO 135 or BIO 160.

ORT 103 Operating Room Techniques III (0-4) 2 hrs.

Continues ORT 102. Provides the student with the principles and techniques used to prepare for and assist with common operative procedures within the specialties of thoracic, cardiovascular and neurosurgery. An introduction to nursing procedures related to care of the surgical patient is also provided.

Prerequisite: ORT 102, ORT 112, BIO 136 or BIO 161, and PSY 101.

ORT 111 Clinical Hospital Practicum I (0-15) 5 hrs.
Students will actively participate as members of the surgical team in local hospitals. Under supervision, they will develop the fundamental skills required of the operating room technician in the care of the surgical patient before, during and immediately following surgery.
Prerequisite: Admission into the Operating Room Technician program.

ORT 112 Clinical Hospital Practicum II (0-18) 6 hrs.
Continues ORT 111. Students will participate as members of the surgical team in preparing for and assisting with common operative procedures within various surgical specialties. Supervised experience will be provided in emergency and out-patient departments for the observation of out-patient care.
Prerequisite: ORT 101, ORT 111, HSC 112 and BIO 135 or BIO 160.

ORT 113 Clinical Hospital Practicum III (0-20) 7 hrs.
Continues ORT 112. Students will observe and participate as members of the surgical team in preparing for and assisting with common operative procedures within the specialties of thoracic and cardiovascular surgery, and neurosurgery. Supervised experience in performing certain basic nursing skills related to the surgical patient is provided.
Prerequisite: ORT 102, ORT 112, BIO 136 or BIO 161, and PSY 101.

Park and Grounds Operation Management

PKM 100 Introduction to Park Management (1-0) 1 hr.
Introduces the student to the field of park and grounds operation management. Major emphasis directed toward the history of park development and the past and present concepts of recreation.

PKM 121 Facilities Management (2-3) 3 hrs.
Details the management of park facilities, including buildings, swimming pools, play equipment, ice rinks, athletic fields and all surfaced areas within the jurisdiction of a park district. Fundamentals of plumbing, masonry and electricity in relation to the function of park structures and landscape installations.

PKM 140 Grounds Equipment and Shop Operation (1-6) 4 hrs.
Operation, maintenance, selection and care of equipment used in park management. Practical experience in the repair, adjustment and troubleshooting of engines and other specialized equipment.

PKM 150 Park Management Internship (0-35) 5 hrs.
Internship whereby the first-year student can receive field training under the supervision of an experienced park administrator. First-year students should receive training in several areas of park and grounds operation management in order to gain practical knowledge and experience in the field.
Prerequisite: Consent of instructor.

PKM 210 Drainage and Irrigation (2-3) 3 hrs.
Study of the design and installation of drainage and irrigation systems. Particular attention toward types of systems, materials and costs.

PKM 214 Principles of Landscape Design and Construction (3-3) 4 hrs.
Presents the fundamentals of construction as applied to landscape projects, the use of materials, installation techniques, tools, equipment, structures, surveying and grading used in landscape construction. Emphasizes basic drafting techniques and principles of landscape design.
Prerequisite: HRT 101 and HRT 110.

PKM 220 Arboriculture (1-6) 4 hrs.
Care and management of ornamental trees. Techniques and demonstration of planting, staking, pruning, spraying, fertilizing and general care of shade and specimen trees. Instruction in the techniques of climbing and use of safety equipment, methods of bracing, cabling and guying of trees, cavity repair and surgical practices and the organization and management of municipal street tree departments.
Prerequisite: HRT 111.

PKM 230 Contracts, Specifications, Estimating (2-3) 3 hrs.
Emphasizes interpretation of maps, grading plans, construction drawings and landscape design plans, especially specifications, cost estimates and client relationships. Additional topics which deal with land use, land acquisition, park planning and the legal aspects of park and landscape contracting.
Prerequisite: PKM 214.

PKM 240 Grounds Equipment Power Units (1-6) 4 hrs.
Explains the operation, servicing and preventive maintenance of power units, electrical systems, power trains, hydraulic systems, power trains, hydraulic systems and associated components commonly found on grounds equipment. Gives special attention to applied mechanical learning experiences similar to those a student can expect to encounter in a grounds equipment service operation.
Prerequisite: PKM 140.

PKM 241 Management of Ice Rink Facilities (2-3) 3 hrs.

Techniques and procedures in managing ice rink facilities. Presents supervisory role in managing ice rink personnel, scheduling of facilities, budgetary responsibilities and maintenance.

PKM 242 Golf Course Management (3-3) 4 hrs.

Surveys daily activities and maintenance practices utilized in the operation of both public and private golf courses including associated elements of planning, design and construction.

PKM 245 Management of Aquatic Facilities (3-3) 4 hrs.

Provides practical experience and management skills essential to the operation of swimming pools, ponds, lakes and similar bodies of water utilized in the recreation and park industry.

PKM 250 Park Management Seminar (1-0) 1 hr.

Discussions by representatives of the park, landscaping, turf and related fields to provide the student with new management concepts and practices.

Prerequisite: 30 hours credit in PKM courses.

Pharmacy Technician _____

PHT 101 Introduction to Pharmacy Technology (1-0) 1 hr.

Introduces the student to the field of pharmacy technology. Includes an overview of the program, definition of the pharmacy technician's role and a review of opportunities open to the certified pharmacy technician.

PHT 102 Pharmacy Law (1-0) 1 hr.

Presents an overview of legal aspects of pharmacy practice, including a review of the Federal Controlled Substances Act and Illinois statutes, rules and regulations.

PHT 110 Pharmacology I (3-0) 3 hrs.

Presents a general overview of the available strengths, generic/trade names, routes of administration and general classification of commonly used medications. Different mechanisms of action of major drug categories are discussed.

PHT 111 Pharmacy Operations I (2-3) 3 hrs.

Presents fundamentals of drug distribution in hospital and retail pharmacies through lecture and lab instruction in abbreviations, symbols and equivalents used in prescription writing, bulk compounding, prepackaging, repackaging, the drug supply chain, purchasing and inventory control, and available drug delivery systems.

