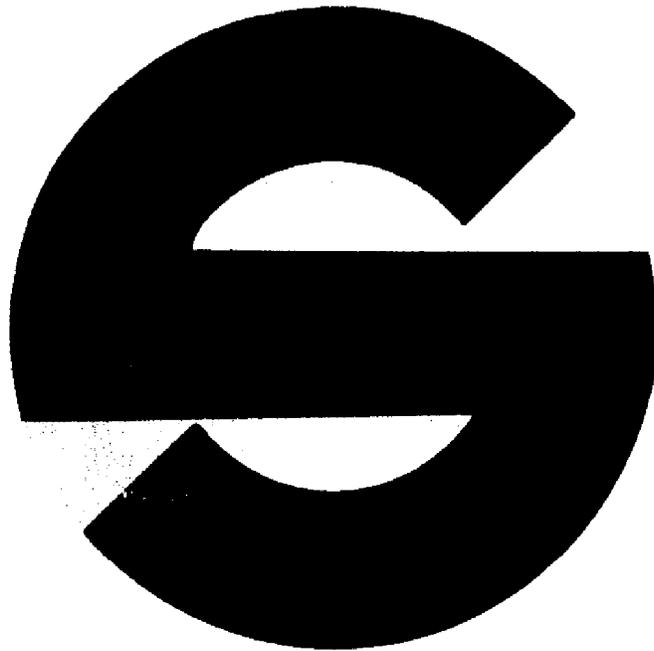


1977-78 Catalog
Ninth Edition

Volume 9 — Number 1
March — 1977



Shawnee College

**SHAWNEE COLLEGE ROAD
ULLIN, ILLINOIS 62992
618-634-2242**

1977-78 CATALOG

SHAWNEE COLLEGE

**Shawnee College Road
Ullin, Illinois 62992**

Phone (618) 634-2242

NINTH EDITION

**Volume 9 — Number 1
March, 1977**

MESSAGE FROM THE PRESIDENT . . .

I am delighted to welcome you to Shawnee College. You made a wise decision when you decided to join hundreds of other Southern Illinoisans in seeking a quality education at this institution.

Shawnee College staff is of the highest caliber. They are well trained in their respective teaching areas. All of them devote full time to their teaching efforts.

Shawnee College is concerned with each student as an individual. We want to help each of you succeed in your chosen field of study. The successful faculty member at Shawnee College has *compassion* for you as an *individual*. He wants you to succeed. The rest is up to you.



President Klaus conferring with his daughter, Amy, a Shawnee College student.

A MEMBER OF

American Association of Junior Colleges
Council of North Central Junior Colleges
Illinois Association of Community & Junior Colleges

RECOGNIZED BY

Illinois Junior College Board
Illinois Board of Higher Education
Illinois State Scholarship Commission
Illinois Board of Vocational Education
U.S. Office of Health, Education & Welfare
Veterans Administration

ACCREDITED BY

North Central Association
of
Colleges & Secondary Schools

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ADMINISTRATION

ILLINOIS COMMUNITY COLLEGE BOARD

Richard P. Stone, Chairman	Springfield
Paul Hanks	Hardin
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Vivian Medak	Lincolnwood
Toussaint L. Hale, Jr.	Chicago
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Hugh D. Hammerslag	Rockford
Lila B. Teer.....	East St. Louis
John W. Goudy	Springfield

EXECUTIVE SECRETARY

Fred L. Wellman	Springfield
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Ralph Taake, Jr., Vice-Chairman.....	Ullin
Dr. A. L. Robinson, Secretary	Mounds
Delano Mowery, Vice-Secretary.....	Anna
Donald Jordan.....	Tamms
Leslie Broom	Vienna
Dr. Stephen Miller	Metropolis

ADMINISTRATIVE STAFF

Dr. Loren E. Klaus.....	President
William F. Whitnel	Academic Dean
Gene A. Cross.....	Dean of Students
Hal C. Anderson.....	Business Manager
Joel Jennings.....	Dean of Career Education

DEANS



Wm. F. Whitnel
Academic Dean

Joel W. Jennings
Dean of Career Education



Gene A. Cross
Dean of Students

OFFICIAL SHAWNEE COLLEGE CALENDAR 1977-78

FALL SEMESTER 1977

August 17	Freshman Orientation
August 22	All Faculty Report
August 24-26	Student Advisement and Registration
August 29	Instruction Begins
September 5	Labor Day Holiday
September 9	Registration Closes
October 19	Mid-Semester
November 11	Veteran's Day Holiday
November 22	Last Day to Drop or Apply for Audit Without Penalty
November 23-25	Thanksgiving Vacation
November 28	Classes Resume
December 12-16	Final Exams
December 16	End of Semester

SPRING SEMESTER 1978

January 16-17	Advisement and Registration
January 18	Instruction Begins
February 1	Registration Closes
March 17	Mid-Semester
March 24-31	Spring Vacation
April 3	Classes Resume
April 21	Last Day to Drop or Apply for Audit Without Penalty
May 22-26	Final Exams
May 26	End of Semester
May 28	Commencement

SUMMER SESSION 1978

June 5	Registration
June 6	Instruction Begins
July 4	Holiday
July 5	Midterm
July 14	Last Day to Drop or Apply for Audit Without Penalty
August 2-4	Final Exams
August 4	End of Summer Session

GENERAL INFORMATION

HISTORY AND ORGANIZATION

Shawnee College was organized as a Class I community college in September of 1967, pursuant to the Illinois Public Junior College Act of 1965. Organized to serve Southern Illinois and its people, the college district covers all of Union, Pulaski, Massac, Alexander and parts of Johnson and Jackson Counties. At the time of its formation the college district population was in excess of 65,000.

The initial Board of Trustees was selected in December of 1967, and in May of 1968 Dr. Loren E. Klaus was named President. The original campus site of 113 acres was purchased February 10, 1969. Interim facilities were erected during the summer of 1969. Faculty and staff were hired and the college officially opened on September 24, 1969, with 740 students enrolled in day and night classes. In the Fall Semester of 1976, 2,552 students were enrolled in day and night classes.

OBJECTIVES

The basic purpose of every educational institution is the preservation and advancement of civilization. Toward this end, Shawnee College attempts to develop in its students the ideas, attitudes, and spirit of inquiry which characterize the educated individual. The desired outcome of this educational process may be stated broadly as follows:

For every student with whom it has significant contact, the college should challenge his prejudices, expand his awareness of the world and its people, enhance his social competence, strengthen his sense of purpose in life, increase his appreciation of the arts, improve his earning capacity, and arouse his curiosity so that he will continue to learn, to think, and to stimulate others after he completes his formal education.

The objectives of Shawnee College are:

- (1) To provide two years of collegiate education in the arts and sciences leading to an associate degree.
- (2) To provide associate degree programs leading to employment in specific technologies.
- (3) To provide appropriate career programs leading to a certificate of completion.

- (4) To provide opportunities for intellectual growth in academic areas and for training in specific career skills and part-time enrollment in regular programs.
- (5) To initiate, support, and provide cultural and intellectual activities outside the curriculum for all citizens of the area.
- (6) To provide an educational atmosphere through counseling, activities, and other services which will give all students a reasonable opportunity for success in college.

CAMPUS

The campus of Shawnee College is located on the Shawnee College Road just west of Illinois Route 37 and approximately seven miles east of Interstate Route 57. The site of 163 acres is located on gently rolling hills, and the campus gives evidence of being one of the most attractive colleges in the state. The campus is centrally located within the college district, being equidistant from Anna-Jonesboro, Cairo, Metropolis and Vienna.

STATUS OF ACCREDITATION

Shawnee College was accredited by the North Central Association of Colleges and Secondary Schools in March 1974. The college achieved accreditation in five years. Achieving full accreditation means the attainment of significant educational standards of quality and excellence which are recognized and respected among the institutions of higher learning.

EVENING COLLEGE

An evening college is operated for those students who are working full time during the day and would like to enroll for a part-time college program in the evening. The demand for evening classes determines the number of classes that will be offered at any one time. The college reserves the right to withdraw any evening college offering for which there is insufficient registration.

Over a period of years nearly all classes offered during the day will be offered at night. It will be possible to select course sequences which will lead to associate degrees in various curricula. In addition, Shawnee

College expects to offer course work in continuing education programs for those area residents who desire to take advantage of such programs.



SUMMER SESSION

Each summer a nine-week session is conducted for both regularly enrolled students of Shawnee College and guest students. A student may earn up to twelve semester hours of credit during the summer session.

Classes scheduled during the summer are the same as those offered during the regular academic year except for the quantity of courses offered. The selection of classes is based upon the demand of prospective summer students. Consequently, persons interested in having certain courses should contact the college early in the spring to make their wishes known.



BOOKSTORE

A bookstore is operated by the college and carries all required textbooks and other instructional materials, equipment, and supplies. The items in the bookstore are selected and priced to accomplish the objectives of the course work and still be as economical as possible for the student.

STUDENT CENTER

A center for student activities is provided on the campus. Food services are available and an atmosphere for informal student gatherings exists.

LEARNING RESOURCES CENTER

Shawnee College is committed to an educational program which places at the focal point the Learning Resources Center.

The LRC's collection of more than 33,500 books is increasing annually. The series collection includes 236 periodicals, 12 newspapers, and 13 indexing services. The collection of films, filmstrips, tapes and phonograph records is being expanded monthly.

Library materials are charged out to a student upon presentation of his current I.D. card.

Students, faculty, and all members of the community college district are encouraged to visit the Learning Resources Center and utilize its fine resources and services.

STUDENT SERVICES AND ACTIVITIES



COUNSELING

All entering students meet with professional personnel for counseling. Through the use of test results, high school records, and personal consultation, an effort is made to counsel the student concerning a program appropriate to his skills, aptitudes, and preparation. Other more specialized examinations may be given individual students upon their request or upon the advice of a counselor.

Each student is assigned a faculty advisor when he enters the college. An attempt is made to match students' academic preferences with the background of their faculty advisors. It is hoped that each student will avail himself of the opportunity to counsel with his faculty advisor frequently.

The guidance program of the college involves a one semester hour course named Seminar in College Life. This course is mandatory for every entering freshman student carrying twelve or more semester hours credit. The one semester hour credit may be applied to any associate degree or certificate program at Shawnee College.

This course will meet during freshman orientation week and cover such topics as extra-curricular organizations and activities, use of the Learning Resources Center, requirements for graduation and transfer to senior institutions, general college regulations, testing, and other topics pertinent to the student's development.

CONDUCT

Shawnee College expects from its students the self-discipline necessary to acquire an education and stands ready to aid them in every way possible while exercising as little supervision as is necessary to assure a healthy and smooth functioning college climate. Students who earnestly attempt to assume the responsibilities of college membership will receive the fullest measure of guidance and encouragement. Those who are guilty of serious misconduct are subject to suspension from the college. Cheating constitutes reasonable grounds for dismissal from the course with a grade of F assigned thereto.

STUDENT ACTIVITIES

The social and extra-curricular life of Shawnee College is as extensive as the students wish to make it. Believing that the education of an individual implies a total development, it is anticipated that the initial student-oriented activities should come from the expressed needs and desires of the student body.

STUDENT SENATE

The Student Senate is chiefly responsible for the development and guidance of student activities. It is a group of seven elected and two appointed students with one faculty member who serves as advisor. Its functions are to accept and administer petitions for college club organizations, express student opinion, coordinate the activities of student groups, assist in planning and carrying out of all college social events, present a cultural series, and promote the welfare of the student body.

TESTING

Shawnee College provides a comprehensive testing program for the college community. It serves the needs of its population through its own testing program as well as cooperative contractual services with

federal, state, and private agencies. Shawnee College has become a national testing center for several major testing agencies.



AMERICAN COLLEGE TEST (ACT)

The American College Test (ACT) is an assessment program which provides to students and counselors essential information necessary for sound educational planning. These tests are administered on five national testing dates and are available to high school juniors and seniors as well as college students. Applications may be secured from the local high school counselor or the Director of Guidance and Counseling at Shawnee College.

GENERAL EDUCATIONAL DEVELOPMENT (GED)

There are many educationally mature persons who, for some reason or other, did not complete their formal high school training. The General Education Development test provides an opportunity for these adults to secure an evaluation of their educational maturity and competence and receive a high school equivalency certificate. These tests are administered at least five times each year and are available to adults in

the college district. Applications may be secured from the local Superintendent of Educational Services Region.

COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)

Shawnee College is among the increasing number of institutions of higher learning which believe that college-level achievement should be recognized and rewarded without regard to how it was attained. The College-Level Examination Program (CLEP) offers the means by which colleges and universities can realize this objective. Shawnee College CLEP center enables the college to serve individuals who deserve recognition and to provide greater access to the educational opportunities which would have otherwise been denied these individuals. Applications for CLEP testing may be secured from the office of the Director of Guidance and Counseling at Shawnee College.

VOCATIONAL CREDIT BY EXAMINATION

If reasonable evidence exists that a student possesses proficiency in a particular subject area, the student may petition to take a proficiency examination. The petition may be approved by the divisional chairman and the appropriate dean.

A proficiency examination application is available at the Office of the Dean of Students. A \$5.00 application fee must be paid when the completed application is presented to the office of the dean. The schedule of proficiency examinations will be announced by the Office of the Dean of Students.

If a student's achievement on the examination meets the standard set by the college, credit for the course will be entered on the student's permanent record upon certification by the divisional chairman and the appropriate dean. A student will not be certified in any course for which he is not eligible to register for credit.

ENTRANCE TESTS

Various tests are given to incoming freshmen to assess their level of competencies in various areas or to determine their acceptance in particular curricula such as the Practical Nursing Program.

As the need arises individual tests are administered to assist a student to recognize his strengths and weaknesses and thus to aid him in

choosing a career that will be within his range of interests and capabilities.

Information concerning these tests may be secured from the Office of the Director of Guidance and Counseling at Shawnee College.

FINANCIAL AIDS

The goal of the College in promoting a Financial Aids Program is the removal of economic barriers to higher education among the able people of all classes of our society. To accomplish this objective, Shawnee College has developed a variety of financial aids to assist students in overcoming economic problems associated with college attendance.

Shawnee College subscribes to the principle that the amount of financial aid granted a student be based on financial need. Therefore, the ACT Family Financial Statement is required of all students securing federal funds through the college. Inquiries concerning financial aid should be made to:

Director of Financial Aids
Shawnee College
Ullin, Illinois 62992
(618) 634-2242

Veterans' Benefits (G. I. Bill)

Shawnee College has been approved by the State of Illinois approval agency for veterans' education.

Students who have served 180 days or more in the military service after January 31, 1955, should contact the Service offices for the Illinois Veterans' Commission or the Veterans' representative to confirm the possibility of benefits under the G. I. Bill.

To be eligible each student must have a certificate of eligibility for education and training from the Veterans Administration. For further information contact the Shawnee College Coordinator of Veterans Affairs.

War Orphans Assistance Program

The War Orphans Educational Assistance Act (Chap. 35, Title 38, U.S.C.) was amended to provide benefits available not only to sons and daughters of deceased veterans but also to sons and daughters of living veterans who have disabilities which are considered to be total and permanent in nature.

Generally, a young person (man or woman) must be between 18 and 26 years of age to attend school under the program. In certain instances, it is possible to begin school before age 18 and continue after age 26. Marriage is not a deterrent to this benefit.

The program allows up to 36 months of higher education and up to \$270 a month for full-time single students. For married students it allows \$321 a month plus a proportionate increase for each additional dependent. The Veterans Administration does not furnish books.

FEDERAL PROGRAMS

National Direct Student Loan. The NDSL program is available to students who can demonstrate a financial need by the ACT Family Financial Statement. The money borrowed accrues no interest as long as the student remains in school. When repayment period begins, the annual interest rate is three percent.

Supplementary Educational Opportunity Grant. The basic purpose of the SEOG program is to assist students with exceptional financial need. The student does not repay the grant. The grant will provide these students a sum of federal money which must be matched with an equal amount of financial aid through the National Direct Student Loan or College Work-Study program.

The Basic Educational Opportunity Grant. This is a new program of student financial aid which was authorized by Title IV of the Education Amendment of 1972. The amount of financial aid a student may receive is based on a formula which takes into account the amount the student and his family or spouse can be expected to contribute to his education. This grant does not have to be repaid or matched.

College Work-Study Program. Shawnee College provides job opportunities on the campus or through public and private nonprofit agencies for students to earn money with which to finance their education. College work-study students are paid a salary equivalent to the minimum wage.

STATE PROGRAMS

Illinois Guaranteed Loan. This loan enables a student who is an Illinois resident to borrow up to \$1,500 (\$1,000 for freshmen) each year to pay educational expenses. Normally students who receive an IGL are not eligible for an NDSL during the same period.

Some students who receive the IGL may qualify for federal interest benefits. Repayment may also be deferred for up to three years while the borrower is a member of the Armed Forces.

Illinois State Scholarship Monetary Grant. Monetary awards are conferred by the Illinois State Scholarship Commission in annual amounts to students on the basis of financial need. The applicant must be a legal resident of the State of Illinois, as determined by the legal residence of the parent or guardian. Applications are available from the Shawnee College Financial Aid Office and are to be returned to the Illinois State Scholarship Commission. This grant pays tuition and mandatory fees.

Shawnee College Scholarships and Memorial Loan Fund. For those students who have not been able to avail themselves of other scholarships, grants or loans, a memorial or short-term loan fund has been established at Shawnee College. For information concerning these funds, contact the Office of Financial Aid at Shawnee College.

Vocational Rehabilitation Grants. The State of Illinois Division of Vocational Rehabilitation may provide funds for board, room, transportation, and other necessary expenses for a person who is found to be disabled. The applicant must have a disability which prevents his getting a suitable job, or threatens his continued employment. The applicant must have a "reasonable" chance of being able to work in suitable employment after training is provided. Students who have a medical or physical disability should contact an office of Vocational Rehabilitation or the office of the Dean of Students for further information.

Miscellaneous Assistance. Shawnee College has some local scholarship, short-term loans and grants available.

ADMISSIONS

Shawnee College offers admission opportunities to all students qualified to complete any one of its programs, as long as space for effective instruction is available. Programs offered include General Education, Transfer, Occupational, and Continuing Education. Preference in admissions will be given to those students whose legal residence is within the Shawnee College district.

The requirements for admission include the filing of the following forms and numbers with the Dean of Students:

1. Application for admission
2. Transcript from high school or GED scores
3. ACT scores
4. Social Security number

ACT SCORES

Each applicant should have an official copy of his American College Test (ACT) scores on file with the Dean of Students. Shawnee College is a national testing center for ACT and students may take their tests on campus on the designated testing dates. Otherwise, test scores are to be requested from the American College Test Service, Box 168, Iowa City, Iowa 52240. If scores from the American College Test Service are requested, the Shawnee College identification number, 1173, should be given.

REGISTRATION

Applicants who are accepted will be asked to report to the college during the summer for testing and academic counseling. At that time they will be given guidance in planning their programs of study and arranging their class schedules. Final registration will take place during orientation week. Students registering after that date will be required to pay a late registration fee. Ordinarily no student will be admitted to a curriculum before he has been tested. Counseling and pre-registration for the fall and spring semesters and the summer session will take place during the final weeks of the previous semester.



RESIDENCE

Should the number of admission requests exceed the space available, students living within the junior college district will be given first preference. Students living outside the district will be accepted in the order in which applications are filed. If space is not available for all resident students applying, the college will accept those best qualified using rank in class, ability and achievement tests, and other evidence as required by the college.

TUITION AND FEES

The State of Illinois Public Junior College Act of 1965 established that each public junior college charge the same tuition to students residing outside the junior college district within the state as to those residing within the district. The amount of tuition charged may not exceed 1/3 the per capita cost of operation. The junior college district is also authorized to charge out-of-state students the full per capita costs.

Resident Tuition (Residents of Shawnee College District 531)

Per Semester Hour.....\$6.00

The official refund policy for Shawnee College is:

A refund of tuition and fees will be given up to the 10th day of instruction. Refund on the cost of books will be determined on an individual basis primarily depending upon the condition of the book.

