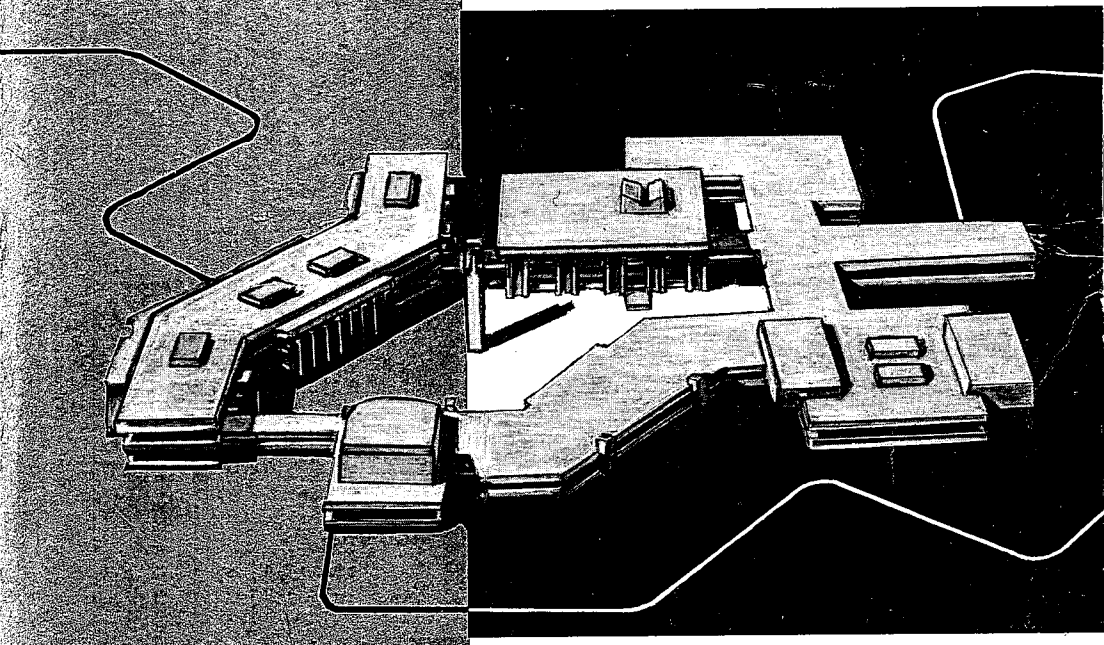
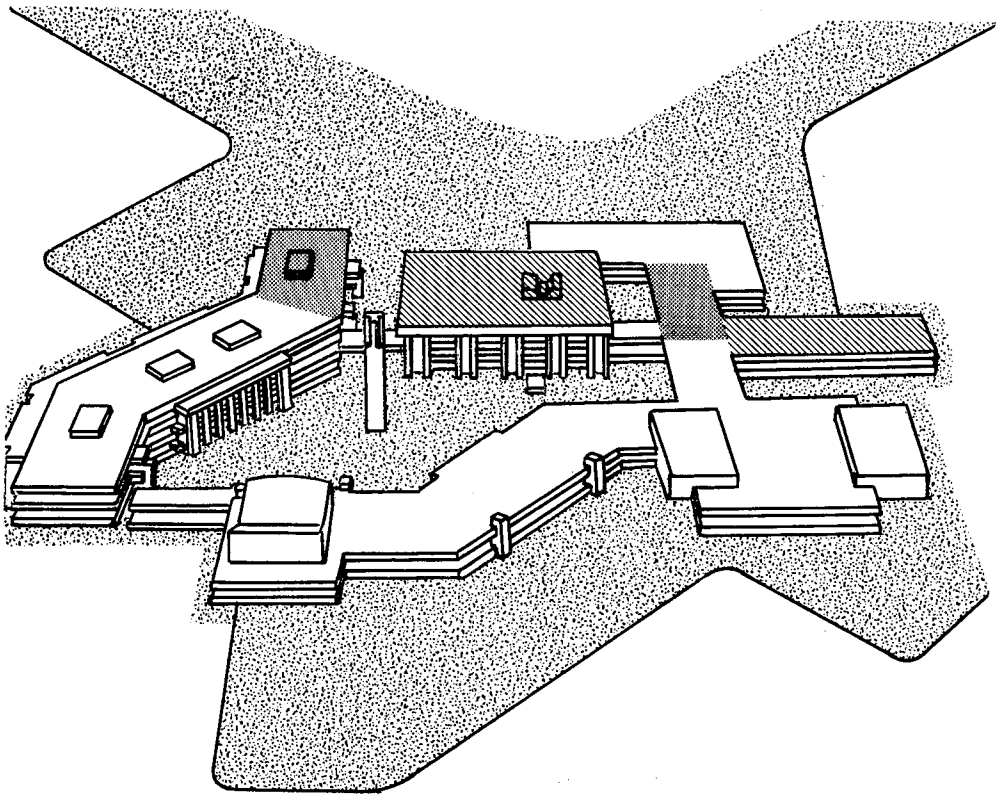
WASHTENAW COMMUNITY COLLEGE



1968-1969



PROPOSED COLLEGE CAMPUS CONSTRUCTION

1968-1970 CONSTRUCTION

1969-1971 CONSTRUCTION

WASHTENAW COMMUNITY COLLEGE

P.O. BOX NO. 345
ANN ARBOR, MICHIGAN 48107
Telephone: 483-5152

CATALOG NUMBER THREE
PUBLISHED JANUARY 1968

Approved by the
STATE DEPARTMENT OF EDUCATION
STATE OF MICHIGAN

A Correspondent Member of
NORTH CENTRAL ASSOCIATION OF
COLLEGES AND SECONDARY SCHOOLS

An Institutional Member of
AMERICAN ASSOCIATION OF JUNIOR COLLEGES

A Member of
COUNCIL OF NORTH CENTRAL JUNIOR COLLEGES

A Member of
MICHIGAN ASSOCIATION OF JUNIOR COLLEGES

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(Term expires 12-31-72)

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(Term expires 12-31-68)

Robert G. Forman ..... Trustee
(Term expires 12-31-70)

Anthony Procassini ..... Trustee
(Term expires 12-31-68)

COLLEGE CALENDAR

Fall Semester 1968

September 3	Faculty Meeting
September 4-5	Registration
September 6	Instructor-Administrator Meeting
September 9	Classes Begin
November 8	Mid-Semester
November 27	Classes dismissed after 10:20 p.m.
November 28-29-30	Thanksgiving—No Classes
December 2	Classes Resume
December 14	Classes dismissed after 12 noon
December 16—January 1	Winter Recess—No Classes
January 2	Classes Resume
January 20-25	Final Evaluation
January 25	Semester Ends

Spring Semester 1969

January 27-28	Counseling
January 29-30	Registration
January 31	Instructor-Administrator Meeting
February 3	Classes Begin
April 4	Mid-Semester
April 5	Classes dismissed after 12 noon
April 7-12	Spring Recess—No Classes
April 14	Classes Resume
May 30	Memorial Day—No Classes
May 31	Classes Resume
June 2-6	Final Evaluation
June 10	Semester Ends

Summer Session 1969

June 23	Registration (Day and X-Day)
June 24	Classes Begin
July 4-5	No Classes
July 7	Classes Resume
August 15-18	Final Evaluation

CALENDAR 1968-1969

1968

SEPTEMBER

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CLASSES MEET

1969

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HISTORY OF THE COLLEGE

On January 15, 1965 the voters of the county gave overwhelming approval to the establishment of a publicly-supported, county-wide community college. By their vote, the citizens of the county indicated a real desire to support a comprehensive institution which would offer a variety of technical, industrial, and semi-professional courses as well as a fully developed college transfer and general education curricula.

The first year of the college operation witnessed the translation of many ideas of citizens into positive action. In September 1966 the College enrolled over 1200 students in some 30 different occupational programs and equally comprehensive college transfer courses of study. Student population doubled in 1967, as 2400 students enrolled, and it is anticipated that upwards of 3000 students will participate in college activities in 1968.

In the Fall of 1965 the Board of Trustees purchased a tract of land located between Ann Arbor and Ypsilanti. Educational specifications for a new campus have been written, and construction has begun on the Exact Science and Technical/Industrial Buildings. While construction is in progress, college classes will continue in renovated quarters in Willow Run, the Automotive Center located on Carpenter Road, and the Health Science complex which is operated in connection with several hospitals in Ann Arbor. The College seeks to develop courses of study which will meet the needs of students, as well as provide the necessary skills needed by area business, industry, and governmental units. With this in mind, a variety of new courses is offered for the first time in the 1968-69 college year.

The Students

Washtenaw Community College grants admission to students from a wide range of backgrounds. The student body is diversified in many ways. Student ages range from 17 to 55, and 33% of the enrollees are over 21 years of age. Currently, twice as many men are attending the College as women. Approximately 50% of all students are enrolled in occupational courses, while the other students have elected transfer and general education courses.

The Faculty

Members of the Community College faculty have a fierce commitment to outstanding teaching and counseling. Staff members have developed procedures to insure that each student receives ample qualified assistance, understanding, and information related to specific occupational goals.

In addition to time spent in preparation and teaching, each instructor assists students with the challenges of their courses and adjustment to college.

The Board of Trustees has continued to enlist the assistance and support of citizens to plan and develop the College program. This advice has enabled Washtenaw Community College to develop a wide range of technical, industrial, and semi-professional courses as well as college transfer courses of study at an accelerated rate. The names of individuals serving in an advisory capacity are listed throughout the catalog in conjunction with course offering announcements.

Objectives of the College

It is the intention of this College to open the doors of educational opportunity to students with a seriousness of purpose and an ability sufficient to profit from selected instruction. It is the intention of the Board of Trustees and faculty that the College should be more interested in what the student is ready to do than in what he has done; that an applicant should have the opportunity to undertake those programs of instruction offered by the Community College for which he is properly prepared and for which he has aptitude and ability. Once enrolled, however, each student should demonstrate satisfactory performance; there should be no compromise with quality.

It is the objective of the College to develop:

1. One- and two-year vocational, technical, and semi-professional education programs of organized, systematic instruction, designed to prepare individuals for employment.
2. A two-year general education program for the social, cultural, and personal development of individuals desiring to continue their education beyond high school.
3. General educational and pre-professional programs, both one- and two-year, transferrable to other colleges and universities.
4. Courses or complete programs which meet the cultural and vocational needs of adults.
5. College preparatory and developmental courses for adults and for those who need to make up deficiencies for college level work.
6. Personnel services including counseling for students of all backgrounds and abilities which will assist them in selecting courses of study appropriate to their capabilities and ambitions, and guidance in their attainment of their educational goals.