PHT 112 Pharmacy Operations II(2-9) 5 hrs.

Provides continuing information on basic as well as complex community pharmacy and hospital pharmacy operations. Emphasis on communication skills and the application of didactic knowledge gained to the clinical setting under the supervision of registered pharmacists.

Prerequisite: PHT 111.

PHT 120 Pharmacology II (3-0) 3 hrs.

Presents a general overview of the available strengths, generic/trade names, routes of administration and general classification of commonly used medications. Different mechanisms of action of major drug categories are discussed.

PHT 140 Sterile Products and Aseptic Techniques (2-3) 3 hrs.

Introduces major routes and types of parenteral drug administration. Presents equipment, supplies and technical skills used in preparing various intravenous solutions and other medications.

Prerequisite: PHT 112 and PHT 120 or concurrent enrollment.

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 determination; moral and aesthetic values; and 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.

PHI 115 Ethics (3-0) 3 hrs.

Consideration of problems of value and conduct, including the question of the "good life" or happiness; and contemporary moral issues such as war, violence, drugs, racism, crime and punishment.

PHI 120 Social and Political Philosophy (3-0) 3 hrs.

Focuses on the ideas of justice, liberty, equality, law and order, rights and privileges. This includes discussion of such issues as democracy, communism, nuclear war, capital punishment, sexual equality, hunger and drugs.

PHI 150 Business Ethics (3-0) 3 hrs.
Introduces philosophical ethical theory and its application to business decisions. Considers theories of economic justice, social responsibility of corporations, regulation, conflicts of interest and obligation, ethics of advertising, product quality and safety, environmental responsibility, hiring practices and rights of employees and employers.

PHI 180 Biomedical Ethics (3-0) 3 hrs.
Considers the ethics of the professional-patient relationship (confidentiality, informed consent, paternalism, truth-telling), the ethics of life and death (abortion, euthanasia, suicide), and the ethics of medicine on a social scale (the right to health care, the distribution of medical resources).

PHI 205 Religions of the World (3-0) 3 hrs.
Introduces the teachings, practices, social structures and histories of the religions of India (mainly Buddhism and Hinduism), and China and Japan (mainly Confuciansim, Shinto and Taoism), and of the Middle East (mainly Christianity, Islam and Judaism).

PHI 210 Death and Dying (3-0) 3 hrs.
Presents an interdisciplinary approach to the meaning of death. Focuses on biological psychological, legal, philosophical and religious aspects of the phenomena of death and dying.

PHI 220 Philosophy of Religion (3-0) 3 hrs.
Examines the nature and presuppositions of Western religions, especially the reasons which can be given for and against the existence of God. Selected further topics: the problem of evil, life after death, the nature of religious experience, language, knowledge, and authority, religion and science, major philosophical theories on the nature of religion.

**PHI 231 History of Philosophy —
Ancient and Medieval (3-0) 3 hrs.**
Surveys the major figures and schools in Western philosophical tradition from the pre-Socratic Greeks through the 14th century. Emphasis on interpreting philosophical reflection in light of the social, political, religious and cultural context from which it arises.
Prerequisite: A course in philosophy or consent of instructor.

**PHI 232 History of Philosophy —
Modern (3-0) 3 hrs.**
Surveys the major figures and schools in Western philosophical tradition from the 15th to the 20th century. Emphasizes interpreting philosophical reflection in light of the social, political, religious and cultural context from which it arises.
Prerequisite: A course in philosophy or consent of instructor.

Physical Education

PED 100 Diet and Exercise 1 hr.
for the Adult (0-2)
Includes human performance laboratory physical fitness tests with individualized exercise program and methods for controlling weight through diet and exercise. May be repeated up to a maximum of 2 credit hours.
Prerequisite: PED 196.

PED 101 Selected Exercises for 1 hr.
Occupations (0-2)
Provides instruction in a program of exercises to increase the physical fitness levels necessary to meet the physical demands of various occupations. May be repeated up to a maximum of 2 credit hours.

PED 104 Weight Training (0-2) 1 hr.
Utilizes modern Nautilus and Universal health equipment for development and maintenance of strength and endurance for individual physical fitness needs. May be repeated up to a maximum of 2 credit hours.

PED 105 Basketball (0-1) .50 hr.
Provides instruction in the basic skills, rules, scoring and terminology. May be repeated up to a maximum of 1 credit hour.

PED 106 Weight Lifting — 1 hr.
Olympic and Power (0-2)
Provides instruction in olympic and power lifts. May be repeated up to a maximum of 2 credit hours.

PED 109 Volleyball (0-1) .50 hr.
Provides instruction in basic skills, rules, scoring and terminology. May be repeated up to a maximum of 1 credit hour.

PED 120 Team Sports (0-2) 1 hr.
Includes instruction in team sports, fundamental skills, offensive tactics of play, strategy, rules, terms selected from one or two of the following sports: touch football, floor hockey, soccer, softball. May be repeated up to a maximum of 2 credit hours.

PED 130 Individual Sports (0-2) 1 hr.
Provides instruction in individual sports, fundamental skills, offensive and defensive tactics of play, strategy, rules, terminology and practice in one or two of the following sports: cross-country skiing, fencing, horseback riding, ice skating, judo, snow skiing. May be repeated up to a maximum of 2 credit hours.

PED 131 Advanced Lifesaving (0-2) 1 hr.
Provides instruction in the skills, methods and techniques involved in lifesaving and water safety. The American Red Cross Lifesaving certificate is awarded upon completion of the course.
Prerequisite: Ability to swim 500 yards continuously using the following strokes: back, breast, crawl and side.

PED 133 Advanced Scuba Diving (0-2) 1 hr.
Provides advanced instruction in scuba, emergency lifesaving skills, navigation, search and recovery, deep diving and night diving procedures. Advanced national certification is provided to those who qualify.
Prerequisite: Certified diver from national certifying agency.

PED 135 Skin Diving (0-2) 1 hr.
Provides basic instruction in the principles, safety procedures and techniques of skin diving. Included will be the practical use of the mask, fins, snorkel, weight belt and buoyancy compensator.