Charge-Back Tuition (Residents of Illinois outside Shawnee College District)

A student who resides in a high school district, not located within a junior college district, may have partial costs paid by his high school district if he notifies that district before July 1 that he plans to attend a junior college the following year.

A student who resides in a junior college district which has not begun operation may have partial costs paid by his junior college district if he notifies that district of his intent to attend a junior college the following year.

A student who resides in a junior college district with an operational junior college may have partial costs paid by his junior college district if he enrolls in a program which his local junior college does not offer. In all other cases students from these districts must pay their own costs.

Non-Resident Special Charges

Non-resident out-of-state students will pay special charges determined by per capita costs.

Other Fees (Non-Refundable)

Late registration fee	\$ 2.00
Graduation fee	10.00
Laboratory fee (per semester hour).....	.50

CHANGE OF SCHEDULE

Any change of schedule after registration has been completed shall be processed through the Office of the Director of Guidance and Counseling.

WITHDRAWAL FROM THE COLLEGE

To officially withdraw from Shawnee College, a student must make proper application at the Office of the Director of Guidance and Counseling. An orderly withdrawal procedure assures the student that there would be no procedural problems which would prevent his entering another institution or re-entering Shawnee College.

ACADEMIC REGULATIONS

The progress of students at the college is indicated by the grades received in each course of study. The following grading system is used:

GRADE	GRADE POINTS
A — Excellent	4
B — Good	3
C — Average	2
D — Passing	1
F — Failing	0
I — Incomplete	0
W — Withdrawal	0

A grade of W will be given for any withdrawal within a designated period of each semester. After this time a grade of F will be given in all classes except in cases where extenuating circumstances prevail. In such cases and upon the recommendation of the appropriate dean, a W may be given to the student.

If a student has a legitimate reason for not finishing his work during the current semester, he may receive an "Incomplete" on his transcript. The work, however, must be completed the following semester or the "Incomplete" becomes a grade of "F." This does not include the summer session.

The grade point average (G.P.A.) is computed by multiplying the grade points earned in a course by the number of credit hours for the course, adding these products for each course, and dividing by the total number of credit hours. The grade points with an F will be computed in the G.P.A. unless the course is later repeated with a satisfactory grade. Neither credit hours nor grade points will be computed in those courses where a grade of I or W is assigned. A student's standing in a curriculum is determined by his cumulative G.P.A.

A student who does unsatisfactory work will be given academic warning for that semester. If work is unsatisfactory for the following semester the student will be placed on probation. At this point the student may choose to change his curriculum or continue in his current program, but in either case he must improve his standing satisfactorily or be dropped from school for one academic semester. A student may attend a summer session to raise his G.P.A. to a satisfactory level. The minimum satisfactory average is 2.0.

ATTENDANCE

Attendance at all classes for which a student is registered is expected. Excessive absences may lead to a student being denied the right to take the final examination and consequently to a grade of F in the course.

SCHOLASTIC RECORDS AND STANDARDS

Class records of students are kept by each instructor and are available to the student upon request. A grade report is mailed for each student at the completion of each term.

Complete permanent records are maintained by the registrar and official transcripts are available at any time upon request. Each student is entitled to free transcripts.

TRANSFER OF CREDITS

Colleges and universities reserve the right to reject, in certain cases, credits for courses in which the grade of D was received. Also, they can accept or reject a student for admission based upon the student's academic accomplishment at Shawnee College.

If the student should change his curriculum in the process of transferring from Shawnee College to another college or university, credits for certain courses may not be applicable toward requirements in the new curriculum.

If a student continues the same transfer curriculum started at Shawnee College and has maintained a grade of C or better for all courses taken, it is anticipated that all credits will be accepted in transfer. While there is a question of applicability of particular courses for bachelor degree requirements, it is the responsibility of the student to check with his academic advisor or the Director of Guidance and Counseling.

CLASSIFICATION OF STUDENTS

Students with fewer than 30 semester hours of acceptable credit are classified as freshmen; those with 30 or more semester hours of acceptable credit are classified as sophomores.

STUDENT ACADEMIC LOAD

It is assumed that the usual academic load for full-time students in this institution will be 12-16 semester hours of credit. The total credit hours for any student cannot exceed 18 in any one term nor 12 in any one summer session without written permission from the appropriate Dean.

PRESIDENT'S HONOR LIST

At the completion of each quarter, the President's office will publish a President's Honor List of academic achievement. Any full-time student who has a 4.0 grade point average for that semester will receive this honor.

DEANS' LIST

At the completion of each semester, the Deans will publish a Deans' Honor List of academic achievement. Any full-time student who has a 3.20 grade point average for that semester will be placed on this list.

GRADUATION WITH HONORS

If a student has completed associate degree requirements with a cumulative index of 3.50 or higher, the degree shall be awarded with honors.

CREDIT IN ESCROW

Early admission may be granted in advance of high school graduation if the student is sixteen years of age or older. This credit is contingent on the successful completion of the high school course of study. In no event shall these credits be counted toward high school graduation. Permission for such enrollment must be in writing from the high school superintendent.

PROGRAMS OF STUDY

Several programs of study are available at Shawnee College leading to the degrees of Associate of Arts, Associate of Science, Associate of

Applied Science, and Associate of General Studies; other programs have one or more of the following purposes:

- (1) For preparation to enter an occupation.
- (2) For general education and cultural development.
- (3) General studies for development and preparatory work.

A student planning to transfer to a four year college or university usually can complete the requirements of the first two years of his work at Shawnee College and after two years of further study in the institution to which he transfers graduate with a baccalaureate degree. The student is urged to make a decision regarding transfer plans and to consult with his counselor in order to arrange a program of courses which will satisfy the requirements of the institution of his choice.

REQUIREMENTS FOR GRADUATION

The specific requirements for graduation with an Associate Degree (other than Associate of General Studies) are:

- (1) Successful completion of at least 64 semester hours of college credit, at least 30 semester hours of which must be earned at Shawnee College.
- (2) Enrollment at Shawnee College for the last semester preceding graduation.
- (3) Satisfactory performance and completion of course requirements for the curriculum chosen by the student as outlined.
- (4) A satisfactory grade on the examination covering the constitutions of the State of Illinois and of the United States as required by Senate Bill 95 (the examination is given in American Government 117 which is a required course for all degree candidates).
- (5) A cumulative grade point average for all work taken at Shawnee College of 2.00 or higher.
- (6) Successful completion of the course, Seminar in College Life, a one semester hour course designed to orient the student to the educational opportunities and facilities of the college.

A candidate for an Associate of Arts Degree from Shawnee College must meet the following requirements:

- (1) Successful completion of eight semester hours of college credit in each of the four basic divisions:

- (a) Language Communications
 - 1) Includes 6 required semester hours of English Composition 111, 112.
 - 2) Excludes foreign language
 - (b) Science and Mathematics
 - (c) Social Science
 - 1) Includes 3 required semester hours of American Government 117
 - (d) Humanities
- (2) Successful completion of eight semester hours of college credit in a sequence in foreign language. A student who has two or more years of high school foreign language may enroll in the second year of foreign language if he obtains departmental permission.

A candidate for an Associate of Science Degree from Shawnee College must meet the following requirements:

- (1) Successful completion of eight semester hours of college credit in each of the three basic divisions:
 - (a) Language Communications
 - 1) Includes 6 required semester hours of English Composition 111, 112.
 - 2) Excludes foreign language
 - (b) Humanities
 - (c) Social Science
 - 1) Includes 3 required semester hours of American Government 117
- (2) Successful completion of a minimum of 16 semester hours of college credit in the areas of Science and/or Mathematics.

In the above Associate Degree programs, Literature courses may apply to either the Humanities or Language Communications divisions, but may not apply to both. Western Civilization courses may apply to either Humanities or Social Science divisions, but not to both.

The Associate of Applied Science degree requirements vary depending upon the program area. For specific degree requirements refer to the appropriate program area found in this catalog.

GENERAL STUDIES CURRICULUM

Objectives

The following are assumed to be reasonable objectives for students entering the General Studies Curriculum:

- (1) To provide for those students who do not have adequate background to pursue either transfer or occupational credit.
- (2) To provide instruction which will make it possible for such students to achieve success.
- (3) To provide a second chance for those students who fail to achieve success in other curricula.
- (4) To provide an opportunity for self-development and a sense of self-value.

GRADUATION REQUIREMENTS

Recommendation for the Associate of General Studies Degree will be granted to the student who has:

- (1) Earned 64 semester hours of college credit with at least 30 of the above 64 hours earned at Shawnee College.
- (2) Maintained a cumulative grade point average of 2.00 for all courses presented for graduation.
- (3) Been enrolled at Shawnee College during the semester immediately prior to graduation.

GENERAL STUDIES PROGRAM

Shawnee College has established a program for students whose high school achievement and test scores are below the minimum for admission to other college curricula. This program is designed to give the student every opportunity to develop his abilities, to remove deficiencies, and to qualify for the curriculum of his choice. The program is designed and supervised by the student's faculty advisor within guidelines established by the college. This general studies program is not to be confused with a general studies or general education program at a four-year institution.

CONTINUING EDUCATION

The continuing education program at Shawnee College is considered as an extension of existing programs rather than a separate division of the college. However, some courses are available under the general studies division which are not included in any other college program.

A program for general educational development (G.E.D.) is available in the general studies division which serves to prepare adults to successfully complete requirements for the high school equivalency (G.E.D.) test. This test is administered at Shawnee College. For further information, students should contact the Director of Guidance and Counseling.

Fees charged for each unit of study within the continuing education program will vary; however, the college will make every attempt to keep costs minimal.



APPLIED BIOLOGICAL AND AGRICULTURAL OCCUPATIONS

AGRI-BUSINESS

This program leads to an Associate of Applied Science degree and prepares the student to provide the farmer with goods and services. The types of jobs include salesmen in feeds, seeds, fertilizers, machinery, warehouse managers and employees, and self-employed dealers in agricultural supplies.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	English 105 or 112.....	3
Seminar in College Life 101.....	1	Prod., Sales & Service 131.....	3
Accounting 111.....	4	Business English 117.....	3
Business Organization 119.....	3	Business Finance 220.....	3
Ag. Economics 126.....	3	Government 117.....	3
Total Hours	14	Total Hours	15

SUMMER SESSION

Agri-Business Internship 245.....	4
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SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Speech 111.....	3	Ag. Mgmt. & Inv. Cont. 233.....	3
Business Math 115.....	3	Crop, Lawn and Garden Sales & Service 232.....	3
Business Law 214.....	3	Principles of Sales 228.....	3
Application and Use of Agricultural Chemicals 230.....	3	Practical Psychology 214.....	3
Typing 121.....	3	Health 111.....	2
Total Hours	15	Elective.....	3
		Total Hours	17

AGRICULTURAL RESOURCES

A two-year curriculum leading to an Associate of Applied Science degree and preparing the student for a variety of jobs concerned with conservation and effective use of agricultural resources.

Proper selection of electives will allow the student to emphasize conservation, forestry, or outdoor recreation and park management within the total agricultural resources program.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	English 105 or 112.....	3
Seminar in College Life 101.....	1	American Government 117.....	3
Business Math 115.....	3	Soil Science 124.....	3
Soil Science 123.....	3	Conservation of Water Resources 128.....	3
Conservation of Natural Resources 127.....	3	Outdoor Recreation & Park Management 243.....	3
Health 111.....	2	Total Hours	15
Total Hours	15		

SUMMER SESSION

Agricultural Resources Internship 240.....4

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Forestry 225.....	3	Plant Propagation 231.....	3
Introduction to Wildlife 227.....	3	Surveying 129.....	3
Application & Use of Agriculture Chemicals 230.....	3	Practical Psychology 214.....	3
Crop Science 132.....	3	Nature Interpretation 244.....	3
Elective.....	3	Elective.....	3
Total Hours	15	Total Hours	15

RECOMMENDED ELECTIVES

Biology 111
Botany 213
Speech 111
Forest Management 226
Wildlife Management 228

ANIMAL AND CROP SCIENCE

A two-year curriculum leading to an Associate of Applied Science degree designed to improve in depth the student's ability and knowledge to manage a farm producing livestock and/or crops.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	English 105 or 112.....	3
Seminar in College Life 101.....	1	Soil Science 124.....	3
Business Math 115.....	3	Am. Government 117.....	3
Soil Science 123.....	3	Prac. Psychology 214.....	3
Ag. Economics 126.....	3	Animal Science 223.....	3
Health 111.....	2		
Total Hours	15	Total Hours	15

SUMMER SESSION

Animal and Crop Science Internship 247.....	4
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SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Application and Use of Agricultural Chemicals 230.....	3	Plant Propagation 231.....	3
Crop Science 132.....	3	Grain Production 222.....	3
Ag. Management 130.....	3	Animal Nutrition 122.....	3
Ag. Mechanics 224.....	3	Surveying 129.....	3
Elective.....	3	Elective.....	3
Total Hours	15	Total Hours	15

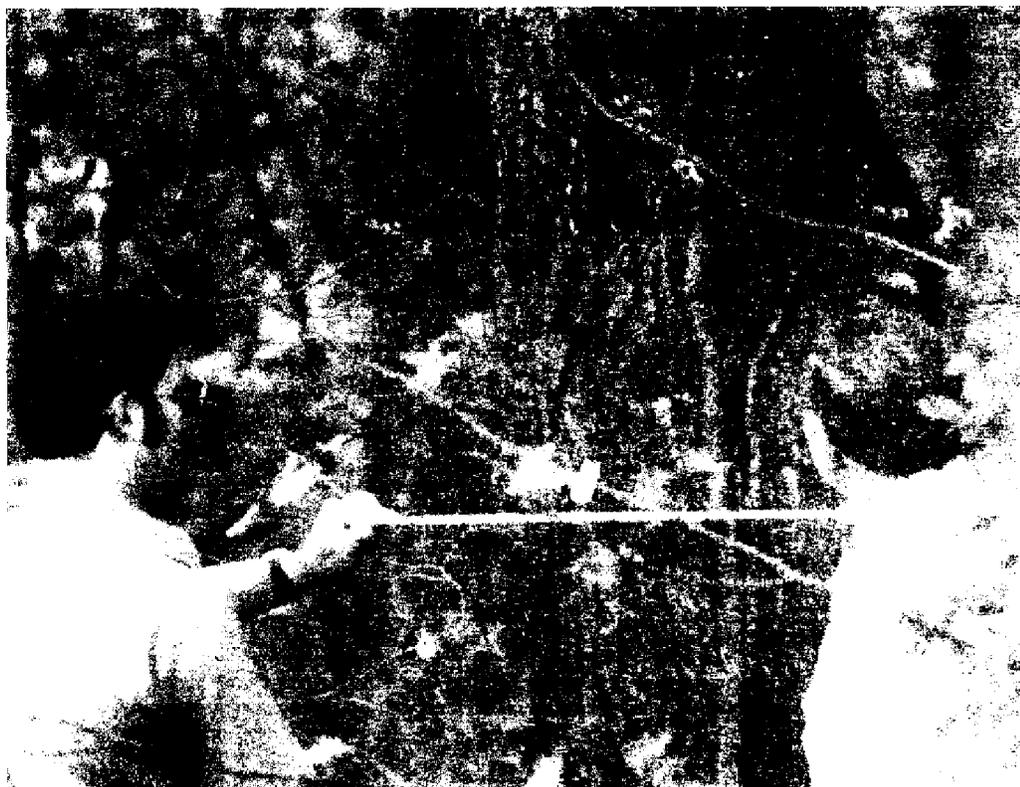
RECOMMENDED ELECTIVES

Livestock Selection and Evaluation 249
Conservation of Natural Resources 127

GREENHOUSE MANAGEMENT

This program should provide the student with the necessary knowledge and skills for employment in the area of greenhouse management. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Greenhouse Operation 112.....	3	Landscape Design 113.....	3
Soil Science 123.....	3	Greenhouse Management 130.....	3
Botany 213.....	4	Horticulture Business Management 131.....	3
Introduction to Horticulture 111.....	5	Internship 132.....	5
Insect Pest & Plant Disease 128.....	3	Total Hours	14
Total Hours	18		



HORTICULTURE — NURSERY MANAGEMENT

This program should provide the student with the necessary knowledge and skills for employment in such areas as horticulture-nursery operations. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Greenhouse Operation 112.....	3	Landscape Design 113.....	3
Soil Science 123.....	3	Nursery Operations 127.....	4
Botany 213.....	4	Horticultural Business Management 131.....	3
Introduction to Horticulture 111.....	5	Internship 132.....	5
Insect Pest & Plant Disease 128.....	3	Total Hours	15
Total Hours	18		

HORTICULTURAL TECHNOLOGY

This program should provide the student with the necessary knowledge and skills in the general area of horticulture such as golf course greens keeper, floriculture, nursery operator and landscape planner. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Greenhouse Operation 112.....	3	Landscape Design 113.....	3
Soil Science 123.....	3	Turfgrass Culture 125.....	4
Botany 213.....	4	Nursery Operations 127.....	4
Introduction to Horticulture 111.....	5	Greenhouse Management 130.....	3
Insect Pest & Plant Disease 128.....	3	Horticultural Business Management 131.....	3
Total Hours	18	Total Hours	17

SUMMER SESSION

Internship 132.....	5
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ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

TURFGRASS MANAGEMENT

This program should provide the student with the necessary knowledge and skills for employment in such areas as golf course greens keeping. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Greenhouse Operation 112.....	3	Botany 213	4
Soil Science 123.....	3	Turfgrass Culture 125.....	4
Landscape Design 113.....	3	Horticultural Business Management 131.....	3
Introduction to Horticulture 111.....	5	Internship 132	5
Insect Pest & Plant Disease 128.....	3	Total Hours	16
Total Hours	17		

WASTEWATER TREATMENT TECHNOLOGY

This program will provide the student with the required knowledge and skills appropriate for employment in the area of wastewater technology. It will prepare the student for employment in sewage treatment plants or other related areas of wastewater technology. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Water/Wastewater Technology 121.....	2	Sewage Treatment 126.....	5
Physical Science 111	4	Water/Wastewater Mechanics 132.....	2
Technical Math 121.....	4	Water and Sewage Purification 122	2
Coding and Planning 131	1	Internship 133	5
Health and Sanitation 130	2	Total Hours	14
Total Hours	13		

WATER TREATMENT TECHNOLOGY

This program will provide the student with the required knowledge and skills appropriate for employment in the area of water treatment technology. It will prepare the student for employment in water plants and other related areas of water treatment technology. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Water/Wastewater Technology 121.....	2	Water/Wastewater Mechanics 132.....	2
Physical Science 111.....	4	Water Treatment 127.....	5
Technical Math 121.....	4	Water/Wastewater 133.....	5
Coding and Planning 131.....	1		
Health and Sanitation 130.....	2		
	Total Hours 13		Total Hours 12

WATER/WASTEWATER TECHNOLOGY

This program will provide the student with the required knowledge and skills appropriate for employment in the area of water/wastewater technology. It will prepare the student for employment in water plants, sanitation plants or other related areas in water and/or wastewater technology. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Water/Wastewater Technology 121.....	2	Water/Wastewater Mechanics 132.....	2
Physical Science 111.....	4	Sewage Treatment 126.....	5
Technical Math 121.....	4	Water Treatment 127.....	5
Coding and Planning 131.....	1	Internship 133.....	5
Health and Sanitation 130.....	2		
Water and Sewage Purification 122.....	2		
	Total Hours 15		Total Hours 17

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

WILDLIFE TECHNOLOGY

A two-year curriculum designed to prepare the student for employment in a variety of jobs related to wildlife management and conservation. The Associate of Applied Science degree will be awarded to the student upon successful completion of this program.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	English 105 or 112.....	3
Seminar in College Life 101.....	1	Soil Science 124.....	3
Business Math 115.....	3	Am. Government 117.....	3
Soil Science 123.....	3	Animal Science 223.....	3
Cons. of Nat. Res. 127.....	3	Conservation of Water Res. 128.....	3
Health 111.....	2	Total Hours	15
Total Hours	15		