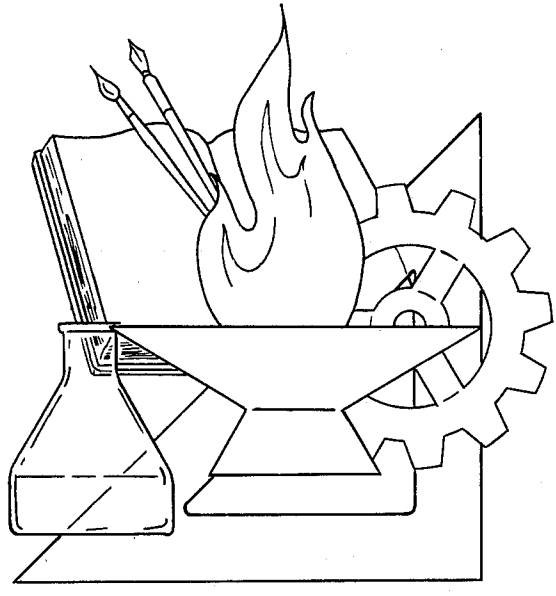
ACCREDITATION

Washtenaw Community College is approved by the State Department of Education, State of Michigan. The College is a member of the Council of North Central Junior Colleges, the Michigan Association of Junior Colleges, and an institutional member of the American Association of Junior Colleges.

The College has received written statements from admissions officials of four-year colleges and universities in Michigan stating that transfer students will be accepted and that transfer credit will be granted to students who have successfully completed appropriate courses at Washtenaw Community College.

For this reason, a student who plans on transferring to a baccalaureate-degree-granting institution after completing the first two years of a four-year course can be confident that the college parallel credits earned at Washtenaw Community College will transfer without difficulty.

Immediate steps have been taken to meet nationally accepted accreditation requirements. Communication with the regional accrediting agency, North Central Association of Colleges and Secondary Schools, has led to immediate compliance with initial accreditation requirements and the College is completing reports for candidacy accreditation status.



STUDENT SERVICES

The Student Services staff assists with counseling, student-initiated activities, financial aids, job placement, admissions, and registration.

Counseling

The entire faculty of Washtenaw Community College has a major commitment to help each individual student pursue a course of study planned to fulfill his goals. In order to accomplish this, instructors are committed to assisting students on an individual basis. Students are encouraged to confer with their instructors when problems or questions arise.

In addition to the assistance provided by the faculty, full-time counselors are available at the Counseling Office in the Student Center and College Hall. Each student entering the College is assigned to a counselor who will discuss his future educational and vocational goals and plan his initial program of classes at the College.

Counselors aid students in clarifying their vocational objectives. Interest inventories can be administered and reference made to the extensive occupational information which is available to students. In order to aid the student in planning for his future education, an extensive collection of college catalogs is maintained in the Counseling Office.

The professionally trained counseling staff will work with students experiencing personal or emotional problems or may refer them to the appropriate agency or service for specialized assistance.

All full-time students are required to take the American College Test (ACT) before their credentials are complete. Results of these tests are interpreted to students and used by counselors in helping students select appropriate classes. The test is not required for admission to the College.

All students are encouraged to utilize the services provided by their counselors. Counselors are available for all part-time, full-time day, and extended-day students at the College.

Freshman Seminar

Seminars are conducted by faculty and staff members to assist students in their adjustment to the College, world of work, and other aspects of contemporary living. In these small groups, opportunities are pro-

vided for discussion of current problems. Through the seminars students are encouraged to develop personal contacts with College staff members.

Full-time students are required to participate in the seminars for which one hour credit may be earned.

Job Placement

Assistance is provided students completing occupational programs to secure employment appropriate to their training at the College. Contact with business and industry in the area is maintained by instructors in Occupational Studies as well as the job placement office in Student Services.

For students seeking part-time employment a record of available positions is maintained in the job placement office.

Trustee Awards

The Board of Trustees of the College has authorized the granting of a number of Trustee Awards to students in need of financial assistance who might otherwise not be able to attend the College. The Awards covering the expense of tuition are administered by the Scholarship Committee through the Office of Student Services.

Financial Assistance

Scholarships and financial assistance for students have been provided by:

Washtenaw Asphalt Company
Kiwanis Western of Ann Arbor
Ypsilanti Jaycees
Junior Chamber of Commerce Auxiliary of Ann Arbor
Delta Sigma Theta Sorority, Inc., Ann Arbor Alumnae Chapter
Ann Arbor-Ypsilanti Altrusa Club
Welcome Wagon of Ann Arbor
Ann Arbor Evening Lions Club
George O. Ross Memorial Fund
The Thrift Shop Association of Ann Arbor
Delta Psi Omega Chapter of Alpha Kappa Alpha Sorority
L'Esprit Club
National Bank and Trust Company of Ann Arbor
Ann Arbor Federal Savings and Loan Association
Ypsilanti Savings Bank
Ann Arbor Bank

H. Lynn Pickerill Scholarships
Rouser Scholarship
AMARACO Fund
First Presbyterian Church, Ann Arbor
Ann Arbor News
Ann Arbor Community Center

The awarding of a scholarship or financial aid is based on need. Students needing financial assistance should apply to the Dean of Student Services in the Administration Building prior to registration.

The College has been approved for participation in the College Work-Study Program. Students who need to earn part or all of their college expense will be able to work on jobs related to their choice of occupational study. Part-time employment in public and non-profit agencies and organizations in the community or on the College campus will be provided through this program.

Counselors will attempt to help each student in need to find a way to get financial assistance: loans, scholarships, Trustee Awards, and placement in part-time jobs.

Under the Michigan Higher Education Assistance Authority, state scholarships are available. Resident students of Michigan are permitted to write a competitive examination to fulfill the objective of earning a state scholarship. High school students may obtain a brochure outlining the M.H.E.A.A. program from their counselors

Student loans are available from the Michigan Higher Education Authority for those individuals who qualify. These are administered through participating banks. Students interested in such loans should inquire first at a local bank.

Graduates of Washtenaw Community College are eligible to apply for a variety of Community College Scholarships granted by many of the four-year colleges and universities.

Veterans' Eligibility

Prospective students who are eligible for veterans' benefits should follow the procedure below:

1. Make application for veterans' benefits at the Veterans Administration Regional Office in your area.

   The College recommends that each prospective student take advantage of the counseling service available to him at the regional office.

Immediately upon receipt of an application, the V.A. will mail to the veteran an acknowledgment of Receipt of Claim which will provide the veteran with his claim number.

After processing the veteran's application the regional office will, if the veteran is eligible, issue a Certificate of Eligibility. The certificate is valid only at the institution named and only for the objective indicated.

2. The prospective student should bring the Certificate of Eligibility to the Registrar's office at the time of initial registration.

Student Activities

The College encourages student activities which supplement the instructional program by providing recreational activities which will add to the student's enjoyment of life and stimulate his personal growth and social development. Opportunities for development of constructive leadership, cooperative planning, and special interests will be fostered through participation in student activities. All student activities are coordinated through the Office of Student Activities.

Student Government

A Student Senate has been organized and officers elected. The Senate is responsible for student government at the College and promotes the ideals of intelligent self-direction and encourages the spirit of unity and cooperation in student activities.

Intramural Athletics

Students will be instrumental in determining which athletic activities will be available and appropriate as to season and objective. Participation in intramural athletics is entirely voluntary. Opportunities for the active participation of men and women are provided.

The activities provided by a comprehensive intramural program constitute an effective means of maintaining interest in all-around physical fitness, establish standards of excellence in physical efficiency, afford experience in emotional control, and provide opportunities to think and act while under the pressure of strong competition. Activities provide a wholesome and natural interest as a focal point for college loyalties and institutional spirit. Students are encouraged to become active in intramural sports.

Student Organizations

Responding to student interest, groups of students are organizing activity clubs with the assistance of the Office of Student Activities. Such groups include the Ski Club, Jestettes, Architectons, Encore, bowling team, and cheerleaders.

Participation in the organizations will enable students to discover friends and identify activities compatible with their interests and aptitudes. Service clubs, hobby clubs, professional groups, and organizations related to occupational preparation, under the sponsorship of faculty members, will be available to all students.

Student Publications

THE VOICE is the official College newspaper. It is published by the students in conjunction with journalism instruction. Students interested in the newspaper may participate in the writing and editing of THE VOICE by contacting the faculty sponsor.

Student Health, Life, and Accident Insurance

Washtenaw Community College does not sponsor health, life, and accident insurance coverage by any particular agency. The College does, however, encourage students to examine their needs for such coverage while a student of the College. The Registrar's Office will provide information concerning opportunities to enroll in insurance programs at the time of registration should the student desire this information.

Reserve Officer Training Corps Instruction

Through the cooperation of Eastern Michigan University the College has arranged for students in a college transfer program to register for Army ROTC instruction. A guest student fee is charged by Eastern for the course. The instruction is provided by the Military Science Department.

The two-year program will be given credit at the College and will be recognized by ROTC units at other institutions to which the student may transfer.

Students interested in the program may secure additional information from the Counseling Office.

Housing

Washtenaw Community College is primarily an institution for commut-

ing students; therefore, no dormitory facilities are provided. Students who require accommodations should contact the Office of Student Services.

Bookstore

The College will serve the student body and enhance the instructional program through the bookstore.

Books, instructional aids, equipment, materials, and supplies are readily accessible in the Student Center for students and staff. Costs will be kept to a minimum based on the College goal of service to students.

Student Center

The student center at the College is frequented by all members of the College family—students, faculty, administration, staff, and guests. A lounging area adjoins the food service area where light lunches and snacks are provided by vending machines.

LEARNING MATERIALS CENTER

The Learning Materials Center (LMC) includes the College's library and audio-visual (A-V) facilities. The LMC provides faculty and students with educational material in many media: books, periodicals, microfilm, microfiche, 16 millimeter (mm) film, 8mm film, filmstrips, slides, tapes, records, and transparencies. All audio-visual equipment used on this campus is also the responsibility of the LMC.

The library contains a large collection of books and periodicals dealing with all subject fields. It is arranged to provide a pleasant, relaxed atmosphere for students to study, browse, and carry out research assignments. As a result of an interlibrary loan agreement, the LMC's collection is supplemented with material from the Michigan State Library. This provides an additional source of material to assist students in completing research reports.