PED 139 Aquasize (0-1) .50 hr.
Provides an in-water exercise program which emphasizes the total conditioning of the body. Improvements in muscle strength, toning and cardiopulmonary efficiency are the goals of this course. One need not be able to swim to participate.

PED 140 Firm and Fit to Music (0-1) .50 hr.
Provides students with the opportunity to firm and trim the body through strength, endurance and flexibility exercises. Choreographed exercises to music focusing on firming various muscle groups is the emphasis of this class.

PED 141 Low Impact Aerobics (0-1) .50 hr.
Provides an aerobic style fitness class structured to tone and trim the body. Exercise routines are choreographed to music to increase flexibility, cardiovascular endurance and movement efficiency. The emphasis is on the aerobic benefits of aerobic dancing without the body being overstressed through heavy bouncing, jogging and jumping activities.

PED 149 Prescribed Exercises (0-2) 1 hr.
Provides specialized therapeutic programs of prescribed exercises and sports activities to meet individual needs. May be repeated up to a maximum of 2 credit hours.

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. May be repeated up to a maximum of 2 credit hours.

PED 152 Golf (0-1) .50 hr.
Introduces golf fundamentals of grip, stance and swing using irons and woods; terminology, etiquette, scoring and safety standards. May be repeated up to a maximum of 1 credit hour.

PED 153 Swimming-Beginning (0-2) 1 hr.
Provides instruction for students who have never learned to swim or cannot swim one length of the pool. Instruction in basic swimming skills with emphasis on achievement and confidence in the water. May be repeated up to a maximum of 2 credit hours.

PED 154 Swimming-Intermediate and Advanced (0-2) 1 hr.
Provides instruction in front crawl, back crawl, side stroke, breast stroke, the butterfly, springboard diving, skin diving skills and some racing techniques. May be repeated up to a maximum of 2 credit hours.
Prerequisite: Ability to swim 50 yards.

PED 156 Badminton (0-1) .50 hr.
Provides recreational and conditioning activity with singles and doubles play, strategy, serving, rules and interclass competition. May be repeated up to a maximum of 1 credit hour.

PED 157 Scuba (0-1) .50 hr.
Provides instruction in the basic principles and techniques of scuba diving. May be repeated up to a maximum of 1 credit hour.

PED 158 Tennis (0-1) .50 hr.
Provides theory and practice, rules and scoring, development of serve, forehand drive, backhand drive, lob, volley and footwork. Singles and doubles play and interclass competition. May be repeated up to a maximum of 1 credit hour.

PED 159 Competitive Tennis (0-1) .50 hr.
Provides rules, scoring, theory and practice of the skills of competitive tennis. Emphasizes game strategy in singles and doubles play. May be repeated up to a maximum of 1 credit hour.

PED 160 Modern Dance I (0-2) 1 hr.
Opportunity to explore movement potential, increase technical proficiency and broaden rhythm background; skills in technique and composition stressed. May be repeated up to a maximum of 2 credit hours.

PED 162 Introduction to Ballet (0-2) 1 hr.
Provides instruction for students with little or no previous training in ballet. May be repeated up to a maximum of 2 credit hours.

PED 163 Aerobic Dancing (0-1) .50 hr.
Provides an aerobic style fitness program structured to tone and trim the body. Vigorous exercise routines are choreographed to music to increase flexibility, cardiovascular endurance and movement efficiency. May be repeated up to a maximum of 1 credit hour.

PED 166 Advanced Aerobic Dancing (0-1) .50 hr.

Provides an accelerated aerobic conditioning program for the student with a higher degree of physical fitness. Vigorous exercise routines choreographed to music further increase student's present cardiovascular endurance, muscular strength and endurance and flexibility.

Prerequisite: PED 163 or consent of instructor.

PED 167 Jazz Dance I (0-2) 1 hr.

Provides students with the elements of ballet, modern dance and Afro-Haitian to combine them into a dance form that is idiomatic, synchopated and fast paced. May be repeated up to a maximum of 2 credit hours.

PED 168 Racquetball (0-1) .50 hr.

Offers theory and practice, rules and scoring, methods of serve, forehand drive, backhand drive, lob, volley and footwork. May be repeated up to a maximum of 1 credit hour.

PED 169 Competitive Racquetball (0-1) .50 hr.

Provides rules, scoring, theory and practice of the skills of competitive racquetball. Emphasis is on the strategy of singles and doubles play. May be repeated up to a maximum of 1 credit hour.

PED 178 Judo and Self-Defense/ Beginning (0-2) 1 hr.

Provides a basic understanding and practical application of judo and self-defense techniques. Includes proper training methods, physical conditioning, techniques and rules and regulations for contests.

PED 179 Judo and Self-Defense/ Advanced (0-2) 1 hr.

Orientation and instruction in all aspects of judo and self-defense. Provides greater emphasis on Randori and preparation for competition.

Prerequisite: PED 178 or consent of instructor.

PED 195 Physical Fitness I (0-2) 1 hr.

Provides a personalized fitness program utilizing aerobic and resistive equipment.

PED 196 Physical Fitness II (0-2) 1 hr.

Provides continuation of PED 195 and healthy lifestyle training for lifelong application.

Prerequisite: PED 195.

Physical Education Courses — Theory — for Major and Minor Students

PED 200 Introduction to Physical Education (2-0) 2 hrs.

Provides orientation and history of physical education in the United States. Pre-sents aims and objectives and new approaches to physical education as an academic discipline.

PED 201 First Aid (2-0) 2 hrs.

Regulation American Red Cross instruction in first aid; immediate care given to a person who has been injured or has been suddenly taken ill. Includes self-help and home care if medical assistance is not available or is delayed. The Standard Red Cross Card is issued to those students who qualify.

PED 203 Health (3-0) 3 hrs.

Provides an in-depth look at the physical, mental and social dimensions as they relate to the following topics: mental health, nutrition, fitness, communicable diseases, killer diseases, human sexuality, family living (marriage, divorce, parenting), middle and old age crises and death and dying.

PED 205 Drugs in Our Culture (2-0) 2 hrs.