SUMMER SESSION

Wildlife Technology Internship 246.....	4
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SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Ag. Economics 126.....	3	Wildlife Mgmt. 228.....	3
Intro. to Forestry 225.....	3	Plant Propagation 231.....	3
Intro. to Wildlife 227.....	3	Prac. Psychology 214.....	3
Application and Use of Agricultural Chemicals 230.....	3	Elective.....	6
Crop Science 132.....	3	Total Hours	15
Total Hours	15		



BUSINESS, MARKETING AND MANAGEMENT OCCUPATIONS

ACCOUNTING

This is a two-year curriculum leading to an Associate of Applied Science degree in accounting and is designed to provide the student with entry level skills as a junior accountant. The student should have a basic knowledge of accounting as it pertains to sales and purchases, commissions, piecework, payrolls, discounts, insurance, and tax computations.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Accounting 111.....	4	Accounting 112.....	4
English 104 or 111.....	3	English 105 or 112.....	3
Business Law 214.....	3	Practical Psychology 214.....	3
Business Machines 125.....	3	Government 117.....	3
Business Organization 119.....	3	Business Math 115.....	3
Seminar in College Life 101.....	1	Total Hours	16
Total Hours	17		

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Accounting 211.....	4	Accounting 212.....	4
Cost Accounting 221.....	3	Auditing 222.....	3
Business English 117.....	3	Health 111.....	2
Introduction to Management 138.....	3	Business Internship 230.....	4
Principles of Marketing 126.....	3	Business Finance & Credit 220.....	3
Total Hours	16	Total Hours	16

CLERK-TYPIST

The purpose of this program is to provide students with an intensive training plan of relatively brief duration, which equips them with the skills necessary for gainful employment in the general clerical area of business and industry.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	Intermediate Typewriting 122.....	3
Typewriting 121.....	3	Secretarial Procedures 226.....	4
Business Math 115.....	3	Business English 117.....	3
Records Management 120.....	3	Business Internship 230.....	4
Business Machines 125.....	3	Machine Transcription 128.....	2
Seminar in College Life 101.....	1	Total Hours	16
Total Hours	16		

EXECUTIVE SECRETARY

A two-year curriculum designed to prepare the student for employment as a secretary capable of taking dictation, transcribing, typing, handling appointments, screening office visitors, reading and writing routine office correspondence. The Associate of Applied Science degree will be awarded upon successful completion of the curriculum.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Shorthand 123.....	3	Shorthand & Transcription 124.....	3
Typewriting 121.....	3	Intermediate Typewriting 122.....	3
Practical Psychology 214.....	3	Government 117.....	3
English 104 or 111.....	3	English 105 or 112.....	3
Business Machines 125.....	3	Business Math 115.....	3
Seminar in College Life 101.....	1	Machine Transcription 128.....	2
Total Hours	16	Total Hours	17

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Business Law 214.....	3	Secretarial Procedures 226.....	4
Typewriting 223.....	3	Business English 117.....	3
Shorthand & Trans. 224.....	3	Shorthand & Trans. 225.....	3
Records Management 120.....	3	Business Internship 230.....	4
Accounting 111.....	4	Health 111.....	2
Total Hours	16	Total Hours	16

LEGAL SECRETARY

A two-year curriculum designed to prepare a student for employment as a legal secretary capable of meeting the demands of the busy legal profession. The lawyer depends on the typing of legal documents, dictation and transcription, research, telephone and reception service, filing, records management, and legal secretarial administration that can only be performed by a well-trained legal secretary. The Associate of Applied Science degree will be awarded upon successful completion of the curriculum.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Business Law 214.....	3	Business Law 215.....	3
English 104 or 111.....	3	English 105 or 112.....	3
Shorthand 123.....	3	Shorthand & Transcription 124.....	3
Beginning Typewriting 121.....	3	Intermediate Typewriting 122.....	3
Seminar in College Life 101.....	1	Government 117.....	3
Business Math 115.....	3	Practical Psychology 214.....	3
Total Hours	16	Total Hours	18

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Business English 117.....	3	Health 111.....	2
Shorthand & Trans. 224.....	3	Shorthand & Trans. 225.....	3
Records Management 120.....	3	Secretarial Procedures 226.....	4
Accounting 111.....	4	Business Internship 230.....	4
Typewriting 223.....	3	Machine Transcription 128.....	2
Total Hours	16	Legal Terminology 229.....	3
		Total Hours	18

MEDICAL SECRETARY

A two-year curriculum designed to prepare the student for employment as a medical secretary capable of taking and transcribing medical dictation, writing reports, and maintaining patient files. The Associate of Applied Science degree will be awarded upon successful completion of the curriculum.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Business Machines 125.....	3	English 105 or 112.....	3
English 104 or 111.....	3	Shorthand & Transcription 124.....	3
Shorthand 123.....	3	Intermediate Typewriting 122.....	3
Practical Psychology 214.....	3	Government 117.....	3
Beginning Typewriting 121.....	3	Business Math 115.....	3
Seminar in College Life 101.....	1	Machine Transcription 128.....	2
Total Hours	16	Total Hours	17

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Medical Terminology 228.....	3	Shorthand & Trans. 225.....	3
Shorthand & Trans. 224.....	3	Secretarial Procedures 226.....	4
Records Management 120.....	3	Business Internship 230.....	4
Accounting 111.....	4	Business English 117.....	3
Typewriting 223.....	3	Health 111.....	2
Total Hours	16	Total Hours	16



MID MANAGEMENT

This curriculum is designed to prepare the student for employment as a liaison between employees and top level management in the business world. The Associate of Applied Science degree in Mid Management will be awarded upon successful completion of the curriculum.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	English 105 or 112.....	3
Business Organization 119.....	3	Practical Psychology 214.....	3
Principles of Marketing 126.....	3	Business Math 115.....	3
Government 117.....	3	Principles of Sales 228.....	3
Seminar in College Life 101.....	1	Elective.....	4
Business Machines 125.....	3		
Total Hours	16	Total Hours	16

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Accounting 111.....	4	Accounting 112.....	4
Introduction to Management 128.....	3	Business Finance & Cr. 220.....	3
Business English 117.....	3	Business Law 215.....	3
Business Law 214.....	3	Business Internship 230.....	4
Elective.....	3	Elective.....	3
Total Hours	16	Total Hours	17

HEALTH OCCUPATIONS

PRACTICAL NURSING

This curriculum is designed to prepare students for entry into the nursing profession upon completion of one year of training. The student should develop a relatively high degree of expertise in the following:

- (1) Nursing the patient whose health has been affected by the aging process.
- (2) Total nursing care for the adult whose nursing needs are relatively stable.
- (3) Caring for the adult whose health has been impaired by nutritional deficiencies.
- (4) Caring for the mother and new-born infant with emphasis on the nutritional needs.
- (5) Caring for the infant and child whose nursing needs are relatively stable.
- (6) Nursing the patient who requires care due to mental deficiencies or illness. This care should assist the patient in performing those activities of daily living.

Clinical experience will be conducted in hospitals and nursing homes.

Students will pay for their uniforms, books, transportation, insurance, and other necessary expenses.

Plans for enrollment should be made early since all admission requirements must be met before entering the program. Entrance requirements include a personal interview, satisfactory completion of pre-testing, and good health as determined by a physical and dental examination. Each entering student must have graduated from high school or possessed a General Education Development certificate.

PRACTICAL NURSING

FIRST SEMESTER	Semester Hours
Introduction to Basic Nutrition 140.....	1
Basic Nursing Skills 141.....	6
Body Structure & Functions 142.....	3
Communications 143.....	1
Personal & Vocational Relationships 144.....	1
Introduction to Pharmacology 146.....	2
Nursing Care of Geriatric Patient 147.....	2
Seminar in College Life 101.....	1
	17
	Total Hours
	17
SECOND SEMESTER	Semester Hours
Nursing Skills 148.....	3
Health and Introduction to Medical-Surgical Nursing 149.....	3
Medical-Surgical Nursing I 150.....	3
Nursing Care of Mother and Newborn 151.....	3
Nursing Care of the Child 152.....	3
Pharmacology 153.....	3
Introduction to Mental Health 145.....	1
	19
	Total Hours
	19
SUMMER SESSION	Semester Hours
Diet Therapy 154.....	1
Personal & Vocational Relationships 155.....	1
Advanced Nursing Skills 156.....	2
Medical-Surgical Nursing II 157.....	6
	10
	Total Hours
	10

ASSOCIATE DEGREE IN NURSING

The Associate Degree in Nursing Program, offered through the Southern Illinois Collegiate Common Market, is developed as an open-curriculum model and is designed to provide career mobility for persons who have completed a practical nursing program or its equivalency through formal or informal methods. Students will be given an opportunity to validate past experiences through utilization of a comprehensive testing program. After assessment by the nursing faculty, an individualized prescriptive-type educational program will be developed with each student.

This unique program is designed to prepare the student for the practice of nursing as defined in the Illinois Nurse Practice Act and meets the requirements for accredited schools in associate degree nursing in Illinois.

Upon satisfactory completion of the program the student will be eligible to write the Illinois State Board Nursing Examination and to become a Registered Nurse.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Nursing and Science 210.....	3	Neurological-Sensory Nursing Interventions 213.....	2
Cardiovascular Nursing Interventions 219.....	2	Dermatological Nursing Interventions 214.....	2
Respiratory Nursing Interventions 220.....	2	Orthopedic Nursing Interventions 215.....	2
Gastrointestinal Nursing Interventions 221.....	2	Genital-Urinary Nursing Interventions 216.....	2
Maternal-Child Nursing Interventions 211.....	4	Metabolic-Endocrine Nursing Interventions 217.....	2
*General Education.....	6	Community Health Nursing 218.....	2
Total Hours	19	*General Education.....	6
		Total Hours	18
THIRD SEMESTER	Sem. Hrs.		
Dermatological Nursing Interventions 214.....	2		
Orthopedic Nursing Interventions 215.....	2		
Nursing Today and Tomorrow 222.....	1		
**General Education.....	3		
Total Hours	8		

*Required General Education
 Communications (2 units)
 Psychology (Human Relations) (1 unit)
 Sociology (1 unit)

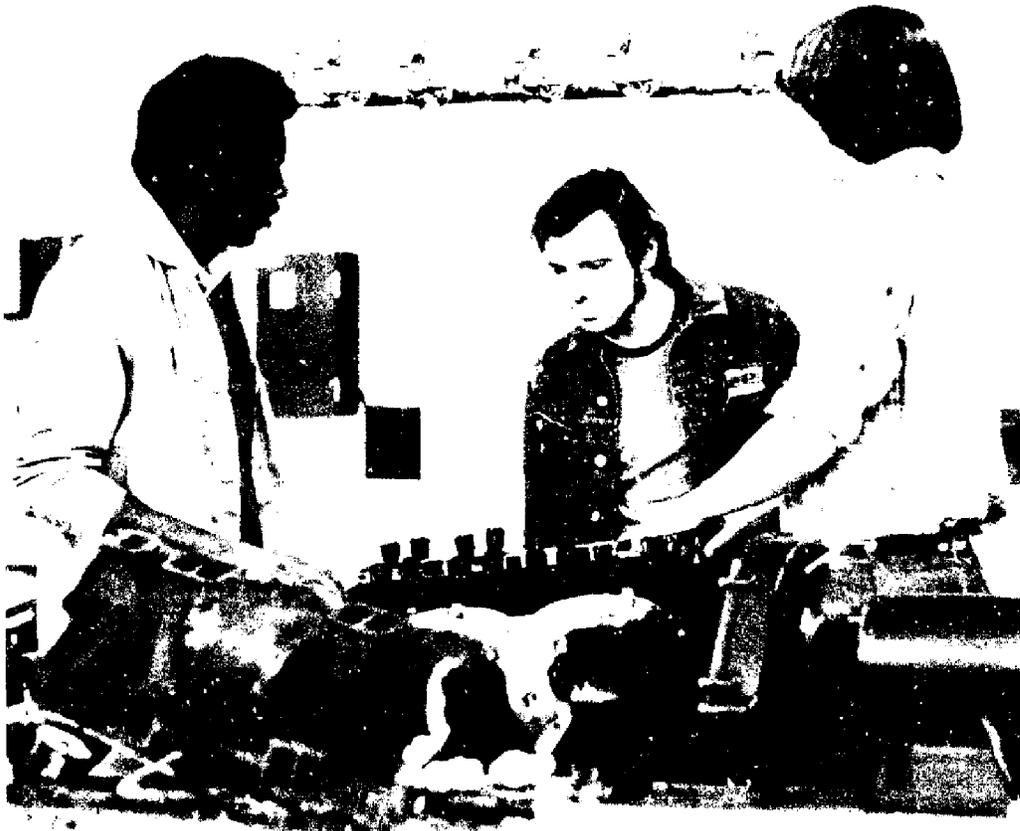
**To be selected by student, dependent on need or interest.

INDUSTRIAL ORIENTED OCCUPATIONS

AUTOMOTIVE MECHANIC HELPER

This program is designed to provide the student with the necessary knowledge and skills required of a mechanic's helper. Upon successful completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Shop Safety 115	1	Tune-Up, Troubleshooting, Diagnosis 112	3
Multi-cylinder Engine Servicing 111	3	Internship 127	5
Brakes, Wheel Alignment, Balance and Suspensions 117	3	Total Hours	8
Auto Power Trains 113	3		
Technical Math 121	4		
Total Hours	14		



AUTOMOTIVE MECHANICS

This program is designed to provide the student with the necessary knowledge and skills required for employment as an auto mechanic. Upon successful completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem Hrs.	SECOND SEMESTER	Sem. Hrs.
Shop Safety 115	1	Auto Blueprint Reading 126	3
Multi-Cylinder Engine Servicing 111	3	Tune-Up, Troubleshooting, Diagnosis 112	3
Brakes, Wheel Alignment, Balance and Suspensions 117	3	AC & DC Electrical Systems 116	3
Auto Power Trains 113	3	Fuel & Fuel Systems 119	3
Technical Math 121	4	Emission Control Systems 118	3
Total Hours	14	Total Hours	15
SUMMER SESSION	Sem. Hrs.		
Manual & Auto Transmissions 123	3		
Air-Conditioning & Heating 114	3		
Internship 127	5		
Auto Shop Management 124	2		
Total Hours	13		

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

AUTOMOTIVE SERVICE

This program is designed to provide the student with the necessary knowledge and skills to enable him to perform minor engine repairs and related services. Upon successful completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Shop Safety 115	1	Tune-Up, Troubleshooting, Diagnosis 112	3
Multi-cylinder Engine Servicing 111	3	AC & DC Electrical Systems 116	3
Brakes, Wheel Alignment, Balance and Suspensions 117	3	Air-Conditioning & Heating 114	3
Auto Power Trains 113	3	Auto Shop Management 124	2
Technical Math 121	4	Internship 127	5
Fuel & Fuel Systems 119	3	Total Hours	16
Total Hours	17		

ARCHITECTURAL DRAFTING

This program is designed to prepare students for employment as draftsmen working primarily in construction industries. A basic knowledge of construction practices, materials and methods, and drafting techniques will allow the student to receive a certificate upon completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Fundamentals of Drafting 120	3	Engineering Graphics 127	4
Blueprint Reading 131	3	Architectural Drafting 122	3
Technical Mathematics 121	4	Materials & Methods of Construction 124	5
Slide Rule 113	1	Technical Math 122	4
Architectural Drafting 121	3	Total Hours	16
Elective	3		
Total Hours	17		

RECOMMENDED ELECTIVES

Math 111
Surveying 129

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

BASIC DRAFTING

This program is designed to provide the student with the basic drafting knowledge and skills for employment as a junior draftsman. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Fundamentals of Drafting 120	3	Mechanical Drafting 135	3
Blueprint Reading 131	3	Technical Math 122.....	4
Technical Mathematics 121.....	4	Elective	3
Slide Rule 113.....	1		
Engineering Graphics 127.....	4	Total Hours	10
Total Hours	15		

RECOMMENDED ELECTIVES

Math 114
Surveying 129

MECHANICAL DRAFTING

The purpose of this program is to prepare skilled technicians for employment by providing the drafting skill and technical knowledge necessary to meet industrial drafting opportunities. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Fundamentals of Drafting 120	3	Metallurgy and Heat Treatment 123.....	3
Blueprint Reading 131	3	Mechanical Drafting 135	3
Technical Mathematics 121.....	4	Technical Math 122.....	4
Slide Rule 113.....	1	Mechanisms & Machine Design 134.....	4
Engineering Graphics 127.....	4	Electric, Hydraulic & Pneumatic	
Elective	3	Controls 136	3
Total Hours	18	Total Hours	17

RECOMMENDED ELECTIVES

Math 114
Architectural Drafting 121

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

TOOL DRAFTING

This program is designed to provide the student with the necessary knowledge and skills required by industry for tool drafting. The student will be exposed to such topics as manufacturing processes, standard parts, engineering data, tolerances and machine elements. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Fundamentals of Drafting 120	3	Metallurgy & Heat Treatment 123	3
Blueprint Reading 131	3	Mechanical Drafting 135	3
Technical Mathematics 121	4	Jig, Fixture and Die Design 137	3
Slide Rule 113	1	Technical Math 122	4
Engineering Graphics 127	4	Electric, Hydraulic & Pneumatic	
Elective	3	Controls 136	3
	Total Hours 18		Total Hours 16

RECOMMENDED ELECTIVES

Math 114
Architectural Drafting 121

ELECTRONICS

This program allows for a thorough study of electricity and electronic principles and prepares the student for entry into the many varied fields of electronics.

Emphasis in this program is placed upon practical and theoretical application of electronic principles. Digital electronics and rotating machinery are also emphasized.