Students are urged to acquaint themselves with the operating policies of the LMC which have been adopted with the interest of all in mind. A HANDBOOK has been published to aid students in the effective utilization of the facilities available in the LMC. Copies of the HANDBOOK are given to each new student and copies are always available at the circulation desk.

Photocopying services are provided at the circulation desk for a nominal fee. This convenient service enables students to obtain copies of book and periodical material.

For students who enjoy listening to music, the A-V department maintains a collection of tape recordings at the circulation desk. Stereophonic tape recorders are available and are equipped with stereo headsets for listening to selected tapes. Tape recordings include vocal and instrumental music, classroom lectures, plays, poetry, and other material.

A preview room is available for viewing 8mm and 16mm films that are used in lectures and assigned by instructors. Assigned filmstrips can be studied in the library with the aid of individual viewers. All non-book material in the LMC is color-coded in the card catalog for easy reference. Filmstrips are coded red, phonograph records—green, tape recordings—orange, films (8mm and 16mm)—black, and 35mm slides—brown.

The audio-visual department handles all faculty requests for educational media materials and equipment. There is a need each semester for student assistants to work in the A-V department as projectionists, recording technicians, graphic artists, production assistants, typists, and filing clerks. Other opportunities for student employment exist in the LMC.

ADMISSIONS

ADMISSIONS ELIGIBILITY AND PROCEDURES

A student may apply for admission to one of the following periods:

First Semester—begins in September

Second Semester—begins in February

Summer Session—begins in June

Eligibility for Admission of First-Time Students

A student must have completed high school or its equivalent, as determined by the College.

A student who is not a high school graduate, but is 18 years of age or older, is eligible when:

a. He submits an equivalency diploma, or

b. He can profit from instructional programs for which he has the proper background, experience, and capability.

The prospective student must take the American College Test (ACT) sometime during the year preceding initial registration. Students still in high school should contact their counselors concerning this requirement. All other prospective students may secure information concerning the ACT program by calling the Director of Counseling. Students may be required to take other tests for admission as determined by the Counseling Office.

Admission Procedure for First-Time Students

1. A student entering for the first time should fill out the Application for Admission form supplied by the Washtenaw Community College Registrar's Office. A transcript should be obtained from the student's high school of last attendance and attached to the application form.

2. A non-refundable application fee of $10 is required of all students who wish to enroll for nine credit hours or more (normal freshman load is fifteen credit hours). A check or money order for this amount made payable to Washtenaw Community College must accompany the application.

3. The College uses the Social Security number as the student's individual identification. This number must appear on the application.

4. The student should arrange to forward the results of the American College Test (ATC) to the College.

5. All application materials should be mailed to the Registrar's Office, Washtenaw Community College, P.O. Box 345, Ann Arbor, Michigan 48107.

6. Washtenaw Community College does not require the student to supply a statement of general health such as a physical examination. The College does, however, remind the student that the rigors associated with being actively engaged in a vigorous college program are demanding on one's health and that consultation with a doctor prior to enrolling is recognized as part of good preparation for attending college.

When the above procedure has been completed, the applicant will be notified of his admission status.

Admission Eligibility of Transfer Students

1. A student whose grades at other colleges and universities averaged a 'C' (2.0) or better will be admitted in good standing.

2. A student whose grades at other colleges and universities averaged below a 'C' (2.0) may be conditionally admitted as determined by the College Registrar.

Admission Procedure for Transfer Students

1. A transfer student should fill out the Application for Admission form supplied by the Washtenaw Community College Registrar's Office.

2. A non-refundable application fee of $10 is required of all students who wish to enroll for nine credit hours or more. A check or money order for this amount made payable to Washtenaw Community College must accompany the application.

3. The student should obtain a Michigan Uniform Secondary School Personal and Scholastic Record form from the Registrar or from his high school of last attendance. He should request the high school to complete the form and mail it to the Registrar's Office.

4. The student should request each of the colleges he has attended to send a complete transcript of his record to date. If presently enrolled, the student should request that an additional official transcript of his record be forwarded immediately upon completion of the present semester's work. All transcripts must be sent from each college directly to the Registrar's Office.

5. The College uses the Social Security number as the student's individual identification. This number must appear on the application form.
6. A student who has taken the American College Test (ACT) should arrange to forward the results to the College Registrar's Office.

When the above procedure has been completed, the applicant will be notified of his admission status.

Counseling and Registration

Counseling—At the time the applicant is informed of his admission status he is requested to arrange an appointment with a College counselor to plan his academic program.

Registration—Prior to the beginning of the semester, each student will receive registration information and a scheduled period for registration. Full tuition fees are to be paid at registration.

TUITION, FEES, AND RESIDENCY POLICY

Tuition

In-District Resident:

$100 per semester

$ 9 per credit hour for part-time students

Michigan, Out-of-District Resident:

$200 per semester

$ 18 per credit hour for part-time students

Out-of-State Resident:

$300 per semester

$ 27 per credit hour for part-time students

Courses, varying in length from several clock hours up to a semester (eighteen weeks), will be offered for part-time, adult students. Tuition for these courses will be determined by the subject content and the length of the course.

Fees

Application and records fee $10

A non-refundable fee of $10.00 is assessed one time for **all** students applying for admission to the College. This fee is collected at the time of application and must be paid before the student can register for classes.

Late registration fee ..... $ 5

In some cases students may be required to purchase certain individual supplies and materials.

Refunds

Refund of seventy-five percent of tuition will be made to a student who withdraws from the College during the first ten days of classes. No tuition refunds will be made after the first ten days of classes. The $10.00 application and records fee is not refundable.

This policy also applies to the part-time student.

No refund will be made if the student drops a partial course load at any time.

Residency Policy

Tuition costs at Washtenaw Community College are based on a sharing by the student, the taxpayer of the district, and the state. District taxes supplement student tuition and state aid for **in-district** students; therefore, the tuition charged the student who lives outside the College district but within the state is greater than the tuition charged the in-district student. Students who reside out-of-state are charged the highest tuition.

In-District Resident

A student who lives in the Washtenaw Community College District with his parents or legal guardian.

Out-of-District Resident

A student who lives outside the College district or whose parents reside outside the college district, but who is a resident of the state, is classified as an out-of-district student and will be charged the applicable tuition.

Out-of-State Resident

A student who is a resident of, or whose parents reside in, another state is classified as an out-of-state student for tuition purposes.

GENERAL REGULATIONS

Students entering college for the first time might need to be reminded of the added responsibilities of attending college. It should be recognized that the College must have a minimum number of rules if its objectives are to be accomplished. Regulations are based upon respect for the rights of others and observance of civil and moral laws. All who enroll in Washtenaw Community College must realize that success rests upon personal efforts, attitudes, honor, integrity, and common sense; that attendance at this institution is a privilege.

Credit Hours

Generally, one credit hour is earned by attending a non-laboratory class for a fifty-minute period, once a week, for an eighteen-week session. In a laboratory course, one credit hour is granted for, from two to four, fifty-minute periods per week in a laboratory.

Course Load

The normal course load for a full-time student is fifteen credit hours or more. Special permission must be obtained from the Dean of Student Services to register for more than eighteen credit hours. A full-time course load for the summer session is six to eight credit hours and special permission must be obtained from the Dean of Student Services to register for more than eight credit hours.

It is recommended that employed students consult with a counselor about their course load.

Classification of Students

Full-time—a student who carries twelve or more credit hours.

Part-time—a student who carries less than twelve credit hours.

First year (Freshman)—a student who has completed fewer than twenty-eight credit hours.

Second year (Sophomore)—a student who has completed twenty-eight or more credit hours, but has not received an associate degree or has not qualified for upper division classification in a four-year college or university.

Special—a student who is enrolled for courses but is not pursuing a degree or certificate of achievement.

Attendance

1. It is consistent with the College philosophy that regular class attendance is necessary if a student is to receive maximum benefits from his work. Students are expected to attend all sessions of the classes for which they are registered. The individual instructor may determine that the quality of the student's work has been adversely affected by absence or tardiness.
2. Students should explain the reason for absence to their instructors.
3. It is the responsibility of the student to make up work missed because of any absence.
4. Students are required to be present at examinations in order to receive credit in a course.

Adds and Drops or Withdrawals

Adds and drops are to be held to a minimum. Forms for adding and dropping can be secured from the Registrar's Office or the Counseling Office. Adds and drops are approved by the instructor and counselor, and are to be used only to improve the student's instructional program.

If a student is withdrawing from college, he must complete Drop forms for all classes on his program. Failure to complete the Drop forms will interfere with receiving any refunds that may be due, and may result in a failing grade for the course.

Adding Courses

Students are expected to complete their registration during the registration period. However, if a student must add a course during the first four contact hours of a course or during the first twenty contact hours in the Technical and Industrial Division, an Add form must be completed and turned in to the Registrar's Office by the student.

Courses cannot be added after the twentieth contact hour in the Technical and Industrial Division or the fourth contact hour in all other divisions. (A contact hour is a period during which the class meets. A three credit course would meet three periods a week for one hour each. Each period is one contact hour.)

Dropping Courses

Students are expected to complete the courses for which they are registered. A student may formally drop a course up to and including the

week following the midterm evaluations. The letter 'W' (Withdrawal) will appear on his record. Drop forms must be completed and turned in to the Registrar's Office by the student.

If a student withdraws from a course after this time (i.e., the week following midterm evaluation) without sufficient reason, the letter 'X' (withdrawal—failure) will appear on his record. If the instructor thinks there is sufficient reason for the student's withdrawal after this time, the letter 'W' (withdrawal) will appear on the student's record.

A Drop form must be completed any time a student withdraws from a class.

Withdrawal from College

If for some reason a student must withdraw from college (withdrawal meaning dropping all classes), the student may claim a seventy-five percent refund of tuition paid if the withdrawal is made during the first ten days classes meet. Application for refund must be made through the Registrar's Office.

If in the case of extreme hardship a student must withdraw after the first ten days of class and wishes to be considered for a refund, he must petition the Registrar who will refer his request to the Refund Committee.

Dismissal

In the case of serious breaches of acceptable conduct, a student may be dismissed from the College.

Grading

A system of evaluation and a means of letting the student know the degree of progress he is making can be achieved in numerous ways. One means is by testing, assigning of grades, completion of credit hours, and accumulation of grade points.