Deals with material about which many individuals have strong and sometimes unfounded beliefs. The intent of this course is to provide a potpourri of the facts, attitudes and opinions necessary to understand what psychoactive drugs do, how they do it, who uses them and why.

PED 206 Athletic Training Techniques (2-2) 3 hrs.

Presents an introduction to the duties and responsibilities of an athletic trainer including: fundamental principles and techniques, injury prevention, recognition, emergency care, supportive taping and wrapping techniques, budgeting, ordering supplies and the general operation of a training room facility.

PED 207 Human Sexuality (2-0) 2 hrs.

Acquaints students with the familial, sociological, biological and emotional implications of human sexuality. Attention is also given to such pathological conditions as venereal diseases.

PED 208 Bioscientific Foundations of Human Movement 3 hrs.

Provides analysis of basic human movement skills as they relate to exercise and physical fitness. Emphasis is on human anatomy, cardio-respiratory development, muscular strength and endurance. Guidelines for training an dphysical fitness are provided through laboratory experiences.

**PED 209 Principles of Teaching
Aerobic Dance/Exercise (1-2)** 2 hrs.

Provides prospective aerobics instructors both with a knowledge base which will enable them to plan and teach safe exercise programs and the opportunity to practice teach and put the theory into practical application in the laboratory portion of this class.

PED 210 Sports Officiating (2-0) 2 hrs.

Provides comprehensive instruction on rules and officiating techniques in interscholastic sports in preparation for Illinois High School Athletic Association certification. Officiating experience opportunities provided in college intramural and intercollegiate athletic programs.

**PED 211 Physical Education
in Elementary School (3-0)** 3 hrs.

Provides instruction on the growth and development of elementary school children and the planning and organizing of elementary physical education programs.

**PED 220 Track and Field
Techniques (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 Techniques (2-0) 2 hrs.

Fundamental and organizational techniques of game skills, strategy, practice drills, conditioning, safety standards and officiating techniques.

PED 224 Basketball Techniques (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 Techniques (2-0) 2 hrs.

Analysis, instruction and demonstration of fundamental skills, strategy, practice drills, conditioning, safety standards and officiating techniques in teaching and coaching baseball.

PED 228 Aquatics (2-0) 2 hrs.

Provides instruction in the theory and practice of fundamental skills and approaches to various phases of swimming. Planning, organization, development and management of aquatic programs.
Prerequisite: Ability to swim 50 yards.

PED 230 Water Safety Instructor (0-2) 1 hr.

Follows the standards established by the American Red Cross for teaching authorized swimming courses.
Prerequisite: Senior lifesaving certificate.

PED 240 Dance Composition (0-4) 2 hrs.

Provides instruction in basic dance composition. Includes the study of dance experience and offers opportunities to improvise and create compositions utilizing a variety of motivational and innovative techniques.
Prerequisite: 100 or 200 level dance technique course or consent of instructor.

PED 241 Jazz Dance II (0-2) 1 hr.

Provides a study of advanced techniques in jazz dance. Includes basic barre exercises, center floor exercises, dance combinations and choreographical techniques.
Prerequisite: PED 167 or consent of instructor.

PED 242 Ballet II (0-2) 1 hr.

Provides a study of advanced techniques of the art of ballet. Includes basic barre exercises, center floor exercises, dance combinations, terminology, movement patterns, allegro combinations and performing experience.
Prerequisite: PED 162 or consent of instructor.

PED 243 Modern Dance II (0-2) 1 hr.

Provides students with an opportunity to explore modern dance techniques in great depth. Emphasizes dance techniques, exploration and composition development.
Prerequisite: PED 160, PED 162 or consent of instructor.

PED 244 Folk Dance II (1-2) 2 hrs.

Provides an expanded repertoire of folk dances of varying difficulty from diverse cultures with emphasis on interrelationships with other folk arts, geography and history.
Prerequisite: PED 173 or consent of instructor.

PED 246 Tap Dance (0-2) 1 hr.

Provides instruction in basic techniques of tap dance. Emphasizes the development of tap dance routines.

PED 270 Community Health (2-0) 2 hrs.

Presents basic principles of community living and examines scientific methods applied to environmental health in urban and rural communities. Focuses on the functions of community health organizations and the way they relate to individual health needs.

Physical Science

PHS 101 Physical Science Survey (3-0) 3 hrs.

Designed to give the non-science major an understanding and appreciation of the universe, earth, energy and matter.

PHS 105 Energy and Society (3-0) 3 hrs.

Introduces non-science majors to topics from various sciences as they relate to energy resources and energy consumption. Connects the theory of energy to its practical applications. Examines the connection between science and economics, politics and other social issues, using energy as a focus.

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.

PHS 112 Physical Science II (3-2) 4 hrs.

Examines topics from basic chemistry, materials of the earth, earth forms and history, weather, the sun, stars and the universe.

Course for non-science majors fulfilling laboratory science requirements.

Physics

PHY 101 Technical Physics I — Mechanics, Heat and Sound (3-2) 4 hrs.

Statics, dynamics, energy, calorimetry, gas laws, waves and sound. Primarily for students in career programs. Other students see PHY 121 or PHY 201.

Prerequisite: MTH 106 or concurrent enrollment.

PHY 102 Technical Physics II — Electricity and Magnetism, Light (3-2) 4 hrs.

Introduces theory of electricity and magnetism including fields, induction, capacitance, direct and alternating current theory, circuits and elements of electronics. Also covers theory of light including reflection, interference, resonance, lenses, diffraction, polarization and Doppler effect. Primarily for students in career programs.

Prerequisite: PHY 101.

Corequisite: MTH 107.

PHY 121 Introductory Physics I (4-3) 5 hrs.

Covers mechanics, heat and sound. For students in arts, sciences and architecture. Other students see PHY 201.

Prerequisite: MTH 103 and MTH 104 with a grade of "C" or better.

PHY 122 Introductory Physics II (4-3) 5 hrs.

Continues PHY 121. Electricity, magnetism and light.

Prerequisite: PHY 121 with a grade of "C" or better or consent of instructor.

PHY 201 General Physics I — Mechanics (3-2) 4 hrs.