Students may complete a course in F.C.C. license preparation (second class license) and radio communications if emphasis in this area is desired.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Basic Electrical Concepts 110.....	3	Basic Electronic Concepts I 112.....	3
Rotating Machinery I 111.....	3	Rotating Machinery II 113.....	3
Government 117.....	3	Technical Writing 211.....	3
Math 114 or Math 115.....	5	Math 115 or Math 117.....	5
English 111.....	3	Physical Science 112.....	4
Total Hours	17	Total Hours	18

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Electronic Concepts II 210.....	3	Electronic Concepts III 214.....	3
Electric Power Transmission 211.....	3	Digital Electronics II 215.....	3
Digital Electronics I 212.....	3	Industrial Circuits and Controls II 216.....	3
Industrial Circuits and Controls I 213.....	3	Electives.....	9
Math 117 or Math 211.....	5	Total Hours	18
Total Hours	17		

RECOMMENDED ELECTIVES

Radio Communications 217
F.C.C. License Preparation 218

DRILL PRESS OPERATIONS

This program is designed to provide the student with sufficient knowledge and skills for employment as a drill press operator. Experience with feeds and speeds, grinding and drilling operations on modern equipment will be provided. Upon successful completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Machine Tool Fundamentals 116.....	3	Drill Press Operator 121.....	3
Lathe Operations I 117.....	3	Metallurgy and Heat Treatment 123.....	3
Milling Machine Operations I 119.....	3	Technical Math 122.....	4
Blueprint Reading 131.....	3	Total Hours	10
Technical Math 121.....	4		
Total Hours	16		

LATHE OPERATIONS

This program is designed to provide the student with sufficient knowledge and skills required for employment as a lathe operator. Upon successful completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Machine Tool Fundamentals 116	3	Lathe Operations II 118.....	3
Lathe Operations I 117.....	3	Metallurgy and Heat Treatment 123.....	3
Milling Machine Operations I 119.....	3	Technical Math 122.....	4
Blueprint Reading 131	3	Total Hours	10
Technical Math 121.....	4		
Total Hours	16		

INDUSTRIAL MACHINIST

This program is designed to provide the student with sufficient knowledge and skills for employment as a machinist. The student will be prepared to operate various machine tools such as turret lathes, milling machines, and drilling machines. Upon completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Machine Tool Fundamentals 116.....	3	Lathe Operations II 118.....	3
Lathe Operations I 117.....	3	Metallurgy and Heat Treatment 123.....	3
Milling Machine Operations I 119.....	3	Milling Machine Operations II 120.....	3
Blueprint Reading 131.....	3	Drill Press Operations 121.....	3
Technical Math 121.....	4	Machine Shop 122.....	3
	Total Hours 16	Technical Math 122.....	4
		Total Hours	19

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty-two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

MILLING MACHINE OPERATIONS

This program is designed to provide the student with sufficient knowledge and skills for employment as a milling machine operator. Upon successful completion of this program, the student will be awarded a certificate.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Machine Tool Fundamentals 116.....	3	Milling Machine Operations II 120.....	3
Lathe Operations I 117.....	3	Metallurgy and Heat Treatment 123.....	3
Milling Machine Operations I 119.....	3	Technical Math 122.....	4
Blueprint Reading 131.....	3	Total Hours	10
Technical Math 121.....	4		
Total Hours	16		

SURVEYING

This program is designed to provide the student with the basic knowledge and skills as a member of a surveying party. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Surveying 110.....	2	Technical Math 122.....	4
Fundamentals of Drafting 120.....	3	Road Layout and Construction 114.....	3
Technical Math 121.....	4	Surveying 130.....	4
Blueprint Reading 131.....	3	Internship 132.....	5
Contour Surveying 111.....	3	Total Hours	16
Total Hours	15		

SURVEYING CHAINMAN

This program is designed to provide students with knowledge and skills for employment as a chainman for a surveying party. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Surveying 110.....	2	Technical Math 122.....	4
Fundamentals of Drafting 120.....	3	Road Layout and Construction 114.....	3
Technical Math 121.....	4	Total Hours	7
Blueprint Reading 131.....	3		
Contour Surveying 111.....	3		
Total Hours	15		

SURVEYING RODMAN

This program is designed to provide the student with knowledge and skills for employment as a rodman for a surveying party. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Surveying 110.....	2	Technical Math 122.....	4
Fundamentals of Drafting 120.....	3	Surveying 130.....	4
Technical Math 121.....	4		
Blueprint Reading 131.....	3		
Contour Surveying 111.....	3		
		Total Hours	8
	Total Hours		15

ARC WELDING

This program will provide the student with the necessary knowledge and skills required for employment as an arc welder. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Arc Welding I 123.....	3	Arc Welding II 124.....	3
Metallurgy and Heat Treatment 123.....	3	Low Hydrogen ARC Welding 127.....	3
Technical Math 121.....	4		
Blueprint Reading 131.....	3		
		Total Hours	6
	Total Hours		13



ASSEMBLY LINE WELDING

This program is designed to provide the student with sufficient knowledge and skills in basic arc welding for employment as an assembly line welder. A certificate will be awarded upon successful completion of the program.

	Sem. Hrs.
Arc Welding I 123	3
Metallurgy and Heat Treatment 123.....	3
Technical Math 121.....	4
Blueprint Reading 131	3
Elective	3
Total Hours	16

COMBINATION WELDING

This program will provide the student with the necessary knowledge and skills appropriate for employment in the areas of electric and oxyacetylene welding. Students completing this program should have sufficient preparation to become certified welders.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Arc Welding I 123	3	Arc Welding II 124	3
Metallurgy and Heat Treatment 123.....	3	MIG Welding 125.....	3
Technical Math 121.....	4	Advanced Gas Welding 126	3
Blueprint Reading 131	3	Low Hydrogen ARC Welding 127	3
Gas Welding and Cutting 120.....	3	Pipe Welding 128.....	3
Total Hours	16	Total Hours	15

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty-two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

GAS WELDING

This program will provide the student with the necessary knowledge and skills required for employment as a gas welder. A certificate will be awarded upon successful completion of the program.

	Sem. Hrs.
Gas Welding and Cutting 120.....	3
Metallurgy and Heat Treatment 123.....	3
Technical Math 121.....	4
Blueprint Reading 131.....	3
Advanced Gas Welding 126.....	3
Total Hours	16

MIG WELDING

This program will provide the student with the necessary knowledge and skills in metallic inert gas welding sufficient for employment as a MIG welder. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Arc Welding I 123.....	3	Arc Welding II 124.....	3
Metallurgy and Heat Treatment 123.....	3	MIG Welding 125.....	3
Technical Math 121.....	4	Total Hours	6
Blueprint Reading 131.....	3		
Total Hours	13		

PERSONAL AND PUBLIC SERVICE OCCUPATIONS

BAKING TECHNOLOGY

This program will provide the student with the necessary knowledge and skills sufficient for entry level employment as a baker. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Food Services 110.....	3	Food Plant Equipment 115	2
Food Service Sanitation and Safety 111.....	2	Baking 124.....	3
Introduction to Food Preparation 112	3	Introduction to Business Management	
Introduction to Baking 114	2	128.....	3
Business Math 115.....	3	Electives	3
Nutrition 125.....	3	Food Service Internship 126.....	5
Total Hours	16	Total Hours	16

COOKING TECHNOLOGY (CHEF)

This program will provide the student with the necessary knowledge and skills sufficient for entry level employment as a chef. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Food Services 110.....	3	Fish, Eggs & Poultry 117	3
Food Service Sanitation and Safety 111.....	2	Cooking Technology 123	3
Introduction to Food Preparation 112	3	Introduction to Business Management	
Introduction to Baking 114	2	128.....	3
Business Math 115.....	3	Food Services Internship 126	5
Nutrition 125.....	3	Food Plant Equipment 115	2
Total Hours	16	Total Hours	16

FOOD SERVICE TECHNOLOGY

This program will provide the student with the necessary knowledge and skills sufficient for entry level employment in a variety of positions in the food service industry. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Food Services 110.....	3	Meat Cutting & Processing 113.....	3
Food Service Sanitation and Safety 111.....	2	Fish, Eggs, Poultry Cookery 117.....	3
Introduction to Food Preparation 112.....	3	Baking 124.....	3
Introduction to Baking 114.....	2	Cooking Technology 123.....	3
Business Math 115.....	3	Total Hours	12
Food Plant Equipment 115.....	2		
Nutrition 125.....	3		
Total Hours	18		

SUMMER SESSION

	Sem. Hrs.
Food Services Internship 126.....	5
Introduction to Business Management 128.....	3
Total Hours	8

ASSOCIATE OF APPLIED SCIENCE DEGREE

The above certificate program may be extended into an Associate of Applied Science degree upon successful completion of an additional thirty-two semester hours consisting of at least six semester hours in each of the following areas: Communications, Mathematics and Science, Social Studies (Must include American Government 117), and Humanities.

COSMETOLOGY

The cosmetology program is designed to provide students with the basic knowledge and skills in accordance with the Department of Registration and Education guidelines to train licensed beauticians. A minimum of 1500 contact hours for 36 semester hours college credit will prepare the graduate for the Illinois State Licensing Examination.

FIRST SEMESTER	Sem. Hrs.
Cosmetology Theory 110.....	3
Cosmetology Lab 113.....	9
Total Hours.....	12

SECOND SEMESTER	Sem. Hrs.
Cosmetology Theory II 111.....	3
Cosmetology Lab 114.....	9
Total Hours.....	12

THIRD SEMESTER	Sem. Hrs.
Cosmetology Theory 112.....	3
Cosmetology Lab 115.....	9
Total Hours.....	12



CONSERVATION LAW ENFORCEMENT TECHNOLOGY

A two-year curriculum leading to an Associate of Applied Science degree in conservation law enforcement. This program would prepare the student for a variety of jobs in conservation law enforcement.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111.....	3	English 105 or 112.....	3
Seminar in College Life 101.....	1	Criminal Law 209.....	3
Intro. to Crime Control 103.....	3	Am. Government 117.....	3
Elective.....	3	Practical Psychology 214.....	3
Cons. of Nat. Res. 127.....	3	Cons. of Water Resources 128.....	3
Health 111.....	2		
	Total Hours		Total Hours
	15		15

SUMMER SESSION

Conservation Law Enforcement Internship 248.....	4
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SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Intro. to Forestry 225.....	3	Plant Propagation 231.....	3
Intro. to Wildlife 227.....	3	Sociology 212.....	3
Application and Use of Agricultural Chemicals 230.....	3	Elective.....	3
Criminal Behavior 105.....	3	Speech 111.....	3
Elective.....	3	Survey of Methods in Crime Detection 205.....	3
	Total Hours		Total Hours
	15		15

LAW ENFORCEMENT

This thirty hour certificate program is designed to provide the student with sufficient background for employment in the law enforcement profession. When considering this program students should be aware of the fact that many law enforcement agencies generally require a person to be twenty-one years of age for employment.

Specialized law enforcement classes in this program may be offered *only* at night unless a sufficient number of day law enforcement students exist to justify these courses as day offerings.

This program is designed in cooperation with Southern Illinois University. All credit received in this program will be accepted as credit leading to the Associate Degree in law enforcement from the School of Technical Careers at S.I.U.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Sociology 212	3	Speech 111	3
American Government 117	3	Criminal Law 209	3
Introduction to Crime Control 103	3	English 112	3
English 111	3	Interpersonal Relations 115	3
Criminal Behavior 105	3	Survey of Methods in Crime	
Total Hours	15	Detection 205	3
		Total Hours	15

MEAT CUTTING TECHNOLOGY

This program will provide the student with the necessary knowledge and skills sufficient for entry level employment in meat cutting and processing. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Introduction to Food Services 110.....	3	Meat Cutting & Processing 113.....	3
Food Service Sanitation and Safety 111.....	2	Food Plant Equipment 115.....	2
Introduction to Food Preparation 112.....	3	Introduction to Business	
Introduction to Baking 114.....	2	Management 128.....	3
Business Math 115.....	3	Elective.....	3
Nutrition 125.....	3	Food Services Internship 126.....	5
	Total Hours		Total Hours
	16		16

SOCIAL SERVICE TECHNOLOGY

This curriculum is designed to prepare students for employment in agencies which provide social services to the community. Upon completion of the program, which leads to the Associate of Applied Science Degree, the graduate is prepared for employment in welfare agencies, municipal recreation programs, social development projects, church-sponsored youth programs, and other private or public enterprises of human welfare.

FRESHMAN YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Health 111.....	2	English 105 or 112.....	3
English 104 or 111.....	3	Science Elective.....	4
Math Elective.....	3	Practical Psychology 214.....	3
Seminar in College Life 101.....	1	Introduction to Social Problems 122.....	3
Introduction to Social Work 121.....	3	Government 117.....	3
Elective.....	4	Total Hours	16
Total Hours	16		

SOPHOMORE YEAR

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
Marriage & Family 227.....	3	Abnormal Psychology 219.....	3
Introduction to Group Processes 221.....	3	Advanced Group Processes 222.....	3
Principles of Recreation 223.....	3	Practicum 225.....	4
Human Growth & Development 228.....	3	Elective.....	7
Introduction to Service Agencies 224.....	3	Total Hours	17
Total Hours	15		

RECOMMENDED ELECTIVES

Physical Science 111
 Physical Science 112
 Biology 111
 Speech 111
 Speech 212
 Introduction to Psychology 211

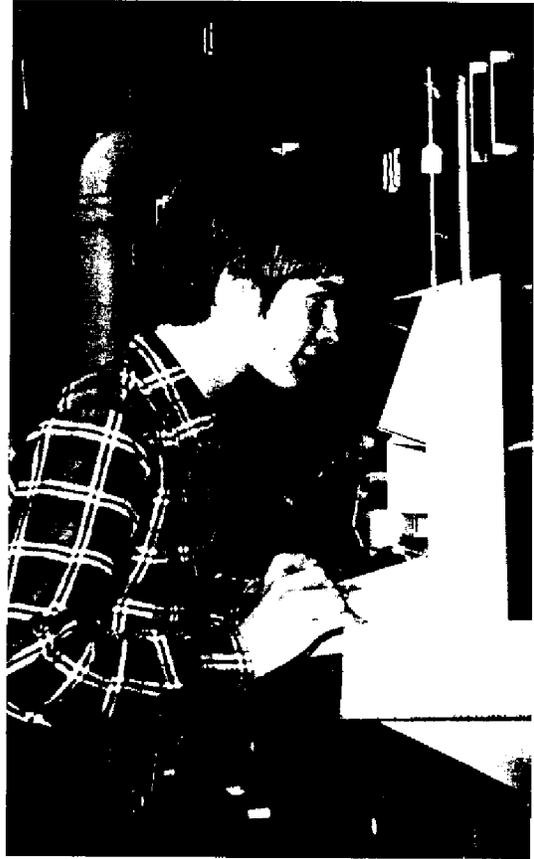
TEACHER'S AIDE

This program is designed to prepare the student for employment as a teacher aide in the Illinois public or private school system. Emphasis will be placed on relevant, practical topics for the future teacher aide. This program meets the basic requirements of the Office of the Superintendent of Public Instruction for a fully approved teacher aide program. A certificate will be awarded upon successful completion of the program.

FIRST SEMESTER	Sem. Hrs.	SECOND SEMESTER	Sem. Hrs.
English 104 or 111	3	Electives	6
Human Growth & Development 228	3	Practical Psychology 214	3
Introduction to Teacher Aide Duties 121	3	School Procedures 123	3
Teaching Materials and Their Use 122	3	Practicum 225	5
Elective	3	Total Hours	17
Total Hours	15		

RECOMMENDED ELECTIVES

Music 115
 Art 114
 Literature 211, 212 or 213
 Math 111
 English 105 or 112





COURSES OF STUDY

AGRICULTURE

AGR 122 Animal Nutrition

Study of the common feeding methods of livestock, including their relation to growth, maintenance and reproduction.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 123 Soil Science

Fundamental study of the chemical and physical structure of soils of Southern Illinois. Anatomy and physiology of plants. Relationships between soil structure and plant production.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

AGR 124 Soil Science

A study of the various methods of soil testing and how the results can be interpreted to make fertilizer recommendations. Investigation of chemical and organic fertilizers and their uses in modern crop production.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Soil Science 123

AGR 126 Agriculture Economics

A study of the role of agriculture in the present economy, nature and size of agricultural industries, future economic prospects for agriculture and government.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 127 Conservation of Natural Resources

A study of conservation of natural resources at the national, state, and local levels.

Credit: 3 hours — Three lecture hours per week.

AGR 128 Conservation of Water Resources

Study of water sheds, effective methods of controlling floods, pollution and water supplies.

Credit: 3 hours — Two lecture and two lab hours per week.

AGR 129 Surveying

Fundamentals and concepts of surveying as it applies to agricultural usage in conservation practices.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: None

AGR 130 Agriculture Management

A study is made of the methods, characteristics and types of agriculture in Southern Illinois. Assignments are given which assist the student in applying management principles to a farm operation.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 131 Products, Sales & Service

An introductory course which covers services rendered, product knowledge, display, pricing, advertising farm products, sales and service.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 132 Crop Science

A study of the fundamental principles underlying the production of agricultural crops.

Credit: 3 hours — Three lecture hours per week.

AGR 222 Grain Production

A detailed study of various crops, their planting, growth, harvest and utilization. The identification of insects and diseases common to crops and how these hazards may be diminished.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Crop Science 132

AGR 223 Animal Science

Production methods of livestock, effects of metabolic processes, infections and parasitic diseases. Selection and genetics of livestock.

Credit: 3 hours — Three lecture hours per week.

AGR 224 Agriculture Mechanics

The operation, construction, adjustment, maintenance and repair of farm machinery and buildings with emphasis placed on repairs, including the use of arc and gas welding.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

AGR 225 Introduction to Forestry

Fundamentals of forestry operations, including principles of stocking, yields, growth, continued production, rotation, and control of cut.

Credit: 3 hours — Three lecture hours per week.

AGR 226 Forest Management

Study of the commercial uses of forest and forest products.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Introduction to Forestry 225

AGR 227 Introduction to Wildlife

Identification of area wildlife including their life cycles, habitats and uses.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 228 Wildlife Management

A study of the balance of nature, habitat improvement, and control of wildlife and their predators.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Introduction to Wildlife 227

AGR 230 Application and Use of Agriculture Chemicals

A study of the role of chemicals in agriculture, including herbicides, insecticides, seed treatments, and livestock chemicals. Identification of weeds and insects and their prevention, control and eradication.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 231 Plant Propagation

Study of the natural methods of plant propagation with emphasis upon asexual reproduction.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

AGR 232 Crops, Lawn and Garden Sales & Service

A course designed to introduce the student to crop seeds, lawn and garden seeds, and orchard supplies; their characteristics and utilization factors necessary to adapt to Southern Illinois agricultural practices.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 233 Agriculture Management & Inventory Control

The economic framework of agriculture businesses: organizing for effective management and management in local businesses; servicing agriculture including the management of custom services, retail credit, purchasing, inventory and customer relations.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Business Organization 119 or consent of the instructor

AGR 240 Agriculture Resources Internship

This course is designed to give the student practical work experience in a position similar to one for which the program is designed to prepare him.

Credit: 4 hours — One lecture and fifteen lab hours per week.

AGR 243 Outdoor Recreation and Park Management

Policy, development and administration of outdoor recreation as encountered in forest, park and wildlands. Topics covered include outdoor recreation, Resource Review Commission report, programs for outdoor recreation and policies for both public and private administration.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

AGR 244 Nature Interpretation

Appreciation of nature as an outdoor activity. Interpretation of nature as it relates to the National Park System, National Forests, Wildlife areas and urban sites. Man's current malaise with the natural environment will be stressed.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

AGR 245 Agri-Business Internship

This course is designed to give the student practical work experience in a position similar to one for which the program is designed to prepare him.

Credit: 4 hours — One lecture and fifteen lab hours per week.

AGR 246 Wildlife Technology Internship

This course is designed to give the student practical work experience in a position similar to one for which the program is designed to prepare him.

Credit: 4 hours — One lecture and fifteen lab hours per week.

AGR 247 Animal and Crop Science Internship

This course is designed to give the student practical work experience in a position similar to one for which the program is designed to prepare him.

Credit: 4 hours — One lecture and fifteen lab hours per week.

AGR 248 Conservation Law Enforcement Internship

This course is designed to give the student practical work experience in a position similar to one for which the program is designed to prepare him.

Credit: 4 hours — One lecture and fifteen lab hours per week.

AGR 249 Livestock Selection and Evaluation

A study of the desirable type and economically important characteristics used in selecting, breeding, and slaughtering beef cattle, swine and sheep. Selection of dairy cattle and horses will also be covered.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: None

BIOLOGICAL SCIENCE**BIO 111 Introduction to Biology**

This course sequence covers a year's survey of the basic problems faced by all forms of life, whether plant, animal, or microbe, and compares the various alternative "solutions" to these problems as used by a variety of organisms. Emphasis will be on the chemical and cellular basis of life and the biology of organisms.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

BIO 112 Biology

A continuation of Biology 111. The emphasis is placed upon the perpetuation of life, population and communities, evolution, the plant kingdom, and the animal kingdom.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Biology 111

BIO 211 Environmental Biology

Environmental biology is ecology. Emphasis is placed upon ecosystems, populations, and communities. Contemporary problems in human ecology are discussed from articles found in periodicals.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Biology 112

BIO 212 Introductory Human Physiology

The structure and function of organs and systems will be systematically surveyed. The discussions will provide a basic overview of the gross, as well as, the cellular and subcellular components of the human body. The course will be of benefit to students in many disciplines such as biology, medicine, pharmacy, dentistry, psychology and philosophy.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Biology 112

BIO 213 Botany

Introduction to the structure, development, relationships, ecological and economical importances of the algae, fungi, mosses, ferns, and the higher vascular plants. Some work in identification of plants is included.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Biology 112 or approval of the appropriate dean.