Grades	Grade points per credit hour
A — superior	4
B — excellent	3
C — average	2
D — inferior	1
F — failure	0
S — satisfactory	
U — unsatisfactory	
I — incomplete — credit withheld	
X — withdrawal — failing	
W — withdrawal	

In developmental courses (numbered 40 and below) the evaluation of a student's performance will be by the grade of 'S' (satisfactory) or 'U' (unsatisfactory). Honor points will not be given for these grades. However, the credits for these courses will count toward the Certificate of Achievement if appropriate to the program.

Grade-Point Average

Honor points or grade points measure the achievement of the student for the number of credit hours he has attempted.

A student who enrolls in college for the first time usually is not familiar with the terms grade points and grade-point average. Grade points are determined by multiplying the grade points per credit hour by the credit hour value of the course attempted. The following example will enable the student to compute his grade-point average.

Courses	Credit Hours Attempted	Final Grade	Grade Points
English	3	B	3 grade points (3 x 3) = 9
History	3	F	0 grade points (0 x 3) = 0
Mathematics	3	C	2 grade points (2 x 3) = 6
Electronics	2	A	4 grade points (4 x 2) = 8
Physics	5	C	2 grade points (2 x 5) = 10
Physical Education	1	D	1 grade point (1 x 1) = 1
	17		34

Divide the total grade points by the total credit hours attempted—34 divided by 17 = 2.00 grade-point average.

The cumulative grade-point average is the total number of grade points earned divided by the number of credit hours attempted. It includes the number of credit hours of 'F', even though no grade points are allowed for this grade. When a course is repeated, the original grade and the number of credit hours attempted are not removed from the student's permanent record. The repeated course and the second grade received in the course are entered on the student's permanent academic record, but the credit hours attempted are only entered on the permanent record for the initial enrollment.

Grades are issued at mid-semester, at the end of each semester, and each summer session. The mid-semester grade is an indication of student progress and does not become a part of his permanent record. Both mid-semester and final grades are mailed to the home address of the student.

Student Evaluation (Examinations)

Washtenaw Community College believes that scheduled evaluations are a very important part of the instructional program. As such, the student should be prepared not only for mid-semester and final examinations, but for periodic tests covering various phases of instruction. Although final examination dates are noted on the College calendar, the instructor will inform the student as to the time, place, and other examination requirements.

Incomplete Grade 'I'—Credit Withheld

If for some reason a student has missed a final examination or has not otherwise completed all requirements for the courses as determined by the instructor, the instructor may issue an incomplete grade 'I'. The student has until the next semester (summer session excluded) to complete the requirements. If the requirements are not met during the semester following the semester the incomplete was given, the grade automatically becomes a failure 'F'.

Honors

The names of all full-time students earning a grade-point average of 3.0 or better during a semester are posted on the Dean's List.

Graduation Requirements

To receive the ASSOCIATE DEGREE a student must:

1. Complete a minimum of sixty credit hours (the last fifteen must be earned at Washtenaw Community College), including the specific subject or course requirements in the selected program. Certain programs may require more than the minimum of sixty credit hours—these must also be completed.
2. Earn a minimum cumulative grade-point average at Washtenaw Community College of 2.0.
3. Complete three credit hours of English.
4. Complete three credit hours of political science. (State of Michigan requirement)
5. File the Application for Graduation form at the time of registering for the final semester. This form is available from the Registrar's Office.
6. Participate in the graduation exercises.

To receive the CERTIFICATE OF ACHIEVEMENT a student must:

1. Complete a minimum of thirty credit hours (the last fifteen must be earned at Washtenaw Community College), including the specific subject matter or course requirements of the selected program. Certain programs may require more than the minimum of thirty credit hours—these must also be completed.
2. Earn a minimum cumulative grade-point average at Washtenaw Community College of 2.0.
3. Complete three credit hours in speech or English.
4. File the Application for Graduation form at the time of registering for the final semester. This form is available from the Registrar's Office.
5. Participate in the graduation exercises.

Commencement ceremonies for all Washtenaw Community College graduates are held in the month of June. The conferring of associate degrees, the granting of certificates of achievement, and the giving of honors highlight the graduation exercises. Students receiving the associate degree or the certificate of achievement are required to participate in the commencement.

Graduation Honors

A student is graduated with **Honors** if he has completed his curriculum (Associate Degree and/or Certificate of Achievement) with a 3.0 cumulative grade-point average.

A student who plans to graduate must complete the appropriate form secured from the Registrar's Office at the beginning of the semester in which he plans to complete his course work. Requirements for graduation may be completed during any semester or summer session.

Certificate of Completion

The College offers many short courses, conferences, work shops, and seminars. These will vary in length from one or two meetings of short duration to units necessitating many clock hours accumulated over a period of several weeks.

Successful completion of short courses of this type will result in the granting of a Certificate of Completion.

Request for Transcript

A student requesting that a transcript of his grades be sent to an educational institution or to a prospective employer must complete the appropriate form in the Registrar's Office. There is no charge for the first copy; there is, however, a service charge of $1.00 for each additional copy. A transcript is issued only after the student has fulfilled all financial obligations to Washtenaw Community College.

COURSE NUMBERS

1. The first digit of a course number indicates its classification according to the year it should be taken.
   a. Courses numbered 100 to 199 are freshman-level courses which should be taken during the first year of college, as they usually are prerequisite courses.
   b. Courses numbered 200 to 299 are sophomore-level courses which should be taken during the second year of college.
2. The second digit of the course number indicates the semester the course usually is offered: 1, first semester; 2 second semester; 0, 3, 4, 5, 6, 7, 8, or 9, either semester.
3. The third digit of the course number indicates the number of the course in a sequence: 1, 2, 3, 4, 5, or 6. For numbers 0, 7, 8, 9, there is no sequence involved.
4. Courses numbered 40 and below are developmental courses.


SITE OF
Washtenaw Community College
Construction begins Summer of 67

GENERAL STUDIES PROGRAMS

Students who intend to transfer to a four-year college or university after acquiring the necessary earned credits at Washtenaw Community College should review the general requirements presented in the following programs.

The curricula as outlined are to serve as guidelines only. Each college and university has developed its specific criteria for the many programs of study. The student is advised to review the particular college catalog with his counselor in order to determine course schedules. A file of both state and out-of-state catalogs is available in the Student Services Office. Proper selection of courses is requisite to the orderly transfer of credits from Washtenaw Community College to the baccalaureate degree-granting institution.

ARTS

The following pattern of courses for students concentrating in Liberal Arts, Education, Literature, or Business Administration is one which meets the requirements of the first two years of work in most four-year colleges and universities.

FIRST YEAR

First Semester	Hours	Second Semester	Hours
English	3	English	3
United States History	3	United States History	3
Foreign Language	4	Foreign Language	4
Political Science[2]	3	Social Science[2]	3
Art Appreciation	3	Music Appreciation	3
Orientation	1		
	17		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Literature	3	Literature	3
Mathematics	3	Mathematics	3
Foreign Language[1]	4	Foreign Language	4
Biological Science or Physical Science	3 or 4	Biological Science or Physical Science	3 or 4
Elective[3]	3	Elective	3
	16 or 17		16 or 17

[1] Most liberal arts curricula require the completion or the equivalent of two years college credit in a foreign language.
[2] Political Science (needed to meet State requirements), history, sociology, economics, general psychology, geography.
[3] Speech, science, mathematics, and art.

SCIENCE

The following pattern of courses for students concentrating in the Sciences, Forestry and Conservation, Mathematics, Education, Engineering, and the several medical fields is one which meets the requirements of the first two years of work in most four-year colleges and universities.

FIRST YEAR

First Semester	Hours	Second Semester	Hours
English	3	English	3
Mathematics	3	Mathematics	3
Science (Laboratory)	4	Science (Laboratory)	4
Political Science[2]	3	Social Science[2]	3
Speech (Fundamentals of)	3	General Psychology	3
Orientation	1		
	17		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Mathematics	3 or 4	Mathematics	3 or 4
Science (Laboratory)	4	Science (Laboratory)	4
Foreign Language[3] or Literature	4 or 3	Foreign Language[3] or Literature	4 or 3
Social Science	3	Social Science	3
Elective[4]	3	Elective[4]	3
	17		17

[1] Pre-engineering students can fulfill engineering drawing requirements by taking Technical Drawing 100, Drafting 111 and/or Descriptive Geometry 112.

[2] Political Science (needed to meet State requirements), history, sociology, economics, geography.

[3] If foreign language is required, the completion of two years of college credit or its equivalent is suggested.

[4] Art appreciation, music appreciation.

GENERAL EDUCATION

The general education program is especially suitable for those students who wish to gain broad understandings in various content fields and are not concerned specifically with acquiring job-entry skills, or securing college-parallel credit. The basic purpose of the following guidelines is the intellectual, cultural, and personal development of an individual.