Introduces foundations of kinematics, statics, dynamics and hydraulics. For students in engineering, mathematics, physics and chemistry.

Prerequisite: MTH 201 with a grade of "C" or better or concurrent enrollment.

PHY 202 General Physics II — Heat Electricity and Magnetism (3-2) 4 hrs.

Continues PHY 201. Covers foundations of heat, thermodynamics, electricity and magnetism.

Prerequisite: MTH 202 with a grade of "C" or better or concurrent enrollment and PHY 201 with a grade of "C" or better.

PHY 203 General Physics III — Wave Motion, Sound, Light and Modern Physics (3-2) 4 hrs.

Continues PHY 202. Covers foundations of wave motion, sound, geometrical and physical optics and modern physics.

Prerequisite: MTH 212 with a grade of "C" or better or concurrent enrollment and PHY 202 with a grade of "C" or better.

Political Science

PSC 101 American Politics and Government (3-0) 3 hrs.

Focuses on political involvement, elections, campaigns, interest groups, Congress courts, the presidency and the constitution. Discusses how our government runs, as well as current political controversies. Utilizes political figures as guest speakers and offers opportunities for political participation, especially in election year.

PSC 210 Topics in Political Science 1-6 hrs.

Studies selected problems or topics in political science. The exact content and instructional methodology will vary from semester to semester depending on the material to be studied. A syllabus or course outline containing additional information will be available with pre-registration materials each time that the course is offered. This course may be taken from one to six credit hours.

PSC 220 Suburban, Urban and State Politics (3-0) 3 hrs.

Emphasizes politics in Illinois, Chicago and the suburbs. Delves into machine politics, taxes, housing and other issues. Provides opportunities for involvement in community politics and draws on elected officials and speakers.

PSC 250 Comparative Politics (3-0) 3 hrs.

Explores the politics of selected countries in Africa, Asia, Europe, Latin America and/or the Middle East. Examines economic, social and political patterns and problems in different nations.

PSC 260 Middle Eastern Politics (3-0) 3 hrs.
Examines political, social, economic, military, religious and terrorist forces in the Middle East. Investigates the politics of specific countries in the area.

PSC 270 Global Politics (3-0) 3 hrs.
Uses role playing to study how foreign policy is made. Explores human problems such as population, food and energy on a global dimension. Examines international bodies, including the United Nations, and explores how nations interact.

Psychology

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 106 Practical Psychology (3-0) 3 hrs.
Presents a practical application of the psychological principles that lead to efficiency of learning, adjustment, motivation, communication and attitudes in everyday life and classroom situations. This course does not meet Social Science requirements.

PSY 107 Humanistic Psychology (2-0) 2 hrs.
Focuses on various aspects of human behavior and personality. Several theories of psychosocial adjustment are presented and discussed. Through class discussion and structured activities in this workshop style course, students will examine their values, attitudes, experiences, strengths, weaknesses and interpersonal skills and how these affect themselves and others.

PSY 108 Topics in Psychology (2-0) 2 hrs.
Provides specific topic seminars which allow each student the opportunity to examine current issues, such as career development, developing self-esteem, or young adult development. The focus is on the analysis and organization of experiences for personal and positive growth. Goal setting, decision-making and lifestyle planning are emphasized.

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.

PSY 150 Psychology of Deafness (3-0) 3 hrs.
Considers the effects of prelingual and postlingual hearing impairment on the psychological and emotional development or adaptation of the individual. Study of cognitive and linguistic functioning, personality and interpersonal behavior. Prerequisite: PSY 101.

PSY 210 Introduction to Research in Psychology (3-0) 3 hrs.
Introduction to the logic and theory of the scientific method. Emphasis on the basic statistical procedures and principles of experimental design. The purpose is to promote critical interpretations of behavioral data through an understanding of methods used in psychology. Prerequisite: PSY 101.

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. Prerequisite: PSY 101.

PSY 217 Adolescent Psychology (3-0) 3 hrs.
Psychological study of the human organism from pubescence through adolescence and the beginnings of adulthood. Adolescence is studied as a time of rapid change resulting from increased drive state, physical maturity and changed social expectation. Emphasis is on how these changes are influenced by social institutions such as the family, the schools and the world of work, as well as by the divisions and conflicts taking place in society generally. Prerequisite: PSY 101.

PSY 218 Psychology of Adulthood and Aging (3-0) 3 hrs.
Focuses on human psychological development from young adulthood to old age and adult psychological processes of personality. Emphasizes identity and intimacy of young adults and changing male and female roles with maturity; the family; work; personality and psychopathology; aging and death. Prerequisite: PSY 101 or consent of instructor.

PSY 220 Biological Basis of Behavior (3-0) 3 hrs.
Studies the physiological aspects of behavior. Emphasizes the physiological foundations of motivation, consciousness, learning, emotion, aggression and stress. Clarifies the interaction between physiology, behavior and environment. Prerequisite: PSY 101.

PSY 225 Psychology of Personality (3-0) 3 hrs.
Investigates the determining factors and dynamics of human personality. Studies major contemporary approaches such as psychoanalytic, humanistic learning as well as trait and factor theories. Also considers methods of personality assessment.
Prerequisite: PSY 101.

PSY 230 Psychology of Human Adjustment and Abnormal Behavior (3-0) 3 hrs.
Studies scientifically the research and theories of psychology relevant to the dynamics of human adjustment. Emphasizes the meaning and concept of adjustment applied to motivation, frustration, conflict, stress, anxiety, learning, personality, psychological diagnosis and psychotherapy.
Prerequisite: PSY 101.

Reading

RDG 098 Fundamentals of Reading (2-2) 3 hrs.
Presents group and individualized instruction in the fundamental skills of reading. Designed for students whose linguistic and reading skills are insufficient for successful college work. Enrollment is determined by a score below the 30 percentile on a standardized test. Carries no transfer credit.
Recommended Corequisite: ENG 098.

RDG 099 Developmental Reading (3-0) 3 hrs.
Provides classroom instruction and laboratory practice in comprehension, vocabulary and rate for the student who needs assistance in bringing his reading skills to college level. Carries no transfer credit.
Prerequisite: RDG 098 or a demonstrated proficiency on standardized placement test above 30 percentile.