BUSINESS

ACC 111 Accounting

An introduction to accounting theory and principles. The successive steps in the accounting cycle. Subjects covered include special journals and ledgers, working papers, adjusting and closing the books, preparation of statements, columnar journals and controlling accounts. Emphasis on internal control notes, interest, inventories, partnerships, depreciation, accruals, and special adjusting entries.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: None

ACC 112 Accounting

A continuation of the study of accounting principles and their application to corporations, manufacturing, payroll, inventories, and income taxes.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Accounting 111

ACC 211 Accounting

A comprehensive study of financial accounting theory and practice. Subjects covered include foundations of accounting theory, the reporting process, inventories, asset valuations, income determination, corporate information, combinations and consolidations.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Accounting 112

ACC 212 Accounting

Continued specialization in investments, receivables, current and contingent liabilities, corporate accounting, accounting for bonds, fund accounting, statement preparation, continued financial accounting theory and practice.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Accounting 211

ACC 220 Business Finance & Credit

A study of finances of a small business operation, source of money, determination of credit needs, records, security and repayment plans.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ACC 221 Cost Accounting

Job order, process accounting, and standard cost accounting for manufacturing. Theory and technique of costing on actual and normal basis, and distribution costs are presented.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Accounting 112

ACC 222 Auditing

Introduction to the principles involved in preparing audits of various accounts of a business enterprise, verifications and investigations, working papers, audit procedures, report writing and ethics of the profession.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Cost Accounting 221

BUS 115 Business Mathematics

Practice of fundamental mathematical processes with application to their use with percents, discounts, payroll, banking services, notes, simple interest, depreciation, and other typical business calculations.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

BUS 117 Business English

The practical application of English and communication processes to meet the needs of business. Examines written communications by surveying several types of business letters, specialized business

correspondence and job application papers. Reviews principles of oral communication. Spelling, language and punctuation are incorporated into the study of business communications.

Credit: 3 hours — Three lecture hours per week

Prerequisite: English 104 or consent of appropriate dean.

BUS 119 Business Organization

Study of organization structure; problems of organizing a business; business opportunities; locating, housing, equipping, laying out production facilities; financing; personnel organization, and government business relations.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

BUS 126 Principles of Marketing

Introduction to the marketing structure as it exists and functions. Emphasis is placed upon the manager's and consumer's influence in marketing functions. The product: packaging and branding, industrial and consumer products, product planning and development.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

BUS 128 Introduction to Management

Principles and practices of establishing and operating a business are presented, including opportunities, hazards, and problems which might be encountered. Fundamental considerations, planning, organizing, actuating and controlling management application of principles and techniques to all activities.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

BUS 214 Business Law

Introduction to Law: nature, function, and classification. General understanding of the reasons for some of our laws governing businesses and people involved in business-related activities.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

BUS 215 Business Law

The significant phases of law dealing with partnerships, corporations, unincorporated associations, and related topics. Emphasis is placed on laws which regulate the business enterprise.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Business Law 214 or consent of appropriate dean.

BUS 228 Principles of Sales

Basic principles underlying the sales process are covered. The course is designed to promote an understanding of the salesman's obligation to himself, the company, and the customer.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

BUS 230 Business Internship

The student will work part-time for a period of one or two semesters as an intern in a business firm under the supervision of the staff of the Business Division.

Credit: 4 hours — Fifteen lab and one lecture hour per week.

Prerequisite: Consent of the department chairman.

SEC 120 Records Management

Fundamentals in alphabetic, numeric, geographic and subject filing. Indexing practices and rules which govern retrieval. Transfer, disposal and other management aspects will be covered.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SEC 121 Beginning Typewriting

Typewriter keyboard, techniques of developing speed and accuracy, centering, tables, letters and manuscripts. Minimum 5 minute speed of 35 wpm at end of course. Individualized self-paced method of instruction. Course may be waived based by placement test.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: None

SEC 122 Intermediate Typewriting

A continuation of beginning typing with emphasis on straight copy typing as well as timed production work. Includes letters, tables, memos, forms, reports, stencils, dittos, Minimum 5 minute speed of 45 wpm required at end of course. Individualized self-paced method of instruction. Course may be waived by placement test.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Beginning Typewriting 121 or placement test.

SEC 123 Beginning Shorthand

A complete course in Gregg shorthand theory with brief forms, phrasing and vocabulary. Emphasis on writing speed with typewritten transcription. Minimum 3 minute dictation and transcription at 50 wpm at end of course. Course may be waived by placement test. Credit: 3 hours — One lecture and four lab hours per week. Prerequisite: Beginning Typewriting 121 enrollment or completion.

SEC 124 Shorthand and Transcription

Development of dictation and transcription skills. Minimum 3 minute dictation and transcription at 70 wpm at end of course. Includes mailable letter transcription. Course may be waived by placement test.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Beginning Shorthand 123 or placement test.

SEC 125 Business Machines

A laboratory course which includes addition, subtraction, multiplication, and division on the ten-key adding machine, rotary, printing, electronic, and key-driven calculators. Basic skills are applied to payroll, percentage, merchandise, and simple interest problems. The student gains necessary skill needed for competent business machine operation.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: None

SEC 128 Machine Transcription

Typewriter transcription of prerecorded data from transcription machine into mailable letters. Includes punctuation, spelling, word usage, corrections and other transcription skills.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Beginning Typewriting 121.

SEC 223 Advanced Typewriting

A continuation of intermediate typing with emphasis on speed development and timed production work. Government, medical, technical, financial and legal correspondence. Minimum 5 minute speed of 50 wpm at end of course. Individualized self-paced method of instruction.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Typewriting 122 or placement test.

SEC 224 Shorthand and Transcription

Increased development of dictation and transcribing skills. Minimum 3 minute dictation and transcription at 90 wpm at end of course. Strong emphasis on mailable letter transcription.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Shorthand and Transcription 124 or placement test.

SEC 225 Shorthand and Transcription

Increased emphasis on mailable letter transcription. Minimum 3 minute dictation and transcription at 110 wpm at end of course.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Shorthand and Transcription 224.

SEC 226 Secretarial Procedures

A comprehensive study of the duties of the secretary. Topics examined include the secretarial profession, duplicating, communications, personality, and human relations. Knowledge, attitudes, and values that are important for competent performance on the job are stressed.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Typing 121 or the equivalent through proficiency testing.

SEC 228 Medical Terminology

Development of a medical vocabulary through the study of word construction, spelling and pronunciation, medical abbreviations and symbols, and use of terminology in correspondence and reports used in the medical profession.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Typing 121 or the equivalent through proficiency testing.

SEC 229 Legal Terminology

Development of a legal vocabulary through the study of word construction, spelling and pronunciation, legal abbreviations and symbols, and use of terminology in correspondence and reports used in the legal profession.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Shorthand 224 and Typing 121 or the equivalent through proficiency testing.

COMMUNICATIONS

ENGLISH

ENG 101 Reading Improvement

This is a basic or fundamental course and will be used as a prerequisite for some students. The course is designed to assist the student in developing his reading and study skills to the functional level of achievement necessary for college work. The course provides specific practice required to maintain these skills at a high level. Improvement will be sought in the four areas of reading: vocabulary, comprehension, study skills, and fluency.

Credit: 2 hours — Two lecture hours per week.

Prerequisite: None

ENG 102 Reading Improvement

Continuation of Reading Improvement 101.

Credit: 2 hours — Two lecture hours per week.

Prerequisite: Reading Improvement 101

ENG 104 English

This English course is designed as a basic or fundamental course and will be used as a option to ENG 111 English for vocational students. This beginning course in English grammar and composition includes the fundamental principles of writing and is aimed at helping students who need assistance in the improvement of writing skills.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ENG 105 English

Continuation of English 104.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: English 104

ENG 111 English Composition

A composition course with stress on language skills — reading, writing, speaking, and listening. Reading and writing fall into the general categories of description, exposition, narration, and argumentation.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ENG 112 English Composition

Continuation of English Composition 111.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: English Composition 111

ENG 221 Technical Writing

A study of the organization and writing of technical materials, with emphasis on description, process, abstract, technical reports and manuals.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

JOURNALISM

JOU 115 Journalism

Emphasis on newswriting, stressing development of terseness and vigor of style. Studying characteristics of outstanding newspapers. Practice in proofreading and layouts. Class publishes the college paper. Typing ability is helpful; some lab work required.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

JOU 116 Journalism

A continuation of Journalism 115. Greater emphasis on writing heads and leads, feature stories, and editorials.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

JOU 211 Sophomore Writing

Study and disciplined practice of the basic techniques of effective imaginative writing with considerable allowance for individual interests. Analysis of rhetorical models, discussion of short stories, and criticism of manuscripts produced by class members.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

JOU 212 Sophomore Writing

A continuation of Sophomore Writing 211.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Journalism 211

JOU 213 Expository Writing

Further practice in writing informative and persuasive prose, with considerable allowance for individual interests. Special attention to the kinds of writing expected in advanced academic work: Book reports, critical papers, presentation of research findings.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Journalism 212

SPEECH**SPC 111 Basic Oral Communication**

Oral communication. This course is designed to give the student the basic principles of interpersonal communication with emphasis upon the techniques of communication orally. Various types of oral presentation are studied with emphasis upon public speaking. Attention is given to voice, bodily action, organization of material and to the speaker's character and responsibility to society.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SPC 112 Oral Interpretation

Oral interpretation. Problems and techniques of reading various types of literature orally are studied and practiced.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SPC 113 Introduction to Drama

Introduction to drama. Modern and ancient plays are studied with emphasis on dramatic conventions and devices used to give form and meaning to human experience.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SPC 114 a,b Forensic Activities

Forensic Activities. Students engaged in actual communication situations in the community or in interscholastic speech competition may earn one hour credit per semester. A total of four semester hours may be accumulated. Two lab hours per week are utilized to research and practice for speech activities.

Credit: 1 hour — Two lab hours per week.

Prerequisite: None

SPC 211 Group Discussion

A study of the principles, methods, and types of discussion and their application in the solving of modern day problems.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Basic Oral Communication 111 or consent of instructor.

SPC 212 Argumentation and Debate

The principles of argument analysis, evidence reasoning, fallacies, briefing, and delivery are studied and applied in debating experiences.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Basic Oral Communication 111 or consent of instructor.

SPC 213 Theatre

Attention is given to the various aspects of play production with opportunity to gain experience in one or more of the theatrical arts.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Introduction to Drama 113 or consent of instructor.

SPC 214 a,b Forensic Activities

Continuation of Speech 114 a,b.

Credit: 1 hour — Two lab hours per week.

Prerequisite: None

FOREIGN LANGUAGE

FRN 111 French

An introductory course designed to present the fundamentals of French grammar, vocabulary, and culture. There is constant use of the language in the classroom, with graduated reading and writing.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

FRN 112 French

A continuation of French 111 with increased stress on conversation. Aspects of grammar of greater complexity are presented, with readings and reports based on French culture and civilization.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: French 111

FRN 211 French

Continued practice in speaking and reading French following review of basic principles. Occasional oral reports in French graded to students' conversational level. Practice in reading at sight.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: French 112

FRN 212 French

Continuation of French 211.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: French 211

GER 111 German

A beginning course which stresses the conversational approach to the language. Essential grammar is studied and composition is introduced.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

GER 112 German

A continuation of German 111.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: German 111

GER 211 German

A review of grammar combined with the reading of selected works of contemporary German authors. Oral expression as well as composition is stressed.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: German 112

GER 212 German

A continuation of German 211.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: German 211

SPA 111 Spanish

An introductory course designed to facilitate conversation from the beginning, with adequate emphasis on writing. The course is taught in Spanish with translation only where necessary.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

SPA 112 Spanish

A continuation of Spanish 111. Increased stress on reading in order to inculcate idiomatic use of the language. Constant oral practice.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Spanish 111

SPA 211 Spanish

Intermediate Spanish. Continued major emphasis on conversation with beginning writing.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Spanish 113

SPA 212 Spanish

A continuation of 211. Increased use of contemporary oral and written Spanish material from Latin America.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Spanish 211

HEALTH OCCUPATIONS

PRACTICAL NURSING

PN 140 Introduction to Basic Nutrition

This course is designed to introduce the practical nurse student to the basic food groups and nutritional requirements essential for maintenance of good health.

Credit: 1 hour — One lecture hour per week.

Prerequisite: None

PN 141 Basic Nursing Skills

This course will provide the concurrent instruction and supervised clinical laboratory experience necessary to meet the nursing needs of patients at an introductory level.

Credit: 6 hours — Five lecture hours and three lab hours per week.

Prerequisite: None

PN 142 Body Structure and Functions

This course is intended to help the practical nurse student give more intelligent nursing care because she better understands the normal functions of the body through a basic knowledge of anatomy and physiology. This basic knowledge will be reinforced and built upon throughout the program.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

PN 143 Communications

This course is directed toward improving the verbal, non-verbal and written communicative skills. It is our intention to encourage the nurse to realize the importance of communications in her daily relationship with her patients, co-workers and family. This course will be integrated into all areas.

Credit: 1 hour — One lecture hour per week.

Prerequisite: None

PN 144 Personal and Vocational Relationships

This course is aimed at helping the practical nurse student understand others by better understanding herself, thus making her more effective in group action. It introduces a background of nursing history and shows practical nursing as an integral part of nursing on the vocational level.

Credit: 1 hour — One lecture hour per week.

Prerequisite: None

PN 145 Introduction to Mental Health

This course is designed to create within the practical nurse student an awareness of those mental health resources that are available to assist in meeting the physical and mental health needs of the individual. It also emphasizes the importance of communications and interpersonal relationships between the practical nurse student and the patient.

Practice and theory are given in the clinical area and includes the opportunity for observation of the professional team, patient-centered approach and the community approach.

Credit: 1 hour — One lecture hour per week.

Prerequisite: None

PN 146 Introduction to Pharmacology

This course is designed to develop a clear understanding of the limitations of the practical nurse and to develop a clear and basic knowledge of the safety measures involved in preparation and administration of medicines, the contradictions, sources, usual dosages and usual methods of administration. It also emphasizes the importance of medications, and an ability to observe and report these reactions intelligently.

Credit: 2 hours — Two lecture hours per week.

Prerequisite: None

PN 147 Nursing Care of Geriatric Patient

Recognizing that our geriatric population is increasing due to improved health and health practices, this course is directed toward a knowledge of the basic human needs of the older person, including physical, social, and emotional needs. Not only that the practical nurse might give understanding and competent care, but that she might develop an awareness of a positive approach toward aging as related to her own life.

Credit: 2 hours — One lecture hour and three lab hours per week.

Prerequisite: None

PN 148 Nursing Skills

A continuation of Basic Skills 141. This course is to familiarize the student with procedures and skills concurrent with the principles underlying their present theory and clinical experience to include the adult patient.

Credit: 3 hours — Two lecture hours and three lab hours per week.

Prerequisite: Basic Skills 141

PN 149 Health & Introduction to Medical-Surgical Nursing

This course is designed to present the basic concepts for maintaining adequate overall personal and community health. Causative factors and measures to control and/or prevent disease will be included. General symptoms of illness, basic principles of caring for the person who is ill, how the body's natural defense mechanisms function and the more commonly used diagnostic aids will complete the course.

Credit: 3 hours — Two lecture hours and three lab hours per week.

Prerequisite: None

PN 150 Medical-Surgical Nursing I

The care of selected adult patients in clinical affiliations and the study of disease conditions, symptoms and diagnostic measures used in such conditions.

Credit: 3 hours — Two lecture hours and three lab hours per week.

Prerequisite: Health and Introduction to Medical-Surgical Nursing 149

PN 151 Nursing Care of the Mother and Newborn

This course is designed to develop within the practical nurse student an appreciation of the meaning of good prenatal and postnatal care and an understanding of the total birth process. To develop skills in caring for the mother and the newborn and to learn to recognize deviations from the normal in each. The student will learn the health needs of each and will participate in the teaching of these concepts. This will be accomplished through classroom instruction and clinical experience in the maternity division.

Credit: 3 hours — Two lecture hours and three lab hours per week.

Prerequisite: None

PN 152 Nursing Care of the Child

This course is designed to help the student develop a basic understanding of the normal growth and development of the child, and how illness may interfere with the normal pattern. This understanding will be helpful in evaluation of the physical, intellectual, emotional and social behavior of the child patient. The student learns to care for the sick child using safety precautions, meaningful observations, and suitable nursing techniques. This experience will be accomplished through classroom instruction and clinical experience in the pediatric division and through the observance of the well child in the kindergarten.

Credit: 3 hours — Two lecture hours and three lab hours per week.

Prerequisite: None

PN 153 Pharmacology

This is a course in theory and practice that offers a basic understanding of the principles of medication administration. It covers the basic information concerning the main effects, uses and dosages of the more common drugs. Practical experience will include administration of medications, observing and recording.

Credit: 3 hours — Two lecture hours and three lab hours per week.

Prerequisite: Introduction to Pharmacology 146

PN 154 Diet Therapy

This course is designed to develop a clear understanding of the basic concepts of treatment of disease by diet.

Credit: 1 hour — One lecture hour per week.

Prerequisite: Introduction to Basic Nutrition 140

PN 155 Personal & Vocational Relationships

A continuation of Personal and Vocational Relationships 144. This course develops within the student an awareness of duties, responsibilities, limitations, ethical and legal aspects, career opportunities and requirements, and nursing organizations.

Credit: 1 hour — One lecture hour per week.

Prerequisite: Personal and Vocational Relationships 144

PN 156 Advanced Nursing Skills

This course offers the student advanced nursing theories concurrent with their clinical application. Techniques of charting, transcribing and team nursing as they relate to the duties of practical nursing are presented. In addition, skills relating to nurses station desk duties are developed.

Credit: 2 hours — One lecture hour and three lab hours per week.

Prerequisite: Nursing Skills 148

PN 157 Medical-Surgical Nursing II

This course is a continuation of Medical-Surgical Nursing I 150.

Credit: 6 hours — Four lecture hours and six lab hours per week.

Prerequisite: Medical-Surgical Nursing I 150

ASSOCIATE DEGREE NURSING PROGRAM

ADN 210 Introduction to Nursing and Science

Using the individual modular approach to education this course introduces the student to the basic concepts which are the founda-

tion for the nursing and integrated science curriculum. Emphasis is placed on the scientific principles, conceptual framework and threads which will guide the student through the program. These principles will be applied in selected clinical situations.

Credit: 3 hours — Two lecture and two lab hours per week.

ADN 211 Maternal-Child Nursing Interventions

Utilizing principles from the physical, biological and behavioral sciences, this course is designed to give the student a basic knowledge of reproductive function, processes of the maternal cycle, and development of the newborns through age sixteen. The problem-solving approach will be applied to identified nursing problems in normal, specialized and complex clinical situations occurring during the maternal cycle and from birth to age sixteen with special emphasis on concepts of the family.

Credit: 4 hours — Two lecture and four lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 212 Psychiatric Nursing Interventions

This course is designed to assist the student to learn more about mental health and mental illness. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with special emphasis on interpersonal relationships, principles of psychiatric nursing, psychosocial needs and skills in therapeutic communications.