FIRST YEAR

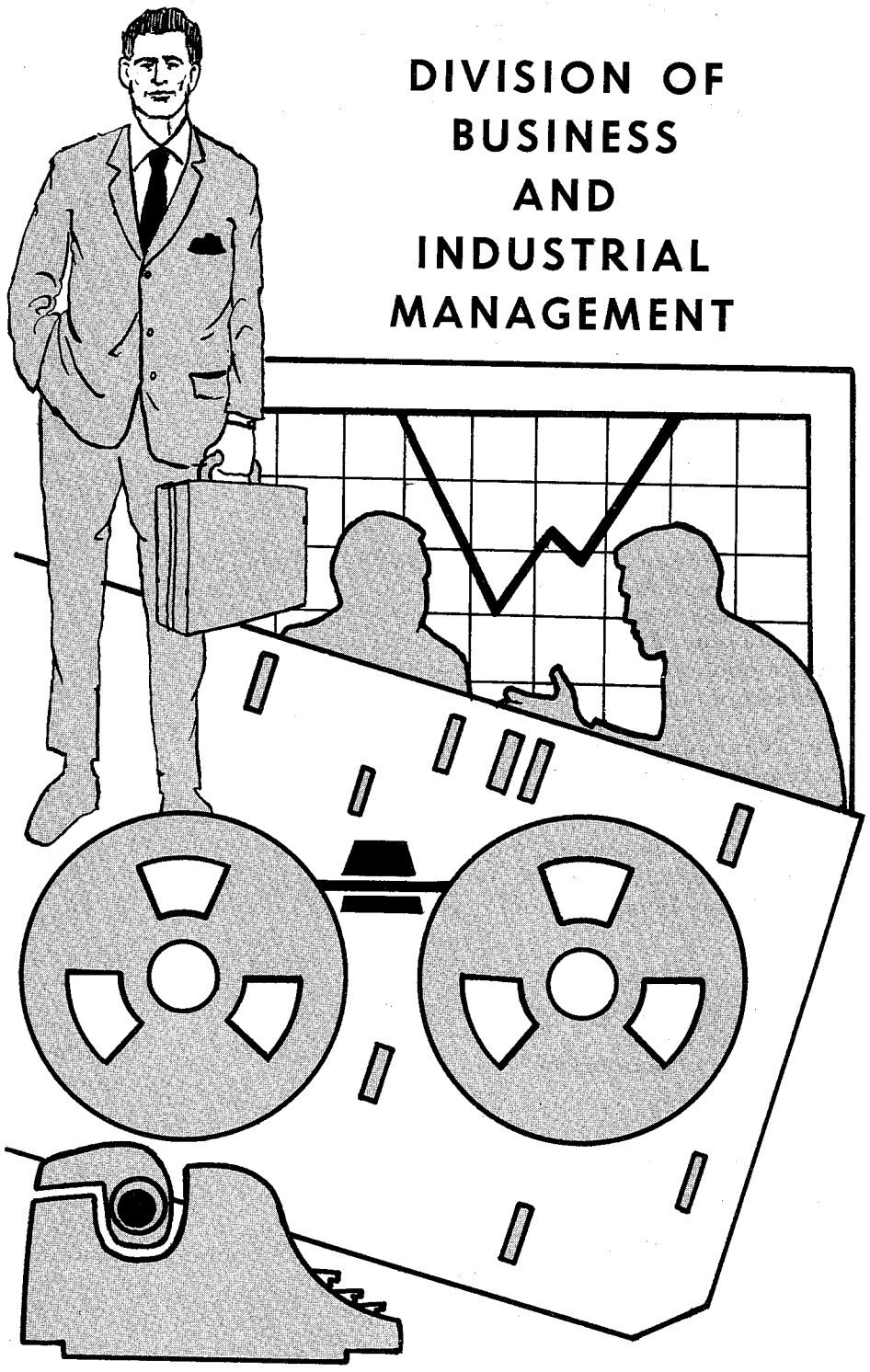
First Semester	Hours	Second Semester	Hours
English	3	English	3
Mathematics or Science	3 or 4	Mathematics or Science	3 or 4
Political Science[1]	3	Social Science	3
Foreign Language or Elective[2]	4 or 3	Foreign Language or Elective[2]	4 or 3
Music or Art Appreciation	3	Music or Art Appreciation	3
Orientation	1		
	17		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Literature	3	Literature	3
Social Science	6	Social Science	6
Art or Music	3	Art or Music	3
Foreign Language or Elective[2]	4 or 3	Foreign Language or Elective[2]	4 or 3
	15 or 16		15 or 16

[1] Political Science required for Associate Degree and to meet State requirements.
[2] Essentially, any course listed in the several divisions of the college may be elected.

DIVISION OF BUSINESS AND INDUSTRIAL MANAGEMENT



BUSINESS AND INDUSTRIAL MANAGEMENT ADVISORY COMMITTEE

Miss Elizabeth A. Bliss (C.P.S.) ..... Chairman
Secretary to Vice President for University Relations
The University of Michigan
Ann Arbor

Mr. J. P. Barnum
Branch Manager
IBM Corporation
Dearborn

Mr. Roger A. Gatward, Manager
Manpower, Incorporated
Ann Arbor

Mr. Robert F. Guise, Jr., President
Com-Share, Incorporated
Ann Arbor

Mr. Henry J. Kruzel
Senior Industrial Relations Analyst
Compensation Administration Section
Lincoln-Mercury Division
Ford Motor Company
Dearborn

Mr. William Marsh, General Manager
Rockwell-Standard Corporation
Chelsea

Mr. Wilbert M. Remington
Director of Data Processing
Detroit Edison Company
Detroit

Mr. James R. Smith
Manager, Salaried Personnel Administration
Hydra-rnatic Division
General Motors Corporation
Ypsilanti

Mr. Earl W. Taylor
Alam & Taylor, C.P.A.
Ann Arbor

Faculty Coordinators: Arthur J. Lamminen
Donald E. Day

BUSINESS AND INDUSTRIAL MANAGEMENT INTERNSHIP-EXTERNSHIP PROGRAMS

The Division of Business and Industrial Management offers cooperative occupational-experience programs to interested and qualified students. These programs will be known as the Business and Industrial Management Internship-Externship Programs. They are designed to implement students' academic and occupational education with on-the-job business and/or industrial experience.

The Internship-Externship Programs will involve the students in real-life occupational experiences specially programmed, through the cooperative effort of the participating firms and a college program coordinator, to meet the students' particular occupational needs.

Interns and externs will be placed in all kinds of business-industrial firms and/or educational and governmental establishments. Occupational experience will be available through these organizations in the diverse areas of manufacturing, wholesale and retail, office systems and procedures, data processing, and many others.

Student time schedules for the Internship-Externship Programs will be flexible to meet the students' needs. Occupational-experience assignments may be arranged on a half-day basis, alternate daily work-study combination, or alternatively—a full semester of work and/or study, or a summer occupational-experience program.

Washtenaw Community College's Business and Industrial Management Internship-Externship Programs will be conducted under the guidance and direction of a regularly designated coordinator. The coordinator, through the divisional director's office, will be directly responsible for the structure of the programs and maintenance of effective liaison between the student, the college, and the participating firm; and evaluation of the intern's and/or extern's total progress.

SPECIAL BUSINESS AND INDUSTRIAL MANAGEMENT COURSES AND PROGRAMS

In addition to its regularly scheduled occupational programs and courses, the Division of Business and Industrial Management has projected plans for the development of specialized short course and program offerings (seminars, workshops, series of sessions, etc.) to meet the explicit needs of the buiness and industrial firms in the immediate environs of Washtenaw Community College.

ACCOUNTING TECHNICIAN

Two-Year Program

FIRST YEAR

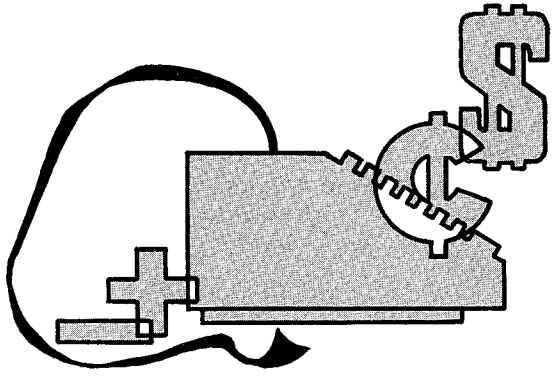
First Semester	Hours	Second Semester	Hours
Introduction to Business 140	3	Principles of Accounting 111	3
Principles of Data Processing 111	4	Data Processing Applications 122	4
Fundamentals of Occupational Mathematics 99	3	Business Machines 130	2
English Fundamentals 91 or English Composition 111	3	English Fundamentals 92 or English Composition 122	3
Freshman Seminar 109	1	Fundamentals of Speaking 100	3
	14		15

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Principles of Accounting 122	3	Intermediate Accounting 200	3
Data Processing Systems and Procedures 213	4	Office Management 230	3
Business Law 111	3	Human Relations in Business and Industry 200	3
Principles of Economics 211	3	Principles of Economics 222	3
Introduction to Political Science 100	3	Internship-Externship 200 or Business Elective	3
	16		15

Employment Opportunities: Completion of this program leads to employment opportunities as an accountant in business and industrial concerns or at various levels of governmental agencies, large and small.

Total Credit Hours for Program 60



DATA-RECORD OPERATOR

One-Year Program

First Semester	Hours
Principles of Data Processing 111	4
Introduction to Business 140	3
Developmental Mathematics 31 or Foundations of Occupational Mathematics 99	3
English Fundamentals 91 or English Composition 111	3
Freshman Seminar 109	1
	14

Second Semester	Hours
Data Processing Applications 122	4
Fundamentals of Accounting 30 or Principles of Accounting 111	3
Human Relations in Business and Industry 200	3
Internship-Externship 200 or Business Elective	3
Fundamentals of Speaking 100	3
	16

Employment Opportunities: Employment by firms handling a large volume of data, reporting, record-keeping, and other paperwork. Employment by manufacturing, wholesale and retail, and utility firms as keypunch, sorting machine, or tabulating machine operator. This program may precede courses in programming or systems analysis as related to occupations in computer technology.

Total Credit Hours for Program 30

DATA PROCESSING TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Business 140	3	Data Processing Applications 122	4
Principles of Data Processing 111	4	Principles of Accounting 111	3
Foundations of Occupational Mathematics 99	3	Business Machines 130	2
English Fundamentals 91 or English Composition 111	3	English Fundamentals 92 or English Composition 122	3
Freshman Seminar 109	1	Fundamentals of Speaking 100	3
	14		15

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Data Processing Systems and Procedures 213	4	Computer Programming 224	4
Principles of Accounting 122	3	Office Management 230	3
Business Law 111	3	Human Relations in Business and Industry 200	3
Principles of Economics 211	3	Principles of Economics 222	3
Introduction to Political Science 100	3	Internship-Externship 200 or Business Elective	3
	16		16

Employment Opportunities: Entry occupations include data processing applications, data systems and procedures analyses, and computer programming in private business, industrial firms, governmental agencies, and educational institutions.

Total Credit Hours for Program 61

MANAGEMENT TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Business 140	3	Principles of Management 208	3
Foundations of Occupational Mathematics 99	3	Principles of Salesmanship 160	3
Principles of Economics 211	3	Business Machines 130	2
English Fundamentals 91 or English Composition 111	3	Principles of Data Processing 111*	4
Fundamentals of Speaking 100	3	English Fundamentals 92 or English Composition 122	3
Freshman Seminar 109	1		
	16		15

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Principles of Marketing 250	3	Human Relations in Business and Industry 200	3
Personnel Management 240	3	Principles of Accounting 122	3
Principles of Accounting 111	3	Business Communication 100	3
Business Law 111	3	Internship-Externship 200 or Business Elective	3
Internship-Externship 200 or Business Elective	3	Introduction to Political Science 100	3
	15		15

Employment Opportunities: Supervisory and administrative or managerial trainee opportunities in a variety of businesses or industries.