RDG 100 Reading for the Technologies (3-0) 3 hrs.
Teaches reading, writing and problem-solving strategies appropriate to vocational/technical programs. Provides practice with applying skills necessary for success in specific career-vocational programs.
(NOTE: Cannot be used for Group II or V General Studies requirement for A.A. or A.S. degree.)

RDG 105 College Reading (2-0) 2 hrs.
Increases reading rate and flexibility and improves ability to interpret written materials critically. Emphasis is on improving rate while maintaining comprehension.
Prerequisite: 10th-grade reading level or above.

RDG 106 Critical College Reading Skills (3-0) 3 hrs.
Develops the full array of mature, fluent reading skills, including critical and analytical comprehension, content area reading, predictive reading, vocabulary development, speed and flexibility. Also covers theories of comprehension and language development.

Real Estate

RES 101 Real Estate Transactions (3-0) 3 hrs.
Provides instruction in basic real estate fundamentals for those who wish to qualify for a real estate license. Applies to both the salesperson's and broker's licenses. Surveys real estate law, interests in real estate, ownership, the real estate business, financing and appraisal.
(NOTE: Students must be 21 years of age to qualify for the State of Illinois Real Estate Exam.)

RES 105 Real Estate Math Applications (1-0) 2 hrs.
Explains use of mathematics in the real estate business and drills in land area and volume, capitalization rates, computing valuations and prorations. Emphasizes logical approach to arithmetic situations.
Recommended Corequisite: RES 101.

RES 108 Brokers Licensure Preparation I (2-0) 2 hrs.
Designed to meet the State of Illinois requirements toward obtaining a real estate broker's license and contains lecture and discussion of skills and competence needed in the operation of a real estate brokerage business. The advanced principles of real estate, as well as the sales and brokerage aspects of this career are the main topics, as are legal and ethical obligations.
Prerequisite: RES 101.

RES 109 Brokers Licensure Preparation II (2-0) 2 hrs.
Real estate conveyancing and finance are discussed in order to give a clear understanding of the movement of real property from owner to owner and the sources, types and effects of borrowed money. Also covered are the legal forms of contracts, etc., now used in the many types of ownership of real estate.
Prerequisite: RES 101.

RES 121 Advanced Principles, Marketing and Brokerage (3-0) 3 hrs.
Marketing applied to the real estate business. Sales planning, obtaining the qualifying prospects, securing listings, showing properties and motivation are considered. Procedural matters pertaining to the business such as office location, staffing and office systems are discussed, as well as the laws, regulations and ethics of the business. Samples of currently used forms are integrated into the course.
Prerequisite: RES 101 or consent of coordinator.

RES 122 Real Estate Appraisal I (3-0) 3 hrs.

Covers the functions and purposes of appraisal and has been designed to examine the nature of real property value and the various functions and methods of estimating values, with emphasis on the residential market.

Prerequisite: RES 101 or consent of coordinator.

RES 123 Real Estate Law (3-0) 3 hrs.

Examines legal aspects of the real estate business, including contracts, interests in land, transactions, brokerage, leasing, closings, zoning, taxation and the legal forms and remedies relative thereto.

Prerequisite: RES 101 or consent of coordinator.

RES 124 Real Estate Finance (3-0) 3 hrs.

Analysis of the various financial aspects of owning, buying and marketing all types of real estate, including mortgages, construction loans, leasing, sale and leaseback, foreclosure, trading, governmental programs and contracts and taxation.

Prerequisite: RES 101 or consent of coordinator.

RES 230 Property Management Methods (3-0) 3 hrs.

Covers property analysis, rental scheduling, collection and budgeting; maintenance and repair; insurance; advertising; techniques of handling tenants; executive and management control techniques. Course emphasizes procedures and methodology.

Prerequisite: RES 123 or consent of coordinator.

RES 231 Income Properties (3-0) 3 hrs.

Basic concern of the course lies in the concept of real estate as an investment. Investment aspects of property management including vacant properties are considered. Other topics include: ground leases, sale and leaseback arrangements, highest and best use of property, distressed properties, characteristics and industrial properties as investment, and the role of syndicates, developers, builders and financial institutions in promoting and managing income properties.

Prerequisite: Nine credit hours of real estate or consent of coordinator.

RES 232 Real Estate Appraisal II (3-0) 3 hrs.

Depreciation factors, interest rates, capitalization rates and techniques, lease-hold interest values; use and application of compound interest tables in the appraisal process; operating statements in the appraisal of income property, net income estimates, and correlation of final value estimates pertaining to income producing properties and industrial development; professional appraisal standards.

Prerequisite: RES 122.

RES 233 Real Estate Problems Seminar (3-0) 3 hrs.

Contemporary issues in the real estate industry possibly including tax foreclosures, tax deeds, tax titles, special assessments, assessing methods and practices, legislative and judicial influences upon the industry and effects of the current economic situation upon the real estate industry. Directed readings and analysis of case studies will be used extensively.

Prerequisite: Previously completed nine credit hours of real estate course work.

Recreation

REC 200 Leisure: Its Uses and Resources (2-0) 2 hrs.

Orients students in the field of leisure studies by providing each student with opportunities to formulate a philosophy and some basic concepts regarding leisure, leisure delivery service systems and leisure service as a profession.

REC 202 Foundations for Recreation and Park Services (2-0) 2 hrs.

Introduces the recreation student to legislation, fiscal concerns, standards for planning, problems of cities and the relationship of professional organizations to recreation and park services.

REC 204 Introduction to Therapeutic Recreation (2-0) 2 hrs.

Introduction to concepts and principles of therapeutic recreation, types of illnesses and disabilities, programming and services and role of the therapeutic recreator.

REC 206 Principles of Camping Management (3-0) 3 hrs.

Presents objectives, organization, techniques, counseling, activities and evaluation of outdoor camping.

REC 208 Outdoor Recreation Planning (2-0) 2 hrs.

Presents the planning process for designing and managing outdoor recreational areas and examines factors affecting the planning process.

REC 210 Performing Arts as Leisure Opportunities (2-0) 2 hrs.