Credit: 4 hours — Two lecture and four lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 213 Neurological-Sensory Nursing Interventions

Utilizing principles from the physical, biological and behavioral sciences, this course is designed to give the student a basic knowledge of neurological and sensory function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 214 Dermatological Nursing Interventions

Utilizing principles from the physical, biological, and behavioral sciences, this course is designed to give the student a basic knowledge of skin function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied

to identified nursing problems in specialized and complex situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week. Prerequisite: Introduction to Nursing and Science 210

ADN 215 Orthopedic Nursing Interventions

Utilizing principles from the physical, biological, and behavioral sciences, this course is designed to give the student a basic knowledge of skeletal and muscular function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 216 Genital-Urinary Nursing Interventions

Utilizing principles from the physical, biological, and behavioral sciences, this course is designed to give the student a basic knowledge of genital-urinary function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 217 Metabolic-Endocrine Nursing Interventions

Utilizing principles from the physical, biological and behavioral sciences, this course is designed to give the student a basic knowledge of metabolic-endocrine function and those disorders commonly encountered in nursing practice. The problem solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 218 Community Health Nursing

This course is designed to help the student learn that health and well being of citizens in the community is an integral part of nursing. The problem-solving approach will be applied to identified health problems of clients in a variety of community clinical agen-

cies and settings with special emphasis on community resources for special health problems, communicable diseases, problems accompanying disasters and special problems of senior citizens.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 219 Cardiovascular Nursing Interventions

Utilizing principles from the physical, biological, and behavioral sciences, this course is designed to give the student a basic knowledge of cardiovascular function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 220 Respiratory Nursing Interventions

Utilizing principles from the physical, biological, and behavioral sciences, this course is designed to give the student a basic knowledge of pulmonary function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 221 Gastrointestinal Nursing Interventions

Utilizing principles from the physical, biological, and behavioral sciences, this course is designed to give the student a basic knowledge of gastrointestinal function and those disorders commonly encountered in nursing practice. The problem-solving approach will be applied to identified nursing problems in specialized and complex clinical situations based on the conceptual framework with emphasis on the comprehensive care of clients of all ages.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Introduction to Nursing and Science 210

ADN 222 Nursing Today and Tomorrow

Leadership in nursing, transition into New Graduate role, and current issues in nursing are the integral components of the terminal course of this program. It will provide the student with practical experience utilizing all theory and knowledge of skills learned in the care of groups of patients. It is expected that the student will have

learned to be a safe practitioner, function in group situations, relate to people of all ages, staff and patients, and effect change in the health care delivery system upon completion.

Credit: 1 hour — No lecture and two lab hours per week.

Prerequisite: Consent of Instructor.

NUR 290 Physical Diagnosis

This course is designed to provide the professional nurse with the necessary knowledge and skills to conduct a physical examination and to provide a tentative diagnosis of possible illness and/or injury of a patient. Topics to be covered include, but are not limited to history taking; general evaluation; examination of the ear, eye, nose, throat, chest, heart and abdomen. This course is highly recommended for public health nurses, school nurses, and other professional nurses whose job requires the administration of physical examinations.

Credit: 2 hours — Two lecture hours per week.

Prerequisite: Registered Nursing or Licensed Practical Nursing

HEALTH

HLT 111 Health

An introduction to personal health and hygiene. Problems of smoking, alcohol, and drug usage are discussed.

Credit: 2 hours — Two lecture hours per week.

Prerequisite: None

HLT 125 First Aid

This course is designed to acquaint the student with basic first aid. Lectures, demonstrations and practice in laboratory situations will be used as methods of instruction.

Credit: 1 hour — One lecture hour per week.

PHYSICAL EDUCATION

PE 111 ab Physical Education

A basic co-educational program in physical education which emphasizes essentially carry-over activities. Recreational aspects of activities including badminton, golf, bowling, tennis, and other related sports.

Credit: 1 hour — One lecture hour per week.

Prerequisite: None

HUMANITIES

ART

ART 111 Basic Studio — Drawing

A studio course designed for the beginner who will learn to create two-dimensional black and white products. This course is meant to develop the drawing skill; emphasis is placed on composition, line, texture, shape and form. Media explored will be graphite, charcoal, conte crayon, tempera paint, print making, pen and ink.

Credit: 3 hours — Three studio hours per week.

Prerequisite: None

ART 112 Basic Studio — Painting

A studio course designed for the beginner in painting; emphasis place on the knowledge of the color theory and various painting techniques. Media explored will be tempera paint, water colors, acrylics, oils, colored paper and various types of colored prints.

Credit: 3 hours — Three studio hours per week.

Prerequisite: None

ART 113 Basic Studio — Pottery and Sculpture

A basic course designed to introduce the beginner to the third-dimension. Emphasis is on the use of material, balance and form in a sculpture. Materials used are found objects, wood, stone, plaster, metal and clay. The hand-built as well as wheel thrown pottery are constructed. Technical problems in firing and glazing are introduced.

Credit: 3 hours — Three studio hours per week.

Prerequisite: None

ART 114 Art Appreciation

Painting, sculpture and architecture from Greek to the present. Intended to provide acquaintance with, and introduction to, the aesthetic attitude toward the arts of the past and contemporary life. Art forms are examined both for their individual qualities and the manner in which they exemplify changes in Western culture patterns.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ART 115 Basic Studio — Design and Crafts

An exploration of the elements of art (line, color, texture, shape, and form) and the principles of design through crafts, two-dimensional designs and three-dimensional designs.

Credit: 3 hours — Three studio hours per week.

Prerequisite: None

LITERATURE**LIT 211 Introduction to Poetry**

Introduction to poetry. Poetic forms, themes and styles are studied to enhance the student's understanding and appreciation of poetry.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 212 Modern Fiction

Modern fiction. Representative novels and short stories are examined and studied in terms of style, structure, and contribution to modern civilization.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 213 Introduction to Drama

Introduction to drama. A study of representative plays with emphasis on various dramatic conventions and devices used to give form and meaning to dramatic principles.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 214 English Literature

English literature. A survey of English Literature from its early beginnings through James Boswell.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 215 English Literature

English literature. Eighteenth century poets through the writers of the present.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 216 American Literature

American literature. A study of writers and literary documents that contribute to an understanding of the American heritage from the Colonial beginning to the Civil War period.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 217 American Literature

American literature. Continuation of English 216 from the Civil War to the present.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

LIT 218 World Literature

World literature. A comprehensive survey of representative masterpieces of world literature. Continental literature of the Middle Ages and Renaissance.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

MUSIC

MUS 111 College Choir

Membership in the college choir is open to all students with approval from the instructor. Members rehearse and perform music of all styles from renaissance to rock and develop basic singing techniques.

Credit: 1 hour — Two lab hours per week.

Prerequisite: None

MUS 112 Fundamentals of Music

A study of the details of how sounds are combined to produce music through the actual processes of composing and performing. Basic music reading, notation, scales and chords are studied and applied. Students make and play several instruments such as bamboo pipes and drums, experiment with a variety of sounds and rhythms and sing familiar folk and traditional songs. Suitable for pre-teachers and non-music majors. May be taken as an elective.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

MUS 113 Harmony, Ear Training & Sight Singing I

Study of traditional diatonic tonal materials and standard notational practice: intervals, scales, chords, chord roots, theory of chord in-

version. Includes lab in sight singing, ear training dictation and keyboard skills.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Music 112. Concurrent enrollment in class or private piano.

MUS 114 Harmony, Ear Training & Sight Singing II

Beginning study of four part writing, theory of chord succession, structure of harmonic cadence, key systems, modal structures, seventh chords. Harmonic analysis of simple scores. Continuation of common diatonic materials in keyboard, ear training, and sight singing skills. Standard chord progressions at the keyboard. Development of rhythm skills through specially designed activities.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Music 113. Concurrent enrollment in class or private piano.

MUS 115 Music Appreciation

A course designed to help the student to become a more sensitive listener. Aural perception of musical sound events, relationships and structures emphasized. Listening assignments include a wide variety of styles and kinds of music.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: None

MUS 116 Applied Class

Class instruction in applied study of voice, piano, organ, guitar, brass, woodwinds, percussion, strings.

Credit: 1 hour — One hour per week.

Prerequisite: None

MUS 117 Private Study

Private applied instruction in voice, piano, organ, guitar, band, or orchestra instruments.

Credit: 1 hour — One half hour per week.

Prerequisite: Enrollment in music major program and consent of appropriate dean.

MUS 118 Survey of Music Literature

Musical forms and styles analyzed through listening to examples from leading composers of each historical period.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Music 113.

MUS 119 ab Chamber Singers

Membership is open to a select group of students. Designed to give experience with music written for the small ensemble, from Madrigals to pop. Members required to participate in College Choir. Chamber Singers give public performances.

Credit: 1 hour — One half hour per week.

Prerequisite: Membership concurrently in College Choir.

MUS 213 Harmony, Ear Training & Sight Singing III

Part writing and harmonizing melodies, theory of chord succession, and analysis of scores using chromatic materials. Keyboard, ear training, sight singing and dictation using chromatic materials.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Music 114 and 2 semesters of class or private piano.

MUS 214 Harmony, Ear Training & Sight Singing IV

Original composition utilizing skills and knowledge of Music 213. Introduction of Twentieth Century materials.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Music 213 and 2 semesters of class or private piano.

PHILOSOPHY

PHI 215 Philosophy

Study of chief patterns of philosophic thought. Discussion of persistent problems of philosophy illustrated in the writing of major thinkers from Greece through the 20th Century.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

MATHEMATICAL SCIENCE

MAT 101 Introduction to Algebra

A course in the algebraic fundamentals. It is designed for students who have had no algebra or who desire a review of this material.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

MAT 102 Basic Mathematics

A course in basic mathematics. No algebra. Material includes an analysis of the decimal number system; addition, subtraction, multiplication, and division; work with decimals, percents, ratios and proportions, measurement, equations, and formulas.

Credit: 3 hours

Prerequisite: None

MAT 111 Foundations of Mathematics

Designed for elementary teaching curricula. Emphasis is on mathematics as a subject viewed as a whole. The newer mathematical

concepts, techniques, and terminology associated with elementary mathematics are introduced and analyzed.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

MAT 113 Slide Rule

Fundamental operations on the log-log slide rule.

Credit: 1 hour — One lecture hour per week.

Prerequisite: Knowledge of logarithms & trigonometry.

MAT 114 Intermediate Algebra

Basic set theory, fundamental algebraic operations, linear equations, worded problems, factoring, fractions, exponents, logarithms, radicals, complex numbers, quadratic equations, inequalities, functions and graphs, systems of equations and special functions.

Credit: 5 hours — Five lecture hours per week.

Prerequisite: Introduction to Algebra 101 or high school algebra.

MAT 115 College Algebra & Trigonometry

Sets, notation and operation, the algebra of numbers as a logical system, inequalities, absolute value, coordinate systems, functions and graphs, the circular functions, trig identities, linear and quadratic equations, determinants, binomial theorem, mathematical induction, complex numbers, inverse functions, arithmetic and geometric progressions, exponents and logarithms.

Credit: 5 hours — Five lecture hours per week.

Prerequisite: Intermediate Algebra 114 or satisfactory math background in high school.

MAT 117 Analytic Geometry & Calculus

Introduction to analytic geometry, slope, straight line, the conic sections, functions, limits, continuity, fundamental differentiation, differentiation formulas, and applications of Rolle's theorem and Mean Value theorem.

Credit: 5 hours — Five lecture hours per week.

Prerequisite: College Algebra & Trigonometry 115 or satisfactory math background in high school and consent of instructor.

MAT 121 Technical Mathematics

An introduction to the basic concepts of mathematics as applied to the concepts of technology. Included will be such topics as basic algebraic operations, functions and graphs, the meaning of an equation, linear equations, exponents and radicals, and quadratic equations.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: None

MAT 122 Technical Mathematics

Further development of mathematical concepts in which the student is introduced to trigonometry, logarithms, systems of equations, inequalities, ratio and proportion.

Credit: 4 hours — Four lecture hours per week.

Prerequisite: Technical Mathematics 121

MAT 210 General Elementary Statistics

Introduction to the theory of statistics. Common statistical measures, probability, the binomial distribution, the normal distribution, one-sample and two-sample hypothesis testing, confidence intervals, correlation, and prediction.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: MAT 114 or equivalent

MAT 211 Analytic Geometry and Calculus

Analytic geometry extended, applications of derivatives, maxima, minima, implicit differentiation, concavity, antiderivatives, definite integrals, fundamental theorem of integral calculus. Application of definite integrals, transcendental functions.

Credit: 5 hours — Five lecture hours per week.

Prerequisite: Analytic Geometry & Calculus 117

MAT 212 Analytic Geometry and Calculus

Introduction to conics and application of conics, techniques of integration, polar coordinates, parametric equations and vectors, indeterminate forms, improper integrals, multiple integrals, infinite series, partial differentiation, differential equations, three dimension space and linear algebra.

Credit: 5 hours — Five lecture hours per week.

Prerequisite: Analytic Geometry & Calculus 211

PERSONAL AND PUBLIC SERVICE OCCUPATIONS

SOCIAL SERVICE TECHNOLOGY

SST 121 Introduction to Social Work

A survey of the field of social work describing the historical development of social work from the early English Poor Laws through contemporary American practices. In addition, interviewing skills are developed through role playing.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SST 122 Introduction to Social Problems

A study of poverty, delinquency, and crime as well as family discord and nationality conflicts. Associations among groups of unequal numbers of power within pluralistic societies will be considered.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SST 221 Introduction to Group Processes

An introduction to the process of social group work to include fundamental methods, techniques, and skills with emphasis on the concepts and principles as practiced in the modern social agency.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

SST 222 Advanced Group Processes

A continuation of Group Processes 221. Added emphasis is placed on modern practices of personalizing the learning process to develop more effective relationships.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Group Processes 221

SST 223 Principles of Recreation

A study of principles involved in organizing and supervising recreational programs for community agencies. Practical experience will be gained through fieldwork.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

SST 224 Introduction to Service Agencies

This course is designed to study the relationship of effective leadership to effective community service, the decision-making process, and the principles at work in local and state governments. Field trips, work shops, and discussions of allied facilities constitutes the major portion of this course.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SST 225 Practicum

A community agency-based experience providing practice under the supervision of a trained practitioner. The student participates in staff activities, planning, recording, evaluating, group leading, and other agency tasks. Included in this practicum will be one seminar session per week for the purpose of discussing problems encoun-

tered during the work experience portion.

Credit: 4 hours — One lecture hour, fifteen lab hours per week.

Prerequisite: Sophomore standing in Social Service Technology Program

SST 227 Marriage & Family

A study of the general cultural background of the family in American society including comparison with other times and cultures to give perspective.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SST 228 Human Growth & Development

A systematic study of behavior from conception through adolescence with emphasis on physical, social, emotional, and intellectual growth and development. The scientific methods of child study and developmental nature of growth are stressed.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

PHYSICAL SCIENCE

PHS 111 Physical Science

This lecture course is an introduction to the basic concepts of chemistry with emphasis on atomic structure and the behavior of matter. It should be taken by non-science majors and science majors with very limited science background.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

PHS 112 Physical Science

This lecture course is an introduction to the basic concepts of physics with emphasis on types of energy and their properties.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

AST 111 Introduction to Astronomy

A non-mathematical course in astronomy designed for students in any curriculum. It contains much material of importance for ele-

mentary teachers. The course includes a study of the sun and its planets together with a study of the stars and the nebulae beyond the sun. Evening observation of the moon and planets with the telescope and field glasses, together with the study of about 20 constellations, is a main part of the course.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

CHE 114 Inorganic Chemistry

This course is designed for persons interested in any of the sciences including engineering, pre-medical and pre-dental majors. Emphasis is on quantitative measurement of chemical composition, the structure of matter, the relationship between the periodic table and properties of elements and the nature of chemical bonds. Laboratory experiments are designed to give the student experience in handling many of the analytical tools used in industry today.

Credit: 5 hours — Three lecture and four lab hours per week.

Prerequisites: Physical Science 111 or high school chemistry and two units of high school algebra or Intermediate Algebra 114.

CHE 115 Inorganic Chemistry and Qualitative Analysis

A continuation of Chemistry 114. Deals primarily with the various groups of elements and reactions which they undergo, and with the separation of elements on the basis of the solubility of their salts. The laboratory experiments are qualitative in nature.

Credit: 5 hours — Three lecture and four lab hours per week.

Prerequisite: Inorganic Chemistry 114

CHE 211 Organic Chemistry

Preparation and chemical properties of aliphatic and aromatic compounds. Emphasis in the nature of the covalent bond and reaction of functional groups. Laboratory consists of synthesis and identification of organic compounds.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Inorganic Chemistry and Qualitative Analysis 115.

CHE 212 Organic Chemistry

Continuation of Chemistry 211.

Credit: 4 hours — Three lecture and two lab hour per week.

Prerequisite: Organic Chemistry 211

GEO 213 Geology

Fundamentals of physical geology with emphasis on geologic principles and processes.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: None

GEO 214 Geology

Continuation of Geology 213.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Geology 213

PHY 216 Physics

A general course in physics intended for those students who desire a major or minor in physics, mathematics majors, pre-engineering students, and other pre-professional students who require a basic course in college physics. The first semester course is a study of the basic laws of mechanics, heat, and sound, with considerable emphasis on the solution of problems. Topics covered include rectilinear motion, rotation, momentum, work and energy, heat, laws of thermodynamics, and wave motion.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Mathematics 115 and Inorganic Chemistry 114 or approval of appropriate Dean.

PHY 217 Physics

Basic laws of electricity and magnetism, light, and atomic and nuclear physics. Topics covered include electric and magnetic fields, direct current and alternating circuits, physical and geometrical optics, and atomic and nuclear physics.

Credit: 4 hours — Three lecture and two lab hours per week.

Prerequisite: Physics 216

SOCIAL SCIENCES

SEM 101 Seminar in College Life

The student is introduced to the educational opportunities and facilities of the college: social activities, scholarships, study methods, college transfer requirements, and job opportunities. Seminar in College Life is a non-transferable requirement for all graduates of Shawnee College.

Credit: 1 hour — One lecture hour.

Prerequisite: None

SSC 102 American Social Structure

An introduction to social science, with a general sociological perspective, focusing attention on economic theory, history, political science, and psychology. Emphasis on the structure and function of social institutions, particularly American society.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SSC 104 American Ethnic Groups

American Ethnic Groups is a course designed to foster an awareness and understanding of the major minority groups (Black Americans, Japanese Americans, Mexican Americans, and the American Indians) in the United States. This course will emphasize the historical background, culture, and achievements of these groups.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ANT 216 Anthropology

An introduction to and survey of the nature of man, his origins and culture with the main emphasis on cultural anthropology.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ECO 211 Economics

Macro-economics: American capitalism, money, banking, economic growth, national income, and fiscal policy.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

ECO 212 Economics

Micro-economics, including a study of business cycles, fiscal policies, money-banking and monetary policies, economic growth, and international economics.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Economics 211

ECO 213 American Economic History

A study of the development of economic institutions in the United States emphasizing the changing structure and performance on the economy.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

GRY 214 Introduction to Physical Geography

A study of the primary regions of the world which includes such physical factors as topography, climate and vegetation within each region.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

HIS 116 Western Civilization

A survey of social, economic, political, and cultural development of the Western world from earliest times to 1715.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

HIS 117 Western Civilization

A continuation of Western Civilization 116 emphasizing social, economic, political, and cultural development of the Western world, from 1715 to the present.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

PSY 219 Abnormal Psychology

An examination is made of behavior patterns which aid or interfere with personal efficiency. In order to understand the developmental nature and dynamics of these responses attention is focused upon abnormal behavior and various techniques of therapy.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

SOC 212 Sociology

Basic principles of social organization with reference to communities, social institutions, social stratification, concepts of culture, collective behavior and social change in the contemporary societies.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

HIS 214 History of the United States

A study of the major political, social, and economic development of the U.S. to 1865.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

HIS 215 History of the United States

A continuation of History 214, emphasizing the political, social, and economic developments from 1865 to the present.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

GOV 117 Introduction to American Government

A survey of political institutions to include forms and functions of the three levels of government: national, state, and local. Throughout the course, stress will be placed on the right and responsibility of citizenship in the democratic process. Meets the requirement relative to the constitutions of the State of Illinois and the United States as required by Senate Bill 95.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

GOV 118 Comparative Government

A course dealing with the major governments of modern Europe and Asia with reference to the study of political institutions and dynamics of political behavior.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

PSY 211 Introduction to Psychology

An introduction to the study of human behavior, with emphasis on basic psychological principles. Topics such as learning, motivation, intelligence, special senses, and perception are considered.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

PSY 214 Practical Psychology

Basic concepts as it applies to human relations, employee organizations and working conditions. Problems of discipline, communications, motivation, authority, social change, and teamwork are examined through case studies.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

INDUSTRIAL ORIENTED OCCUPATIONS

DRAFTING

DRA 120 Fundamentals of Drafting

A study of basic drafting techniques involved in freehand and instrument drawing. Subjects included are: use of instruments, lettering, geometrical construction, orthographic projection, pictorial drawing, auxiliary views, sections, and dimensioning.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: None

DRA 121 Architectural Drafting

An introduction to the basic fundamentals of architectural drawing. Subjects included are: drafting techniques, living area, service area, floor plans, elevations, pictorials, location plans, sections, and foundations.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 122 Architectural Drafting

Continuation of Architectural Drafting 121 with selected individual projects of a more complex nature. Subjects included are: framing plans, schedules and specifications, building codes, electrical plans, air-conditioning plans, plumbing diagrams, modular plans, and design theory.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Architectural Drafting 121

DRA 124 Materials and Methods of Construction

Introduction to materials and products used in wood frame, masonry, concrete, and metal construction. Standards of construction and construction estimating will also be included.