Total Credit Hours for Program 61

* Student may elect additional courses in data-record operations.

MARKETING
WHOLESALE AND RETAIL SALES PERSON

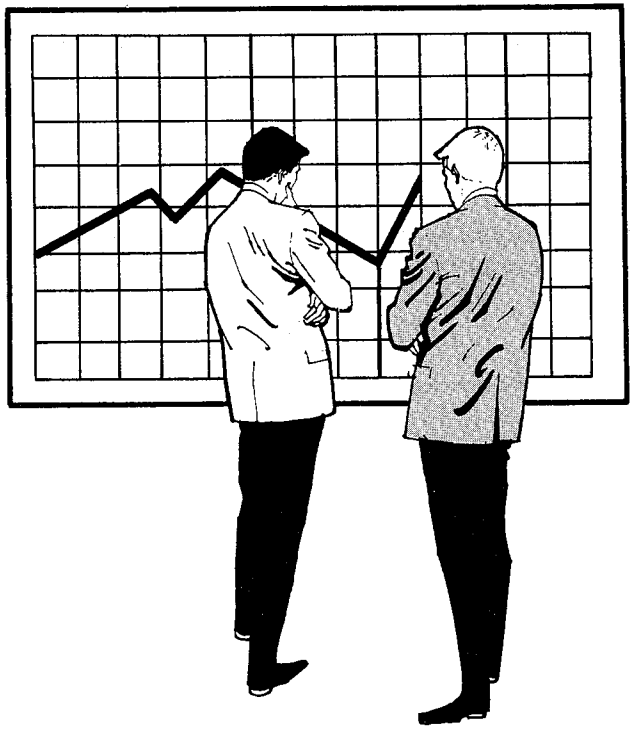
One-Year Program

First Semester	Hours
Introduction to Business 140	3
Principles of Salesmanship 160	3
Developmental Mathematics 31 or Foundations of Occupatonal Mathematics 99	3
English Fundamentals 91 or English Composition 111	3
Fundamentals of Speaking 100	3
Freshman Seminar 109	1
	16

Second Semester	Hours
Principles of Marketing 250	3
Human Relations in Business and Industry 200	3
Business Law 111	3
Business Machines 130	2
Internship-Externship 200 or Business Elective	3
	14

Employment Opportunities: Sales positions and related functions in wholesale or retail marketing businesses.

Total Credit Hours for Program 30



MARKETING
WHOLESALE AND RETAIL SALES TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Business 140	3	Principles of Marketing 250	3
Foundations of Occupational Mathematics 99	3	Principles of Salesmanship 160	3
English Fundamentals 91 or English Composition 111	3	Principles of Management 208	3
Fundamentals of Speaking 100	3	Business Machines 130	2
Introduction to Political Science 100	3	English Fundamentals 92 or English Composition 122	3
Freshman Seminar 109	1		
	16		14

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Human Relations in Business and Industry 200	3	Sales Management 260	3
Principles of Accounting 111	3	Advertising Management 270	3
Business Law 111	3	Principles of Accounting 122	3
Principles of Economics 211	3	Principles of Economics 222	3
Internship-Externship 200 or Business Elective	3	Internship-Externship 200 or Business Elective	3
	15		15

Employment Opportunities: Sales, supervision, and managerial trainee opportunities in a variety of retail, wholesale, and marketing businesses.

Total Credit Hours for Program 60

CLERK-TYPIST

One-Year Program

First Semester	Hours
Typewriting (A,B,C) 130 and/or Elective*	2
Shorthand (A,B,C) 130 and/or Elective**	3
Introduction to Business 140	3
Developmental Mathematics 31 or Foundations of Occupational Mathematics 99	3
English Fundamentals 91 or English Composition 111	3
Freshman Seminar 109	1
	15

Second Semester	Hours
Typewriting (A,B,C) 130 and/or Elective *	2
Shorthand (A,B,C) 130 and/or Elective **	3
Business Machines 130	2
Office Systems and Procedures 150	3
Human Relations in Business and Industry 200	3
Internship-Externship 200 or Business Elective	3
	16

Employment Opportunities: Various businesses, industries, governmental agencies, banks, institutions, and private offices employ clerk-typists to carry on many office functions.

Total Credit Hours for Program 31

* Typewriting credit and contact hours are progressive in accordance with student progress and proficiency level. (See catalog course description.)
** Shorthand credit and contact hours are progressive in accordance with student progress and proficiency level. (See catalog course description.)

SECRETARIAL TECHNICIAN

Two-Year Program

First Semester	Hours	Second Semester	Hours
Typewriting (A,B,C) 130 and/or Elective*	2	Typewriting (A,B,C) 130 and/or Elective*	2
Shorthand (A,B,C) 130 and/or Elective**	3	Shorthand (A,B,C) 130 and/or Elective**	3
Introduction to Business 140	3	Business Machines 130	2
Foundations of Occupational Mathematics 99	3	Internship-Externship 200 or Business Elective***	3
English Fundamentals 91 or English Composition 111	3	English Fundamentals 92 or English Composition 122	3
Freshman Seminar 109	1	Fundamentals of Speaking 180	3
	15		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Shorthand (A,B,C) 130 and/or Elective**	3	Business Law 122	3
Office Systems and Procedures 150	3	Principles of Accounting 122	3
Business Law 111	3	Human Relations in Business and Industry 200	3
Principles of Accounting 111	3	Business Communication 100	3
Internship-Externship 200 or Business Elective	3	Introduction to Political Science 100	3
	15		15

NOTE: THIS PROGRAM PROVIDES PREPARATION LEADING TO FULFILLMENT OF REQUIREMENTS FOR CERTIFIED PROFESSIONAL SECRETARY (C.P.S.)

Employment Opportunities: Business, industry, banks, institutions, private offices and governmental agencies seek highly trained secretarial people to perform the more responsible functions in operating an office.

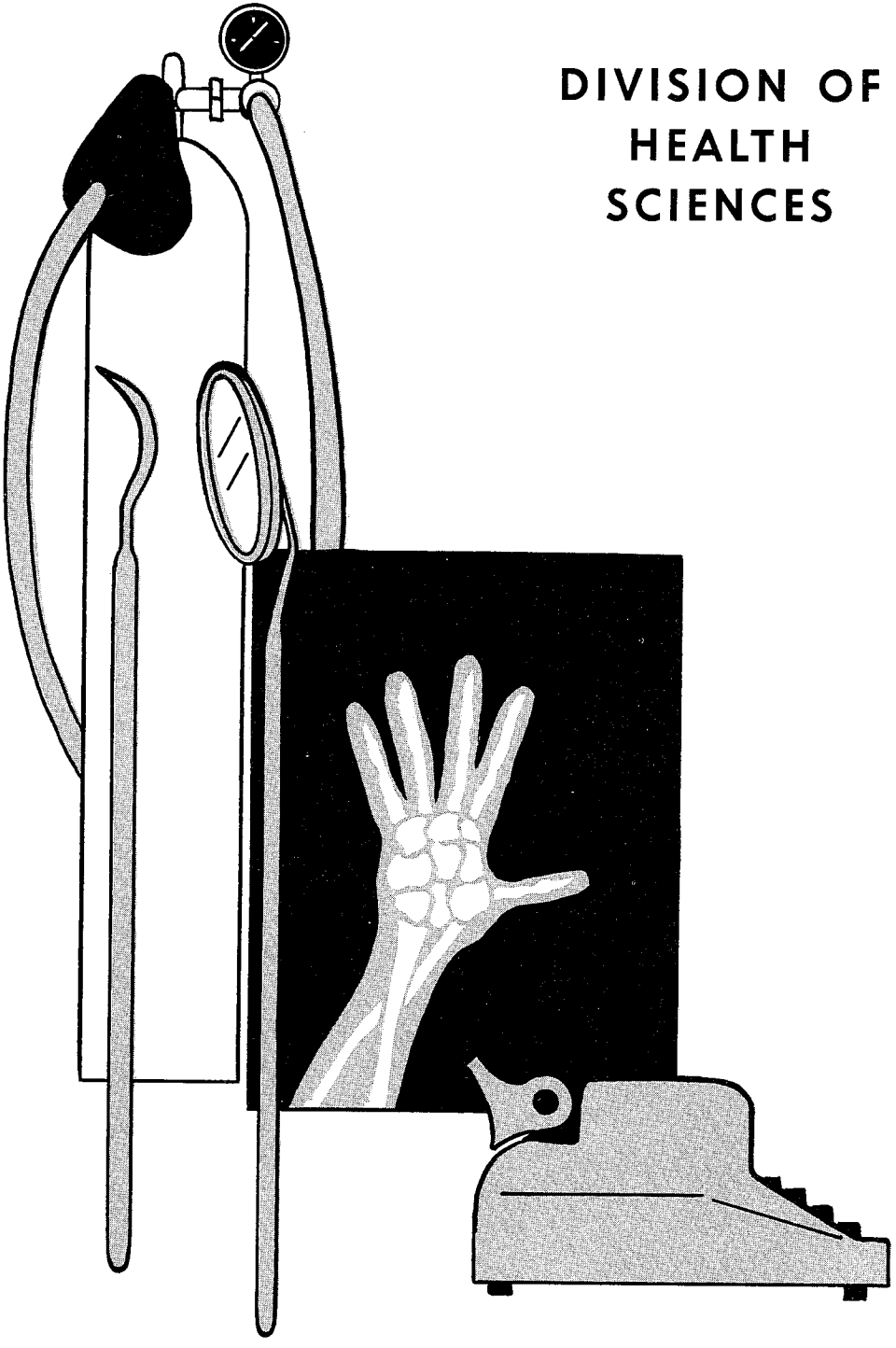
Total Credit Hours for Program 61

* Typewriting credit and contact hours are progressive in accordance with student progress and proficiency level. (See catalog course description.)

** Shorthand credit and contact hours are progressive in accordance with student progress and proficiency level. (See catalog course description.)