Instruction in leadership skills in such program areas as recreational dance, drama, music, arts and crafts, and social recreation.

REC 214 Basic Field Experience (1-2) 2 hrs.

Directed field experience in public and private recreational agencies gives students majoring in recreation an introduction to working in actual field situation. Students work in College approved agencies of their own choice four or more hours per week.

Prerequisite: REC 200 and REC 202.

Refrigeration and Air Conditioning

RAC 101 Refrigeration Fundamentals (3-3) 4 hrs.

Introduces vocabulary, concepts and scientific principles used in the refrigeration industry. Develops skills in pipe fitting, use of hand tools and operation of instruments used in the refrigeration trade.

RAC 102 Refrigeration Systems (3-3) 4 hrs.

Continues to develop principles and concepts learned in RAC 101. Familiarizes students with components and accessories added to basic refrigeration systems for special applications. Develops trouble diagnosing procedures. Prerequisite: RAC 101.

RAC 103 Heating Principles (3-3) 4 hrs.

Describes sources and methods of producing heat for residential, commercial and industrial systems. Develops skills in testing, adjusting and replacing heating system components.

RAC 104 Residential Comfort Systems (3-3) 4 hrs.

Integrates concepts, principles and knowledge of equipment available for residential comfort systems including solar heat. Describes several residential systems and places emphasis on diagnosing system malfunctions. Prerequisite: RAC 101 and RAC 103.

RAC 105 Heating and Cooling Controls (3-3) 4 hrs.

Describes the purposes and principles of operation and causes of failure in electrical components common to residential and small commercial systems. Emphasizes wiring schematics and diagrams.

RAC 106 Advanced Controls (3-3) 4 hrs.

Continues RAC 105. Includes electrical components. Emphasizes control systems, system malfunctions and proper repair procedures.

RAC 201 Refrigeration System Design I (3-3) 4 hrs.

Considers the factors in the selection of refrigeration compressors, evaporators, condensers and compressor oil, as well as the accessories used in commercial refrigeration. Examines the thermo-dynamic properties of the common refrigerants. Prerequisite: RAC 102 or consent of instructor.

RAC 202 Refrigeration System Design II (3-3) 4 hrs.

Continues consideration of factors in the selection of metering devices, pipe sizing, motors and controls. Develops concepts of lubrication, multi-staging and cascade freezer systems. Prerequisite: RAC 201 or consent of instructor.

RAC 203 Air Conditioning Principles (3-3) 4 hrs.

Examines the properties of air through the use of the psychometric chart and tables. Studies methods of computing heat gains and losses for residential and light commercial systems. Prerequisite: RAC 104 or consent of instructor.

RAC 204 Air Distribution (2-3) 3 hrs.

Considers the factors in the selection of a duct system for efficient air distribution. Studies fan laws and pressure drops for proper fan and duct size selection. Describes types of registers and their location for optimum performance. Prerequisite: RAC 104 or consent of instructor.

RAC 208 Industrial Controls (3-0) 3 hrs.

Describes the controls found in industrial HVAC and refrigeration systems. Emphasizes energy efficient systems. Prerequisite: RAC 106 or consent of instructor.

RAC 211 Residential Solar Heating (3-0) 3 hrs.

Examines the nature of solar radiation and collections of solar energy. Studies existing systems for heating and cooling residential space and water. Prerequisite: RAC 101 or consent of program coordinator.

RAC 290 Independent Study (3-0) 3 hrs.

For students with some experience who do not wish to duplicate their present knowledge, or who cannot attend classes regularly. Study plan to be worked out by instructor and student.

Secretarial Science

See: Office and Administrative Services

Sign Language

SGN 101 Basic Sign Language (4-0) 4 hrs.

Introduces the student to American Sign Language and deaf culture with emphasis on vocabulary and fingerspelling development, syntax and basic linguistic sign principles and development of expressive and receptive language skills. This course is designed for students with no experience in sign language.

SGN 102 Intermediate Sign Language (4-0) 4 hrs.

Provides a review of SGN 101 and continues vocabulary and fingerspelling development, syntax and basic linguistic sign principles and development of expressive and receptive language conversation skills. Prerequisite: SGN 101 or consent of department chairperson.

SGN 201 Advanced Sign Language (3-0) 3 hrs.

Provides a historical overview of American Sign Language and an in-depth examination of the linguistic structure of the language, English and sign idioms, ASL principles and their application in building expressive and receptive ASL signing skills.

Prerequisite: SGN 102 or consent of department chairperson.

Sociology

SOC 101 Introduction to Sociology (3-0) 3 hrs.

Analysis and description of the 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 120 The Family in Contemporary Society (3-0) 3 hrs.

Examines the family as a social institution and as a dynamic interactive system. Topics include courtship, marriage, family systems, parenting, non-traditional forms of the family. 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, including 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 institutions on the society.

Prerequisite: SOC 101 and sophomore standing.

SOC 215 Introductory Social Psychology (3-0) 3 hrs.

Introduces the methods used to understand, explain and predict how the thoughts, feelings and actions of individuals are influenced by the thoughts and actions of social groups. Investigates how attitudes, beliefs and behaviors are influenced by others within society and how society is influenced by the individual.

Prerequisite: PSY 101 or SOC 101.

SOC 220 Topics in Social Science 1-6 hrs.

Studies selected problems or topics in social science. The exact content and instructional methodology will vary from semester to semester depending on the material to be studied. A syllabus or course outline containing additional information will be available with pre-registration materials each time that the course is offered. This course may be taken from one to six credit hours.

Spanish

SPA 101 Elementary Spanish I (4-0) 4 hrs.

Beginning course in the language skills of listening, understanding, speaking, reading and writing in their logical sequence. Designed for students with no previous experience in Spanish.

SPA 102 Elementary Spanish II (4-0) 4 hrs.

Continues SPA 101. Situational conversations in Spanish; reading and writing stressed. Prerequisite: SPA 101, two years of high school Spanish or consent of instructor.

SPA 201 Intermediate Spanish (4-0) 4 hrs.