Credit: 5 hours — Four lecture and two lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 127 Engineering Graphics

An application of descriptive geometry to problem solving. Subjects included are: reference planes, lines, planes, points, auxiliary views, revolution, force diagrams, cylinders, cones, spheres, curved surfaces, intersections, developments, mining, geology, and civil engineering.

Credit: 4 hours — Two lecture and four lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 131 Blueprint Reading

The fundamentals of blueprint reading involving the meaning of lines, symbols, notes, and specifications as applied to industry in the area of machine and construction blueprint reading.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 134 Mechanisms and Machine Design

This course concentrates on the elements of machine design through problems involving the analysis of motions required and the selection of suitable mechanisms, materials and joining requirements.

Credit: 4 hours — Two lecture and four lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 135 Mechanical Drafting

A continuation of Fundamentals of Drafting 120. Subjects included are: basic machine elements, precision and limit dimensioning, weldments, power and motion machine elements, piping drawings, and simplified drafting practices.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 136 Electric, Hydraulic, and Pneumatic Controls

A study of standard electrical, hydraulic, and pneumatic elements commonly used to provide and control power in machinery and equipment. The student will learn how the elements work as well as become familiar with the nomenclature and symbols involved.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Fundamentals of Drafting 120

DRA 137 Jig, Fixture, and Die Design

A study of the common types of drill jigs, milling fixtures, and cutting and forming dies with emphasis on the design and preparation of working drawings from drawings of the production objects.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Fundamentals of Drafting 120

AUTOMOTIVE MECHANICS

AUT 111 Multi-Cylinder Engine Servicing

The study of two, four, six and eight cylinder engines. Emphasis is on providing background in the design and operation of gasoline engines. Participation in disassembly of engines and use of shop manuals will be covered.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 112 Tune-Up, Troubleshooting, & Diagnosis

Diagnosing automotive engine and ignition conditions using electronic testing equipment. Emphasis on operation of equipment, troubleshooting, repairing and tune-up.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 113 Automotive Power Trains

Study of clutches, manual transmission, automated transmissions, drive lines, differentials, and related components. Emphasis is on study of construction, operating principles, repairing, adjustments and transferring of power.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 114 Air Conditioning & Heating

This course is designed to train students on operating principles, testing, diagnosis, and servicing of automobile air conditioners, heaters, and controls. Basic testing equipment will be used to determine repairs needed.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 115 Shop Safety

This course is designed to orient students to basic safety practices necessary with automotive equipment and to introduce the student to management, organization and operation of automotive business. Emphasis is placed on operating procedures, employee and labor relations, productivity, shop layout and planning, customer relations, record keeping, purchasing and basic principles of merchandising.

Credit: 1 hour — One lecture hour per week.

AUT 116 AC & DC Electrical Systems

A course dealing with the construction, operation, function, testing and repairing of the charging and ignition systems. Various electrical circuits such as the lighting and instrument circuits will also be studied. Students will be expected to perform selected tests using appropriate service manuals and test equipment.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 117 Brakes, Wheel Alignment, Balance and Suspensions

Study of manual and power brakes, suspension systems, front wheel alignment, dynamic and static wheel balance and standard and power steering systems. Emphasis is placed on operating principles, troubleshooting and repairing using latest equipment available.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 118 Emission Control Systems

A course designed to give the student background in the design, operation and troubleshooting of emission control systems.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 119 Fuel and Fuel Systems

A course designed to provide background in fuel systems and carburetors. Included is nomenclature, design, construction and maintenance of fuel tanks, fuel lines, fuel pumps, filtration systems and carburetors. Students will conduct inspection and rebuilding of various types of fuel pumps and carburetors.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 123 Manual & Automatic Transmissions

Study of various types of manual and automatic transmissions for the understanding of disassembly, assembly, function, construction, operation service and troubleshooting procedures.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 124 Auto Shop Management

This course is designed to introduce the student to problems relating to management, organization and operation of an automotive shop.

Credit: 2 hours — Two lecture hours per week.

AUT 126 Auto Blueprint Reading

This course is designed to familiarize the student with the symbols utilized in automotive blueprints. Upon successful completion of this course the student should be able to readily identify automotive components from blueprint diagrams.

Credit: 3 hours — Two lecture and two lab hours per week.

AUT 127 Internship

Course is designed to assist the student with the application of information and skills acquired in previous automotive courses.

Credit: 5 hours — One lecture and twenty lab hours per week.

ELECTRONICS

ELT 110 Basic Electrical Concepts

A study of the relationship between current voltage resistance and power for direct current and alternating current circuits. Topics included are: use of power sources and meters, component symbols and abbreviations, the electronic VOM, sources of electricity, the electronic power supply, switches and switching circuits, Ohm's Law, power-heat-light, series resistive circuits, series circuits — Kirchhoff's Law, parallel resistive circuits, parallel circuits — Kirchhoff's Law, series-parallel circuits, Thevenin's and Norton's Theorems, rheostats and potentiometers, voltage dividers, the DC voltmeter, the DC ammeter, the ohmmeter, power transfer, direct and

alternating currents, the oscilloscope, the audio frequency generator, the function generator, relays, inductance, transformers, inductive reactance, capacitance, time constants, capacitive reactance, series resonance and parallel resonance.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: The student must be enrolled in or have completed Math 114 or Math 115 at the time of enrolling in this course.

ELT 111 Rotating Machinery I

A study of DC and AC machines. Topics included are: series and parallel equivalent resistances, resistances in parallel, resistances in series and in series-parallel, safety and the power supply, Ohm's Law, circuit solution, power in DC circuits, the transmission line, the direct current motor, AC voltage and current measurement, the wattmeter, phase angle — real and apparent power, capacitive reactance, inductive reactance, watt — var, volt-ampere and power factor, vectors and phasors-series circuits, vectors and phasors-parallel circuits, impedance, the synchronous motor and the electrodynamicometer, the DC shunt motor, the DC series motor, the DC compound motor, the DC separately excited shunt generator, the DC self excited shunt generator, the DC compound generator, the DC series generator, the split-phase induction motor, the capacitor-start motor, and the capacitor-run motor.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: The student must be enrolled in or have completed Math 114 or Math 115 at the time of enrolling in this course.

ELT 112 Basic Electronic Concepts I

An introduction to electronic concepts including the following topics: introduction to semiconductor diodes, rectifiers; half-wave and full-wave, filtering and voltage doublers, power supply test and checks, introduction to the transistor, transistor testing, transistor biasing, common base circuit, common emitter circuit, common collector circuit, bias stabilization, the transistor specification sheet, RC coupling, transformer coupling, direct coupling, single-ended power amplifier, phase splitter, phase inverter, push-pull power amplifier, complementary power amplifier, amplifier test and troubleshooting procedure, phase-shift audio oscillator, LC audio oscillator, the radio frequency generator, Hartley RF oscillator, and Colpitts RF oscillator.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electrical Concepts 110 and Rotating Machinery I

ELT 113 Rotating Machinery II

A continuation of Rotating Machinery I to include the following topics: the universal motor, the repulsion start-induction run motor, the single phase transformer, transformer phasing, transformer regulation, the autotransformer, transformers in parallel, distribution transformer, three phase circuits, three-phase — watts, vars and volt-amperes, three-phase power measurement, three-phase transformer connections, the wound rotor induction motor, the squirrel cage induction motor, the synchronous motor, the three-phase alternator, the alternator under load, alternator synchronization, alternator power, phase sequence, frequency conversion, reactance and frequency, three-phase to two-phase conversion, selsyn control, and SCR speed control.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electrical Concepts 110 and Rotating Machinery I 111

ELT 210 Electronic Concepts II

A continuation of the study of electronic concepts including the following topics: junction field effect transistor, JFET voltage amplifier, JFET constant current source, metal oxide semiconductor field effect transistor, MOSFET voltage amplifier, dual gate MOSFET, Zener diode, Zener diode voltage regulation, shunt type voltage regulator, series type voltage regulator, DC to DC converter, series feedback, shunt feedback, multistage amplifier feedback, Darlington pair, differential amplifier, integrated circuit operational amplifier, IC OP AMP — inverting amplifier, IC OP AMP — non-inverting amplifier, IC OP AMP, summing amplifier, IC OP AMP, voltage comparator, IC OP AMP, active filter, unijunction transistor, UJT waveform generator, programmable UJT, and put frequency divider circuit.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electronic Concepts I 112 and Rotating Machinery II 113

ELT 211 Electric Power Transmission

A study of electric power transmission systems to include the following topics: safety and the power supply, phase sequence, real power and reactive power, power flow and voltage regulation of a simple transmission line, phase angle and voltage drop between sender and receiver, parameters which affect real and reactive power flow, parallel lines — transformers and power-handling capacity, the alternator, the synchronous motor, the synchronous condenser and long high voltage lines, transmission line networks and

the buck-boost, phase shift transformer, the synchronous motor under load, hunting and system oscillation, power system transients and additional experiments.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electronic Concepts I 112 and Rotating Machinery II 113

ELT 212 Digital Electronics I

An introduction to digital electronics to include the following topics: digital logic trainer familiarization, and/or logic gates; not circuit, NAND/NOR logic gates, dual gating functions — symbolic notation and practical gate applications, number systems; binary numbers and encoders, the decoder, exclusive-OR/NOR gates; parity circuits, memory circuits — the R-S flip-flop, type-T and type-D flip-flops, J-K flip-flop, ripple counter, programming a ripple counter, the BCD decade counter, parallel (synchronous) counters, controlling the modulus of synchronous counters, and the variable modulus synchronous counter.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electronic Concepts I 112 and Rotating Machinery II 113

ELT 213 Industrial Circuits and Controls I

A study of industrial circuits and controls including the following topics: continuity tests — buzzer and lamp, two-station and three-station control, control diagrams — schematic and connection, electromagnetic contractors and relays, full-voltage control of a 30 induction motor, delayed start of a 30 induction motor, start-stop-jog of a 30 induction motor, definite-time jogging and the magnetic brake, forward-reverse control of a 30 induction motor, primary-resistor starting of a 30 induction motor, autotransformer starting of a 30 induction motor, wye-delta starting of a 30 induction motor, unbalanced starting of a 30 induction motor, starting a 30 wound-rotor induction motor, cam-switch and drum-switch controls, and plugging of 30 induction motors.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electronic Concepts I and Rotating Machinery II 11

ELT 214 Electronic Concepts III

A continuation of the study of electronic concepts to include the following topics: silicon controlled rectifier, SCR gate characteristics, SCR DC power control, SCR AC power control, UJT-SCR time delay circuit, triac and diac, triac — diac AC power control, thermo-

couple — OP AMP temperature control, thermistor temperature control, photoconductive cells, photo-conductive cell — light control, photovoltaic cells, photovoltaic cell — OP AMP light control, photovoltaic cell — light measurement, waveshaping circuits — Differentiation, wave-shaping circuits — integration, diode limiters and clamps, Schmitt trigger, monostable multivibrator, bistable multivibrator, astable multivibrator, blocking oscillator, bootstrap sawtooth generator, IC timing circuit, light emitting diode, diode digital logic gates, transistor digital logic gates, integrated digital logic gates, JK flip-flop, four bit binary counter, decade counter, and introduction to pulse modulation.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Electronic Concepts II 210

ELT 215 Digital Electronics II

A continuation of the study of digital electronics to include the following topics: registers, parallel-to-serial and serial-to-parallel conversion, synchronous and asynchronous data transmission, shift right/left register, complementing shift register, ring counter and twisted-ring counter, binary addition, binary subtraction, the binary adder-subtractor, Boolean algebra, simulating problems with logic circuits, circuit simplification; the Karnaugh map, sequential control circuits, and shift register generator.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Digital Electronics I 212

ELT 216 Industrial Circuits and Controls II

A continuation of the study of industrial circuits and controls to include the following topics: direct-current contractors and relays, direct-current time-delay relays, cam-switch control of a DC motor, CEMF starting of a DC motor, definite-time DC motor starter, plugging of a DC motor, cam-switch "hoist-lower" control of a DC motor, magnetic "hoist-lower" control of a DC motor, DC braking of a 30 motor, 30 synchronous motor — definite-time starter, 30 synchronous motor — automatic synchronization, 30 synchronous motor — complete control system, sequence timer, and starting split-phase and capacitor-start motors.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Industrial Circuits and Controls I 213

ELT 217 Radio Communications

This is an optional course which could be used as a program elective for students desiring additional background in the radio communications area. Topics included are: demodulation, audio pre-

amplifier — driver and output stages, superheterodyne second if amplifier stage, superheterodyne first if amplifier stage, superheterodyne detector and AVC stage, superheterodyne RF tuning circuit, superheterodyne local oscillator circuit, superheterodyne converter stage, superheterodyne receiver alignment, superheterodyne troubleshooting, introduction to FM, communications principles and service considerations, integrated circuit audio amplifier, crystal oscillator, passive filters and impedance matching circuits, RF amplifier, amplitude modulation, transmitting antenna, varactor diode, beat frequency principles, frequency modulation principles, FM detection principles, and automatic frequency control principles.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Basic Electronic Concepts I 112

ELT 218 F.C.C. License Preparation

Intensive study on rules, regulations, and exam related theory is included. F.C.C. rules and regulations related to two-way communications is also studied. The laboratory time is spent studying advanced communication circuitry. The main objective is to enable the student to pass the F.C.C. Second Class exam.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Electronic Concepts II 210

FOOD SERVICE

FOS 110 Introduction to Food Services

An introductory course in food services designed to give the student a view of the total food service program. This course provides necessary introductory information needed for the beginning student.

Credit: 3 hours — Two lecture and two lab hours per week.

FOS 111 Food Service Sanitation and Safety

A study of personal hygiene and the principles involved in maintaining sanitary standards necessary to comply with regular agencies for a food service operation.

Credit: 2 hours — Two lecture hours per week.

FOS 112 Introduction to Food Preparation

Food preparation by the use of recipes, weights, and measures are discussed. Various chemical analyses conducted on food products and water supplies to control product quality is also discussed.

Credit: 3 hours — Two lecture and two lab hours per week.

FOS 113 Meat Cutting & Processing

A course dealing with the principles pertaining to cutting and processing beef, pork, lamb, and fish. Institutional bulk cut and prime table cuts suitable for locker plant retail shop training are emphasized.

Credit: 3 hours — Two lecture and two lab hours per week.

FOS 114 Introduction to Baking

Course designed to familiarize the student with the basic techniques of baking bread, sweets and meats.

Credit: 2 hours — One lecture and two lab hours per week.

FOS 115 Food Plant Equipment

A survey course designed to introduce the student to various types of food preparation equipment, equipment operation and effectiveness.

Credit: 2 hours — One lecture and two lab hours per week.

FOS 117 Fish, Eggs, and Poultry Cookery

A cooking course designed to increase the student's knowledge and skill in the preparation and grading of fish, eggs, and poultry.

Credit: 3 hours — Two lecture and two lab hours per week.

FOS 123 Cooking Technology

A study of the fundamental principles of cooking as a means of food processing. The laboratory introduces the student to the actual preparation of both mass and small portions, including preparation of salads and decorative cooking.

Credit: 3 hours — Two lecture and two lab hours per week.

FOS 124 Baking

A more advanced course than FOS 114. The student is given practical shop exposure to training in bread and sweet doughs and pastry cooking. Exposure to palatability, kind, quality and proportion of ingredients is given.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Introduction to Baking 114

FOS 125 Nutrition

A study of the processes by which living things consume food and utilize its nutrients. Concentration is placed on the five major nutrients (Proteins, Carbohydrates, Fats, Vitamins, and Minerals).

Credit: 3 hours — Three lecture hours per week.

FOS 126 Food Services Internship

The student is given an opportunity to work in a food service facility and with an opportunity to utilize the previous training in food service.

Credit: 5 hours — One lecture and twenty lab hours per week.

COSMETOLOGY**COS 110 Cosmetology Theory**

A study and practice of professional ethics, personal hygiene and grooming, visual poise and personality development, cythology and bacteriology, sterilization, sanitation, shampooing and rinses, scalp and hair treatments, trichology, hair shaping, fingerwaving, hairstyling, chemistry of heat and cold permanent waving, chemical hair relaxing, theory of massage, facial make-up, hair coloring and art theory.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None

COS 111 Cosmetology Theory

This course will include the theory of superfluous hair removal, thermal curling and waving, care and styling of wigs, manicuring, osteology, myology, neurology, various systems of the body, dermatology, physics and chemistry of hair, and disorders of the skin, scalp and hair. A basic study of the principles of electricity as used in the beauty culture trade will be covered.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Cosmetology 110

COS 112 Cosmetology Theory

This course will include the mathematics of cosmetology, study of the practical application of salon management, rules and regulations for open competition styling and competition judging, Illinois law, cosmetology for the negro and a review of the entire curriculum in preparation for the Illinois State Board Examination.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Cosmetology 111

COS 113 Cosmetology Laboratory

There will be demonstrations and lectures by the instructor with the student participating in the following: shampooing, molding of hair, fingerwaving, hair rinses, pin curls and roller placement, hair shaping with scissors and razor, permanent waving and hair straightening, scalp and facial massage, hair colorings (all types) hand and nail care, basic make-up application, eyebrow arching,

lash and brow tinting. Students will perform these duties on each other until 240 clock hours have been obtained, then they will be allowed to work on patrons.

Credit: 9 hours — 27 lab hours per week.

Prerequisite: None

COS 114 Cosmetology Laboratory

This will be a review of the skills taught in Cosmetology 113 with lectures and demonstrations by the instructor. Also covered will be: Introduction to thermal curling, hair removal, balance and design for hair styling, wiggery, marcelling, trend hair styling, fashion trend make-up (daytime and evening). The students will perform these services on each other and on patrons of the school.

Credit: 9 hours — 27 lab hours per week.

Prerequisite: Cosmetology 113

COS 115 Cosmetology Laboratory

A complete review of Cosmetology 112 and 113 in preparation for the State Board examinations. Also demonstrations by instructors, public clinic conducted by students, sanitation duties performed by students in accordance with the Department of Registration and Education, State of Illinois, introduction to proportions of the face and make-up application, hair pressing, thermal curling and waving, artistry in hair styling, corrective make-up for facial types.

Credit: 9 hours — 27 lab hours per week.

Prerequisite: Cosmetology 114

GENERAL STUDIES

FA 044 Watercolor

This course is designed for those adults who have had little or no previous experience in elementary watercolor painting. Still life painting will include drawing, composition, and color.

Credit: 2 hours — One lecture and two lab hours per week.

FA 045 Oil Painting

Basic introduction to oil painting techniques. Adults who have had little or no experience are encouraged to enroll in Watercolor before entering the Oil Painting program.

Credit: 2 hours — One lecture and two lab hours per week.

FA 046 Ceramics

A beginning course for those who want to learn to decorate and work with various types of ceramics. In this course you will learn how to pour and clean ceramics as well as glazing.

Credit: 2 hours — One lecture and two lab hours per week.

GED 010 Basic Communication

Review of basic English and communication skills in preparation for the GED test. This course may be taken for credit twice if necessary to prepare the student for the GED test.

Credit: 1 or 2 hours — One lecture hour per week.

GED 011 Basic Mathematics

Review of basic concepts of arithmetic, some attention to algebraic and geometric concepts in preparation for the GED test. This course may be taken for credit twice if necessary to prepare the student for the GED test.