*** May be continued second year.

DIVISION OF HEALTH SCIENCES



DENTAL ASSISTING
ADVISORY COMMITTEE

Dr. James B. Bush ..... Chairman
Professor of Dentistry
The University of Michigan
Ann Arbor

Mrs. Carol Chaconas
Certified Dental Assistant
Ann Arbor

Dr. Frank Comstock
Professor of Dentistry
The University of Michigan
Ann Arbor

Dr. Hugh Cooper, Jr.
Dentist
Ann Arbor

Dr. John Larder
Dentist
Saline

Dr. Robert Lorey
Dentist
Ann Arbor

Dr. Robert Vandersluis
Dentist
Whitmore Lake

Dr. Norman Wilner
Dentist
Dexter

Faculty Coordinator: Mrs. Gerianne Drew

DENTAL ASSISTANT

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Basic Health Science 141	4	Physical Science 142	4
Orientation to Dental Assisting 110	1	Advanced Dental Science 122	4
Dental Science 111	4	Principles of Operatory Procedures 121	4
English Fundamentals 91 or English Composition 111	3	English Fundamentals 92 or English Composition 122	3
Office Systems and Procedures 150	3	Clinical Practice and Work Experience 100 (optional)	2
Freshman Seminar 109	1		
	16		15-17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Dental Office Procedures 212	4	Advanced Dental Laboratory Procedures 225	3
Principles of Dental Laboratory Procedures 214	3	Introduction to Political Science 100	3
Dental Materials 203	3	Psychology of Adjustment 107	3
Clinical Practice and Work Experience 100	3	Clinical Practice and Work Experience 100	6
Dental Roentgenology 213	3	Principles of Sociology 100	3
	16		18

Employment Opportunities: The program is designed to prepare students to become direct assistants to dentists in general and specialized practice. In addition to the responsibilities of chairside assisting, the dental assistant will have office responsibilities and laboratory duties.

Total Credit Hours for Program 66-68

INHALATION THERAPY
ADVISORY COMMITTEE

Dr. Thomas J. DeKornfeld . . . . . Chairman and Medical Director
Associate Professor
Department of Anesthesiology
The University of Michigan Medical Center
Ann Arbor

Mr. John Burton
Mayor of Ypsilanti
Ypsilanti

Dr. Jay S. Finch
Instructor
Department of Anesthesiology
The University of Michigan Medical Center
Ann Arbor

Mr. Don E. Gilbert
Chief Inhalation Therapist
The University of Michigan Medical Center
Ann Arbor

Dr. A. J. Klippen
Director
Veterans Administration Hospital
Ann Arbor

Mr. Henry J. Morris
Assistant Administrator
St. Joseph Mercy Hospital
Ann Arbor

Dr. R. B. Nelson
Senior Association Director
University Hospital
Ann Arbor

Mr. John Shelton
Technical Director of Inhalation Therapy
St. Joseph Mercy Hospital
Ann Arbor

Faculty Coordinator: Carl F. Hammond

INHALATION THERAPIST

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Basic Health Science 141	4	Inhalation Therapy Procedures 122	3
Inhalation Therapy Procedures 111	3	Nursing Arts for Inhalation Therapy 124	3
Nursing Arts for Inhalation Therapy 113	3	Introduction to Applied Inhalation Therapy 125	1
Foundations of Occupational Mathematics 99	3	Physical Science 142	4
Clinical Practice and Work Experience 100	3	Clinical Practice and Work Experience 100	4
Freshman Seminar 109	1		
	17		15

SUMMER SESSION

Clinical Practice and Work Experience 100	6
Applied Inhalation Therapy 136	3
	9

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Seminar—Inhalation Therapy 219	3	Principles of Sociology 100	3
English Fundamentals 91 or English Composition 111	3	Introduction to Political Science 100	3
Psychology of Adjustment 107	3	Business Communication 200	3
Clinical Practice and Work Experience 100	4	Clinical Practice and Work Experience 100	4
	13		13

Employment Opportunities: The program in Inhalation Therapy Technology is designed to prepare therapists to work under the supervision of a physician responsible for inhalation therapy departments in health service agencies. The therapist operates, maintains, and administers the equipment used in patient care. Employed in hospitals, medical and research laboratories.

Total Credit Hours for Program 67

This program is being conducted in cooperation with:
St. Joseph Mercy Hospital, Ann Arbor
University Hospital, The University of Michigan Medical Center, Ann Arbor
Veterans Administration Hospital, Ann Arbor

MEDICAL CLERK

(Medical Office Worker)

One-Year Program

First Semester	Hours	Second Semester	Hours
Basic Health Science 141	4	Foundations of Occupational Mathematics 99	3
Introduction to Medical Assisting 111	3	Medical Assisting 122	4
English Fundamentals 91 or English Composition 111	3	Office Systems and Procedures 150	3
Typewriting 130	2	Business Machines 130	2
Shorthand 130	3	Clinical Practice and Work Experience 100	3
Freshman Seminar 109	1		
	16		15

Employment Opportunities: This program is designed to prepare technicians as first-line assistants to medical record librarians in the medical record department of a hospital, clinic, nursing home, or other health service agency.

Total Credit Hours for Program 31

MEDICAL SECRETARY

(Medical Office Worker)

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Basic Health Science 141	4	Physical Science 142	4
Typewriting 130	2	Medical Assisting 122	4
Foundations of Occupational Mathematics 99	3	English Fundamentals 92 or English Composition 122	3
Introduction to Medical Assisting 111	3	Medical Terminology 120	3
English Fundamentals 91 or English Composition 111	3	Shorthand 130	3
Freshman Seminar 109	1		
	16		17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Business 140	3	Clinical Practice and Work Experience 100	3
Shorthand 130	3	Office Systems and Procedures 150	3
Business Machines 130	2	Principles of Sociology 100	3
Introduction to Political Science 100	3	Business Communication 200	3
Psychology of Adjustment 107	3	Shorthand 130	3
Clinical Practice and Work Experience 100	3		
	17		15

Employment Opportunities: This course of study is designed to prepare "a girl Friday" to a professional person in the medical field. Employed in hospitals, clinics, physician's offices, etc.

Total Credit Hours for Program 65

RADIOGRAPHIC TECHNOLOGY (X-RAY)

ADVISORY COMMITTEE

Dr. LaMar J. Hankamp ..... Chairman
Chief Radiologist
St. Joseph Mercy Hospital
Ann Arbor

Mr. Peter Frick
Chief Radiologic Technologist
St. Joseph Mercy Hospital
Ann Arbor

Mr. Robert Johnston
Chief Radiologic Technologist
Veterans Administration Hospital
Ann Arbor

Dr. William Merchant, Administrator
Veterans Administration Hospital
Ann Arbor

Mr. Henry Morris, Assistant Administrator
St. Joseph Mercy Hospital
Ann Arbor

Dr. Roger B. Nelson, Senior Associate Director
University Hospital
Ann Arbor

Dr. Robert Rapp, Chief Radiologist
Veterans Administration Hospital
Ann Arbor

Mr. William Russell
Chief Radiologic Technologist
University Hospital
Ann Arbor

Dr. Walter M. Whitehouse, Radiologist
Chairman, Department of Radiology
University Hospital
Ann Arbor

Ex officio:
Dr. Arthur C. Kittleson ..... Medical Director
Radiologist
University Hospital
Ann Arbor

Faculty Coordinator: Robert Nelson

X-RAY TECHNOLOGIST

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Fundamentals of X-ray Technology 111	4	Fundamentals of X-ray Technology 122	4
X-ray Physics 91	3	X-ray Physics 92	3
Anatomy and Psysiology 211	3	Anatomy and Physiology 222	3
Foundations of Occupational Mathematics 99	3	Medical Terminology 120	3
Clinical Practice and Work Experience 100	3	Clinical Practice and Work Experience 100	3
Freshman Seminar 109	1		
	17		16

SUMMER SESSION

Clinical Practice and Work Experience 100 — 6

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Principles of X-ray Technology 213	4	Principles of X-ray Technology 224	4
English Fundamentals 91 or English Composition 111	3	Technical Communications 200	3
Introduction to Political Science 100	3	Clinical Practice and Work Experience 100	3
Clinical Practice and Work Experience 100	3	Psychology of Adjustment 107	3
	13		13

SUMMER SESSION

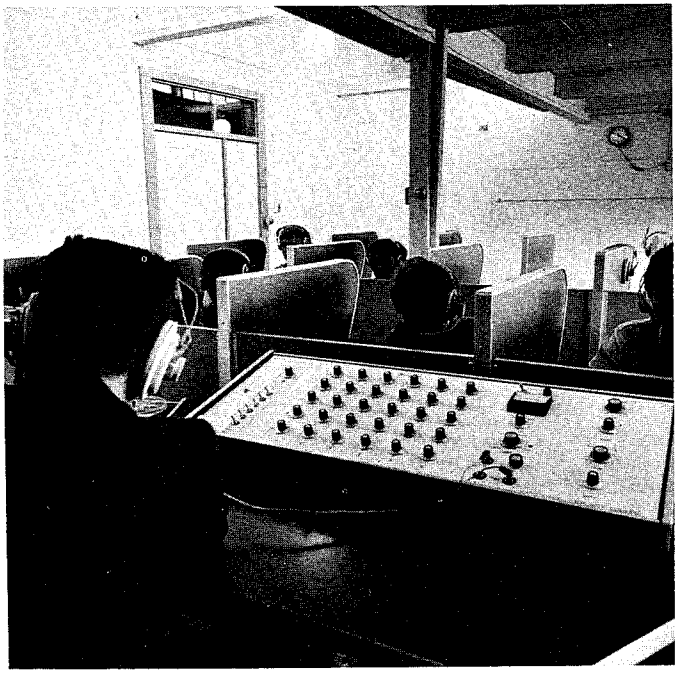
Clinical Practice and Work Experience 100 — 6

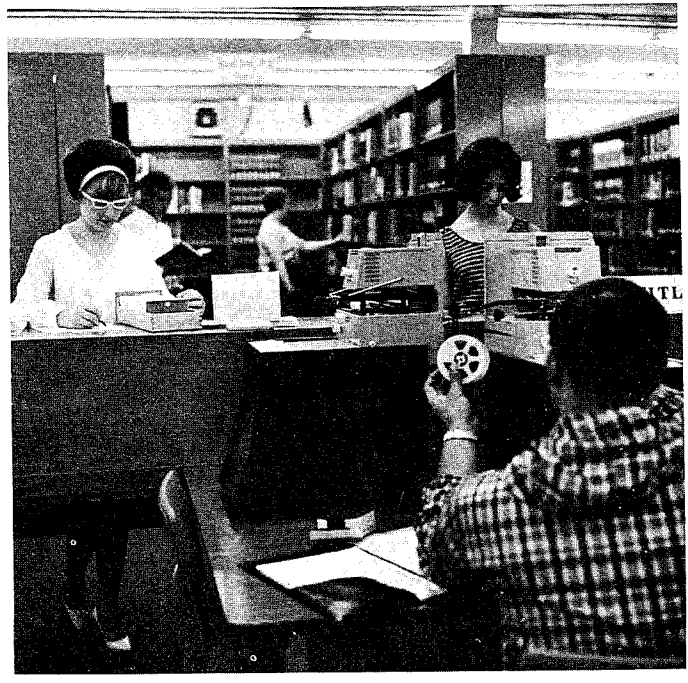
Employment Opportunities: The program is designed to prepare students to become safe practitioners in X-ray Technology, who, upon successful completion and certification, will perform diagnostic and therapeutic work with their technical skills to use X-ray equipment in both laboratory and clinical settings. Employed in hospitals, clinics, and medical and research laboratories.