Conversation with emphasis on pronunciation, intonation, stress and rhythm. Introduction to composition, reading of short stories and grammar review.

Prerequisite: SPA 102, two years of high school Spanish or consent of instructor.

SPA 202 Intermediate Spanish (4-0) 4 hrs.

Continues SPA 201. Accuracy and speed in reading, study or syntax and extensive composition.

Prerequisite: SPA 201, 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.

Designed to help students bridge the gap between the intermediate and advanced levels. Prerequisite: SPA 202, or equivalent or consent of 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 discussion of works read. Writing based on readings and class discussions. Designed to help students bridge the gap between the intermediate and advanced levels. Prerequisite: SPA 202, or equivalent or consent of instructor.

Speech

SPE 101 Fundamentals of Speech Communication (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 and Communication Theory (3-0) 3 hrs.

Examination of communications principles underlying successful platform behavior. Development of proficiency in the logic of argument and skill of speaking. Consideration of 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.

Provides the student an opportunity to select, prepare and perform various types of literature. Emphasizes the use of body and voice in oral reading.

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 115 Interviewing (1-0) 1 hr.

Focuses on the unique demand of dyadic communication. The student will examine interview types, participate in model interview situations and complete a programmed course in cognitive listening skills.

SPE 180 Applied Forensics I (0-2) 1 hr.

Provides practical experience in the preparation of public speeches, oral interpretation programs, acting scenes, group performances and/or limited preparation speaking situations for public presentation in forensics/speech competition.

SPE 181 Applied Forensics II (0-2) 1 hr.

Continues SPE 180. Provides practical experience in the preparation of public speeches, oral interpretation programs, acting scenes, group performances and/or limited preparation speaking situations for public presentation in forensics/speech competition. Prerequisite: SPE 180.

SPE 182 Applied Forensics III (0-2) 1 hr.

Continues SPE 181. Provides practical experience in the preparation of public speeches, oral interpretation programs, acting scenes, group performances and/or limited preparation speaking situations for public presentation in forensics/speech competition. Prerequisite: SPE 181.

SPE 183 Applied Forensics IV (0-2) 1 hr.

Continues SPE 182. Provides practical experience in the preparation of public speeches, oral interpretation programs, acting scenes, group performances and/or limited preparation speaking situations for public presentation in forensics/speech competition. Prerequisite: SPE 182.

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.

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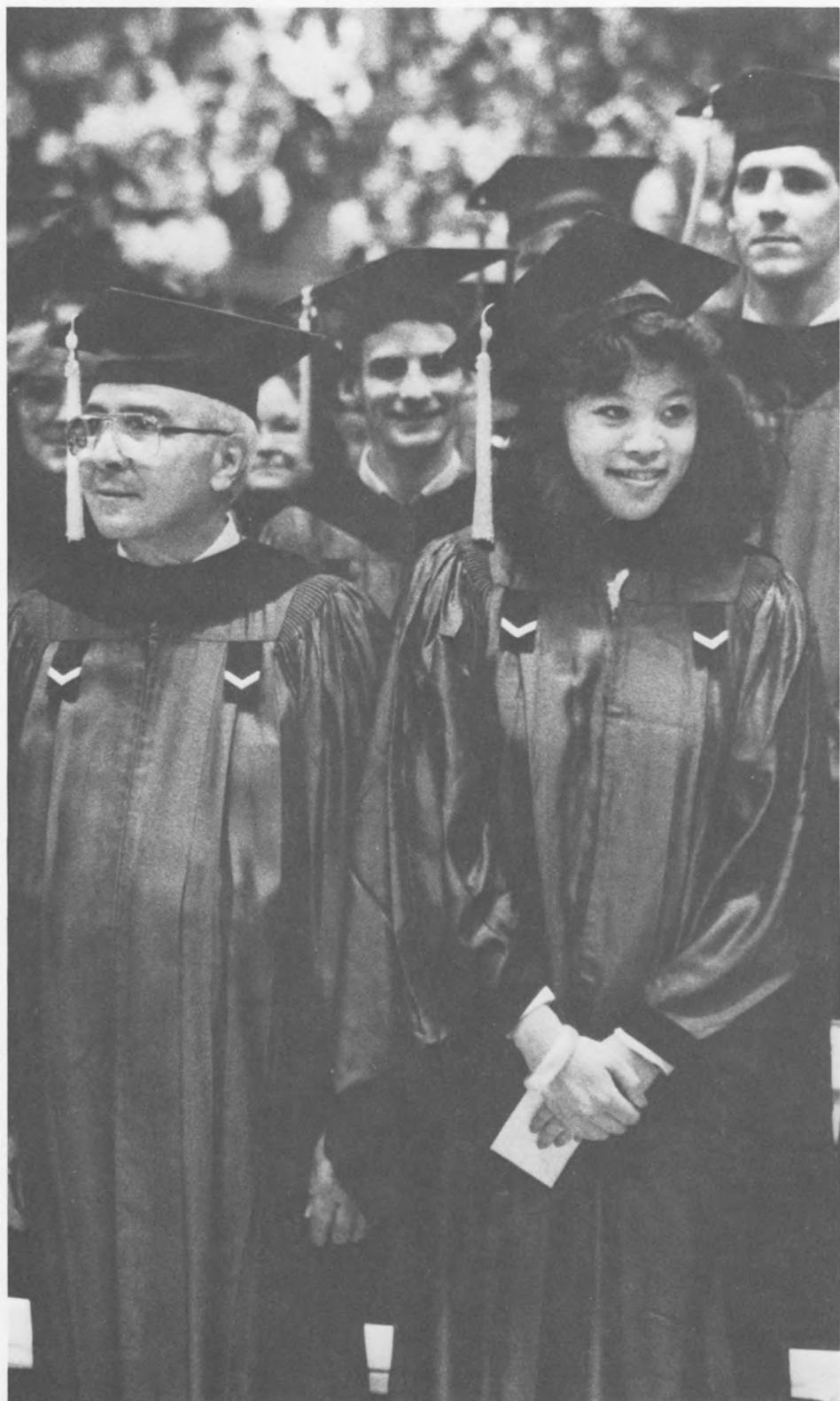
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