Credit: 1 or 2 hours — One lecture hour per week.

GED 012 Basic Social Science

Review of basic Social Sciences including Civics, Economics, and History in preparation for the GED test. This course may be taken for credit twice if necessary to prepare the student for the GED test.

Credit: 1 or 2 hours — One lecture hour per week.

GED 013 Basic Science

Review of basic concepts of science, with consideration of general principles, biology, chemistry, and physics in preparation for the GED test. This course may be taken for credit twice if necessary to prepare the student for the GED test.

Credit: 1 or 2 hours — One lecture hour per week.

HME 090 Beginning Sewing

Basic dressmaking techniques of clothing construction will be presented in this course. The Bishop method with variations is presented, and these principles are used to construct an attractive well fitted garment by each class member. This is a course for the beginner who knows how to use the sewing machine, but wants to learn construction techniques that will produce quality looking garments.

Credit: 2 hours — One lecture and two lab hours per week.

HME 091 Advance Sewing

This course will be a continuation of Clothing Construction I. The student will learn to solve figure problems and to construct a basic dress from which all later measurements can be taken to make properly fitted clothing. Upon completion of the basic dress the student will make a garment using the finer dress making points.

Credit: 2 hours — One lecture and two lab hours per week.

HME 092 Pattern Fitting

This course consists of basic tissue pattern, developing an understanding of grain line of fabric and its interpretation into the pattern by draping and drafting fabric. The course will place emphasis upon solving pattern problems by manipulation of miniature patterns and refining the patterns.

Credit: 2 hours — One lecture and two lab hours per week.

HME 093 Beginning Tailoring

A basic course which is designed to provide the student with the essential elements of making men and women's clothing. The course is based upon the following three primary concepts: (1) Building a permanent shape into a garment, (2) Specific emphasis placed upon grading of seams, clipping, notching, and layering of fabrics and (3) Basic pressing techniques, pounding, fusing, understitching by hand or machine and top stitching.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Beginning and advanced sewing

HME 094 Advanced Tailoring

This course is designed as a follow-up to Beginning Tailoring. Emphasis will be placed upon applying the basic techniques of the previous course through the use of more individual creativity.

Credit: 2 hours — One lecture and two lab hours per week.

Prerequisite: Beginning Tailoring 093

HOM 062 Furniture Upholstering

You can make your old furniture more beautiful and usable. Instruction, demonstration and individual help in repairing your furniture, tying springs, cording, upholstering, and covering. Limited storage space is available.

Credit: 2 hours — One lecture and two lab hours per week

HOM 063 Furniture Refinishing

The stripping and refinishing of old pieces of furniture. You will be able to share ideas with one another plus receive assistance from the instructor. Hand chair caning will also be offered during this class for those wishing to learn the art. Limited storage space is available.

Credit: 2 hours — One lecture and two lab hours per week.

HOM 096 Interior Decoration

Fundamentals of interior decoration, harmony of color and fabric, helpful hints on decoration on a low budget.

Credit: 2 hours — One lecture and two lab hours per week.

HOM 097 Advanced Interior Decoration

This course is a continuation of beginning Interior Decoration 096. Specific emphasis will be placed upon saving while improving the home surroundings in a very inexpensive manner.

Credit: 2 hours — One lecture and two lab hours per week.

HOM 098 Home Design

This course is designed for the purpose of viewing home design from the various perspectives which essentially determines how and why houses are constructed in a variety of forms.

Credit: 2 hours — One lecture and two lab hours per week.

HOM 100 Creative Stitchery

The fundamental techniques of knitting, crocheting, crewel embroidery and needlepoint are included in this course.

Credit: 2 hours — One lecture and two lab hours per week.

HOM 101 Quiltmaking

This course is designed to cover the fundamentals of quilting techniques to produce marketable, creative articles.

Credit: 2 hours — One lecture and two lab hours per week.

MAT 120 Metric Math

This course consists of the basic elements of the metric system; it is primarily designed for the purpose of assisting the general public in the conversion process which will occur in the United States.

Credit: 1 hour — Two lab hours per week.

DRV 100 Principles of Bank Operations

This course presents the fundamentals of bank functions in a descriptive fashion so that the beginning banker may view his chosen

profession in a broad (and operational) perspective. The descriptive orientation is intentional. Banking is increasingly dependent upon personnel who have the broad perspective so necessary for career advancement.

Credit: 3 hours — Three lecture hours per week.

DRV 101 Installment Credit

In this course, the techniques of instalment lending are presented concisely. Emphasis is placed on establishing the credit, obtaining and checking information, servicing the loan, and collecting the amounts due. Each phase of a bank's instalment credit operation should be carefully scrutinized to be certain that the most efficient methods are employed, for only through an efficient operation can a bank maximize its profits on this particular kind of credit. Other topics discussed are inventory financing, special loan programs, business development and advertising, and the public relations aspect of instalment lending.

Credit: 3 hours — Three lecture hours per week.

DRV 102 Money and Banking

This course stresses the practical aspects of money and banking and emphasizes the basic monetary theory needed by the banking student to apply knowledge on the job. Historical treatment is kept to a minimum. Emphasis is also placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank operations, governance of fiscal policies, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curve and structuring of portfolios.

Credit: 3 hours — Three lecture hours per week.

DRV 103 Law and Banking

An introduction to basic American law, presenting the rules of law which underlie banking topics including jurisprudence, the court systems and civil procedures, contracts, quasi-contracts, property, torts and crimes, agencies, partnerships, corporations, sales of personal property, commercial paper, bank deposits and collections, documents of title, and secured transactions.

Emphasis is on the Uniform Commercial Code.

Credit: 3 hours — Three lecture hours per week.

REP 111 Introduction to Real Estate Sales

This course is designed to introduce the student to such real estate fundamentals as: ownership, principles and concepts of property ownership, various types of real estate opportunities, real estate

marketing, financing, leasing, taxation, appraisal, development, insurance, and state licensing. This course would be appropriate for persons seeking to prepare for the Illinois License Examination for real estate salesman.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: None.

REP 112 Intermediate Real Estate Practices

This course is designed to cover the real estate functions of securing and servicing listings, qualifying buyers and sellers, multiple listing services, showing property, advertising, and real estate sales techniques.

Additional topics covered will include information on financing, mortgages, deeds, foreclosure, insurances of mortgages and principles of property value for mortgage credit. Topics in real property insurance such as risk, nature and function of insurance, types of insurance, bonding the broker, etc. will also be covered.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Introduction to Real Estate Sales 111 or a valid real estate salesman license.

REP 113 Advanced Real Estate Practices

This course is designed to cover the obligations and effects of legal documents in listing, selling, conveying, leasing, and financing real estate. Emphasis will be placed upon the various legal documents used in real estate transactions. Other appropriate topics will be covered to inform the student of the nature and functions of the real estate brokerage. Such topics as qualifications of the real estate broker, principles of land utilization, appraisal principles and methods, basic policies, organization and equipment of the broker's office, office personnel, selection of sales persons, compensation of sales persons, types and sources of listings, control of listing, control of prospects, real estate markets, financing control and government regulations will be covered.

Credit: 3 hours — Three lecture hours per week.

Prerequisite: Introduction to Real Estate Sales 111 or a valid real estate salesman license.

HORTICULTURE TECHNOLOGY

OHT 111 Introduction to Horticulture

A comprehensive study of the plants utilized in horticultural practices. Presentation of the techniques and procedures utilized to propagate, produce, and maintain these plants.

Credit: 5 hours — Three lecture and four lab hours per week.

OHT 112 Introduction to Greenhouse Operation

An introduction to the basic types of greenhouses and their utility and adaptation for the culture and propagation of plants. The general techniques for culturing and propagating plants in the greenhouse will be presented.

Credit: 3 hours — Two lecture and two lab hours per week.

OHT 113 Landscape Design

A study of the theory and concepts of landscape design applied to private and public areas. In the laboratory, preliminary sketches and final plans of a landscape layout will be prepared.

Credit: 3 hours — Two lecture and two lab hours per week.

OHT 125 Turfgrass Culture

A study of the prominent lawn and special purpose grasses, including methods of identification, propagation, and maintenance. Also an introduction to the common weeds which infect turf and the utilization of herbicides.

Credit: 4 hours — Two lecture and four lab hours per week.

OHT 127 Nursery Operations

An introduction to the techniques and procedures utilized in the commercial production of annuals, herbaceous perennials, deciduous shrubs and trees, and conifers. Nursery practices of propagation and maintenance will be emphasized.

Credit: 4 hours — Two lecture and four lab hours per week.

OHT 128 Insect Pest and Plant Disease

Study of the insect pests and plant disease of ornamental plants. Introduction to the safe and regulated utilization of insecticides and fungicides.

Credit: 3 hours — Two lecture and two lab hours per week.

OHT 130 Greenhouse Management

A study of the various culture techniques utilized for the commercial production of plants. Various other greenhouse management problems will be stressed.

Credit: 3 hours — Two lecture and two lab hours per week.

OHT 131 Horticulture Business Management

A course utilizing and extending information and horticultural techniques for the proper management of a commercial operation.
Credit: 3 hours — Two lecture and two lab hours per week.

OHT 132 Horticulture Internship

A course designed to place the student in a practical work situation which is closely related to the area of emphasis of the student's program.
Credit: 5 hours — One lecture and twenty lab hours per week.

LAW ENFORCEMENT

CLE 103 Introduction to Crime Control

Review of the historical and ideological foundations of law enforcement and corrections; delineation of major patterns of practice and organizational structure; and description of major programs and their inter-relationships.
Credit: 3 hours — Three lecture hours per week.

CLE 105 Criminal Behavior

Introduction to personality theories and their application to causes of crime with primary emphasis on individual-oriented theories; consideration of the offender and his community context as problems for rehabilitation efforts; criticism of typical treatment programs.
Credit: 3 hours — Three lecture hours per week.

CLE 115 Interpersonal Relations

Delineation of the major patterns characteristic of relationships between pre-delinquents or offenders and staff of community-based programs; analysis of means of encouraging the development of internalized controls by offenders within the relatively free environment of the average community. Analysis of the fundamental problems of police relationships when situations call for persuasive techniques; discussion of principles pertinent to motivating law observance without coercion; study of the techniques of subject interrogation, consideration of creating favorable public image of policemen.

Credit: 3 hours — Three lecture hours per week.

CLE 205 Survey of Methods in Crime Detection.

Study of major phases of criminal investigation: gathering and preservation of evidence, identification of offenders, apprehension, recovery of stolen property, and presentation of evidence; survey of criminalistics.

Credit: 3 hours — Two lecture and two lab hours per week.

CLE 209 Criminal Law

Consideration of legal aspects of law enforcement. Laws of arrest, search and seizure and constitutional due process, entrapment and informers, wire tapping, interrogation, evidence, examination of court procedures with special implications for criminal justice professionals.

Credit: 3 hours — Three lecture hours per week.

MACHINE TOOL OPERATION**MAC 116 Machine Tool Fundamentals**

In this course the trainee studies measuring instruments, gauges, and the theory of metal cutting. This course includes machine shop experience on use and care of hand tools, taps and tapping methods, allowances and tolerances for standard fits and thread fits, the drill press, power saw, band saw, engine lathe, milling machines, turret lathe, grinders, cutting fluids, and surface finish.

Credit: 3 hours — Two lecture and two lab hours per week.

MAC 117 Lathe Operations I

This is a lecture, laboratory course designed to acquaint the student with the safe operation of the engine lathe. He should develop proficiency in learning the major parts of the lathe, proper setup, basic tool grinding, facing, center drilling, straight turning between centers, and threading.

He should develop skill proficiency in determining feeds, speeds and proper tool selection in machining various types of materials.

Credit: 3 hours — One lecture and four lab hours per week.

MAC 118 Lathe Operations II

This course will prepare a person for employment as a lathe operator in a production or job shop. After completion of Lathe Operations I, he will develop proficiency in the safe operation of the engine lathe, turret lathe and trach lathe. Such operations as drilling, reaming, threading and the use of the attachments, fixtures and special purpose tooling will be emphasized.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Lathe Operations I 117

MAC 119 Milling Machine Operations I

This is a lecture, laboratory course designed to acquaint the student with the major parts of the milling machine and its accessories. The student will be expected to develop skill proficiency in the safe operation and setup, learn to calculate proper feeds and speeds for machining various types of materials.

Credit: 3 hours — Two lecture and two lab hours per week.

MAC 120 Milling Machine Operations II

This is a lecture, laboratory course designed to prepare the student for entry level employment as a milling machine operator in a production or job machine shop. After completion of milling Machine I, he will develop skill in the safe operation of the universal horizontal column, and ram type of vertical milling machine including the use of all available attachments, fixtures, and special purpose tooling.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Milling Machines Operations I 119

MAC 121 Drill Press Operator

This course is designed to prepare a person for employment as a drill press operator in a production or job shop. He is expected to develop skill proficiency in proper tool selection, feeds and speeds, in machining various types of materials, nomenclature of the drill press, drill grinding, setup and safe operation of the drill press.

Credit: 3 hours — One lecture and four lab hours per week.

MAC 122 Machine Shop

This course is designed to give students experience in work layout and tool selection and will develop proficiency in the setup and operation of the drill press, power saw, milling machine, surface grinder and engine lathe.

Credit: 3 hours — One lecture and four lab hours per week.

MAC 123 Metallurgy and Heat Treatment

This is a lecture-lab course on the fundamental characteristics and properties of industrial metals including machinability, bonding, and heat treatment. This course surveys the classification of modern industrial metals worked in modern machine shops. It points out the property differences between non-ferrous metals, ferrous metals, high temperature metals, rare metals, and how property differences affect machinability, malleability, brittleness, elasticity and hardness. The course surveys heat treating techniques involving controlled heating and cooling of industrial metals. Through this lecture-lab course the student will understand the limitation of the

material involved in machine shop work. He will have some degree of insight regarding the metallurgical processes involved. Parts produced in a machine shop require heat treatment and it is important for a machinist to be familiar with the science of heat-treating metals.

Credit: 3 hours — Two lecture and two lab hours per week.

SURVEYING

SUR 110 Introduction to Surveying

This course is designed to provide the student with a basic knowledge of plane surveying and the use and care of equipment. The student becomes familiar with the level rods, chains, tapes and other equipment used in plane surveying.

Credit: 2 hours — One lecture and two lab hours per week.

SUR 111 Contour Surveying

A course designed to provide the student with the knowledge and skills pertaining to contour layouts and designs. Students will be expected to construct case problems and layout contour grid patterns. The proper usage of a level, chain, level rod, and transit will be stressed.

Credit: 3 hours — Two lecture and two lab hours per week.

SUR 114 Road Layout and Construction

A course constructed to train students in preliminary road layout, profiling and cross sectioning to determine areas of cuts and fills and how to set grade stakes for final grade.

Credit: 3 hours — Two lecture and two lab hours per week.

SUR 130 Surveying

A continuation of surveying 110 with emphasis being placed on on-site development and case problems. Further skills in differential level surveying, profile, cross section leveling, contour surveying and surveying calculations are developed.

Credit: 4 hours — Two lecture and four lab hours per week.

Prerequisite: Introduction to Surveying 110

SUR 132 Surveying Internship

Students will be required to use the knowledge and skills obtained in Surveying 111 and 114 in order to complete a surveying project as a part of a surveying crew. Emphasis will be placed on transit work, rodman's duties and chaining. Recording practices in areas of con-

touring, cutting and filling areas, construction and elevation work. Layouts of sewer and power supplies is also covered.

Credit: 5 hours — One lecture and twenty lab hours per week.

Prerequisite: Successful completion of the first semester of the program.

TEACHER AIDE

TEA 121 Introduction to Teacher Aide Duties

This course examines the role of the trained teacher aide at all levels of work in various areas of the curriculum. An in-depth study will be made of the duties, responsibilities and ethical principles of the teacher aide. A consideration of the future of the role of personnel in such positions will be made.

Credit: 3 hours — Three lecture hours per week.

TEA 122 Teaching Materials and Their Use

Operations of audiovisual equipment, organization of materials and books, preparation of audiovisual aids such as bulletin boards, mounting pictures, lettering, etc. will be stressed.

Credit: 3 hours — Two lecture and two lab hours per week.

TEA 123 School Procedures

This course will deal with the school as a complex public owned institution, stressing the role of staff in helping to transmit a positive impression in a truthful and tactful manner. The importance of school forms, record keeping and work organization will be included, along with utilization of community resources.

Credit: 3 hours — Three lecture hours per week.

TEA 225 Practicum

This will be a supervised teacher aide experience program. Supervising personnel will be fully certified teachers in the public or private school system.

Credit: 5 hours — One lecture and 20 lab hours per week.

WATER TREATMENT

WWT 121 Introduction to Water and Wastewater Technology

The student is given a general study of methods of disease transmission, hygiene, excreta disposal and industrial wastewater collection and treatment characteristics of water (polluted and unpolluted).

Credit: 2 hours — Two lecture hours per week.

WWT 122 Water and Sewage Purification

This course deals with the standard criteria, EPA regulations and records associated with the purification of water and wastewater.

Credit: 2 hours — Two lecture hours per week.

WWT 126 Sewage Treatment

A course in chemical, physical, and biological aspects of wastewater designed to familiarize students with control aspects of wastewater effluents.

Credit: 5 hours — Three lecture and four lab hours per week.

WWT 127 Water Treatment

A course in the basic principles of water purification including aeration, sedimentation, rapid sand filtration, chlorination, flocculation, coagulation, taste and odor control design criteria, maintenance programs and operational problems.

Credit: 5 hours — Three lecture and four lab hours per week.

WWT 130 Health and Sanitation

A basic study of the need for pure water to homes, businesses, etc., need for control on b.o.d., c.o.d., phosphorus, nitrogen, bacteriological counts on wastewater effluents and related health hazards, diseases, etc.

Credit: 2 hours — Two lecture hours per week.

WWT 131 Coding and Planning

Study of internal plant operations (water and sewage) with emphasis on plant management, blueprint reading, cost budgeting and so forth.

Credit: 1 hour — One lecture hour per week.

WWT 132 Water/Wastewater Mechanics

A course in the mechanical study of pumps, aerators, flocculators, chlorinators and related equipment used in water and wastewater treatment.

Credit: 2 hours — One lecture and two lab hours per week.

WWT 133 Water/Wastewater Internship

A course designed to provide the student with practical work experience in water and/or wastewater treatment plants.

Credit: 5 hours — One lecture and twenty lab hours per week.

WELDING

WEL 120 Gas Welding and Cutting

A study of the techniques, procedures and uses of oxyacetylene welding and cutting equipment.

Credit: 3 hours — One lecture and four lab hours per week.

WEL 123 Arc Welding I

A study of welding processes used by Industry concentrating on metallic arc welding on flat, horizontal plates.

Credit: 3 hours — One lecture and four lab hours per week.

WEL 124 Arc Welding II

A continuation of welding course 123, metallic arc welding vertical and overhead, lap, and fillet welds.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Arc Welding I 123

WEL 125 MIG Welding

A course in the techniques of metallic inert gas (semi-auto welding). Concentration on a flat bend test — horizontal, vertical up-hill and down-hill welding.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Gas Welding and Cutting 120 and Arc Welding II 124

WEL 126 Advanced Gas Welding

A continuation of oxyacetylene Welding 120. Horizontal, vertical, and overhead welding. Also a study of brazing and soldering techniques.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Gas Welding and Cutting 120

WEL 127 Low Hydrogen ARC Welding

A continuation of arc welding 124, using the low hydrogen electrode, designed for welding high sulphur and high carbon steels.

Course concentrating on flat bend test, horizontal, vertical up-hill and down-hill welding.

Credit: 3 hours — Two lecture and two lab hours per week.

Prerequisite: Arc Welding II 124

WEL 128 Pipe Welding

This course is designed to teach up-hill and down-hill pipe welding — fixed position.

Credit: 3 hours — One lecture and four lab hours per week.

Prerequisite: Low Hydrogen Arc Welding 127

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