Total Credit Hours for Program 71

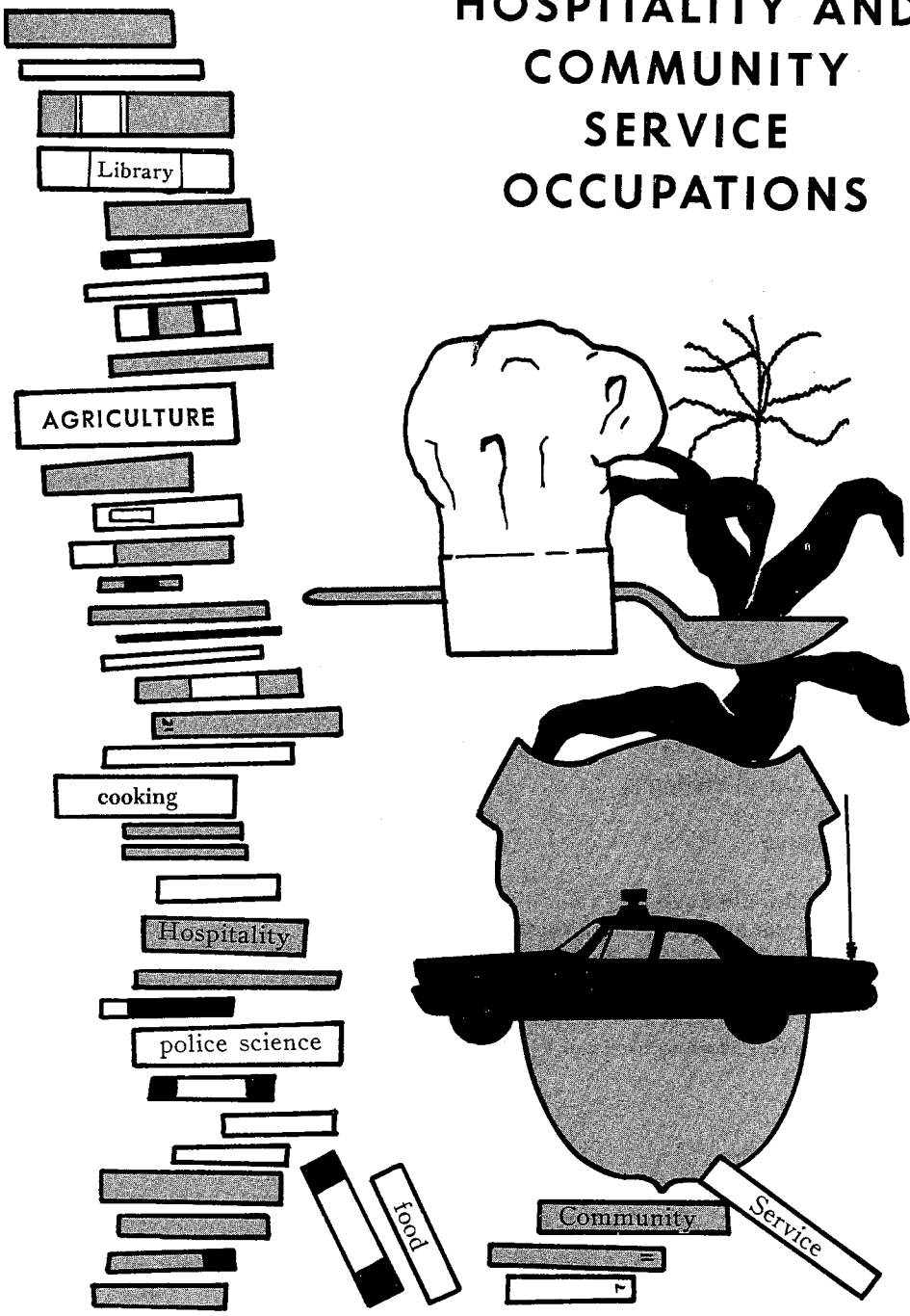
This program is being conducted in cooperation with:

St. Joseph Mercy Hospital, Ann Arbor
University Hospital, The University of Michigan Medical Center, Ann Arbor
Veterans Administration Hospital, Ann Arbor





DIVISION OF HOSPITALITY AND COMMUNITY SERVICE OCCUPATIONS



AGRIBUSINESS
ADVISORY COMMITTEE

Mr. Dan J. Boutell
Executive Vice-President
Union Savings Bank
Manchester

Mr. Armin Haeussler
President, Washtenaw Farm Bureau
Saline

Mr. Donald R. Johnson
Cooperative Extension Service
Michigan State University
Ann Arbor

Mr. Robert Kushmaul
Washtenaw Crop Service
Chelsea

Mr. Albert Ruhlig
Dairy Farmer
Dexter

Mr. Lee Talladay
Farmer
Milan

Mr. David Wolfgang
Farmer
Chelsea

Mr. Donald Zeeb
Washtenaw Soil Conservation District
Ann Arbor

Faculty Coordinator: Paul W. Davis

AGRIBUSINESS TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Horticulture 111	3	Insect and Disease Control 122	3
Lawn and Turf Management 115	3	Plant Breeding and Propagation 126	4
Concepts of Biology 111	3	Landscaping 120	3
English Fundamentals 91	3	Introductory Chemistry 57	3
Man and Society 108	3	Introductory Chemistry Laboratory 58	1
Freshman Seminar 109	1	English Fundamentals 92	3
	16		17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Greenhouse Management 213	4	Maintenance of Garden and Grounds 224	3
Ornamental Plant Ecology 227	3	Nursery and Arboriculture Practices 228	4
Fundamentals of Speaking 100	3	Soils and Fertilizers 230	3
Principles of Management 208	3	Occupational Experience 100	8
Occupational Experience 100	4		
	17		18

Employment Opportunities: Interesting work is available in non-farming occupations such as landscaping, nurseries, elevator and farm supply, food processing, farm equipment and repair, soil technology, floriculture and turfgrass management.

Total Credit Hours for Program 68

EDUCATIONAL ASSISTING

ADVISORY COMMITTEE

Mrs. Hanne Sonquist ..... Chairman
Assistant Curriculum Director
Ypsilanti Early Education Project
Ypsilanti

Mrs. Gayle Hadley
Board Chairman, Day Care Center
Head Teacher, Beth Israel Nursery
Ann Arbor

Mrs. Lola Jones
Counselor
Washtenaw Community College
Ann Arbor

Mr. Raymond Kingston
Director of Special Projects
Ypsilanti Public Schools
Ypsilanti

Mr. Jack L. Kirsh
Director of Instruction
Washtenaw County Intermediate School District
Ann Arbor

Miss Evelyn Moore
Director, Compensatory Programs
Public Schools
Ann Arbor

Mr. David S. Pollock
Dean, Student Services
Washtenaw Community College
Ann Arbor

Mrs. Norma Radin
Research Coordinator
Ypsilanti Public Schools
Ypsilanti

Faculty Coordinator: Paul W. Davis

EDUCATIONAL AIDE

One-Year Program

First Semester	Hours	Second Semester	Hours
Teacher Aide Techniques 111	3	Teacher Aide Techniques 122	3
Occupational Experience 100	3	Occupational Experience 100	3
Basic Health Science 141	4	Arts and Crafts 200	3
English Elective	3	First Aid 109	1
Typewriting 130	2	Instructional Media and Materials 209	3
Freshman Seminar 109	1	Elective*	3
	16		16

Employment Opportunities: The demand for trained aides is steadily increasing. Jobs are available in nursery schools, day-care centers, after-school enrichment programs, hospital nurseries, children's psychiatric clinics and baby clinics in hospitals.

Total Credit Hours for Program 32

* Elective--Consequence of Counseling.

EDUCATIONAL ASSISTANT

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Teacher Aide Techniques 111	3	Teacher Aide Techniques 122	3
Occupational Experience 100	3	Occupational Experience 100	3
Basic Health Science 141	4	Arts and Crafts 200	3
English Elective	3	First Aid 109	1
Typewriting 130	2	Instructional Media and Materials 209	3
Freshman Seminar 109	1	Elective*	3
	16		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Teacher Aide Techniques 213	3	Teacher Aide Techniques 224	3
Occupational Experience 100	3	Occupational Experience 100	3
Child Psychology 200	3	Principles of Sociology 100	3
Man and Society 108	3	Fundamentals of Speaking 100	3
Principles of Elementary Mathematics 107	3	Elective**	3
Typewriting 130	2		
	17		15

Employment Opportunities: The educational assistant will find employment opportunities in public and private schools, clinics, laboratories, nurseries, and hospitals. Opportunities will also be available as laboratory assistants in such areas as vocational education and science.

Total Credit Hours for Program 64

* Elective—Consequence of Counseling.

** Elective—This should be a survey of an area that is of particular interest to the student. Those desiring secondary placement should apply this toward a basic knowledge of the subject matter in which they could be of definite help to the classroom teacher.

FOOD SERVICE TECHNOLOGY
ADVISORY COMMITTEE

Mr. Richard Carlson
Frontier Beef House
Ann Arbor

Mr. Leonard Lillard
Len's Beef Buffet
Ann Arbor

Mr. Henry Lum
Leo Ping Cafe
Ann Arbor

Mr. Walter Orth
Manager
Michigan Union Food Service
Ann Arbor

Mrs. Karen White
Coordinator, Home Economics
Ann Arbor Public Schools
Ann Arbor

Ex officio:
Mr. William H. Buettner, Jr.
Commercial Representative
Michigan Consolidated Gas Company
Ann Arbor

Faculty Coordinator: Paul W. Davis

FOOD SERVICE TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Restaurant Management 100	3	Introduction to Volume Food Management 122	3
Elementary Food Preparation 111	3	Fundamentals of Accounting 30 or Principles of Accounting 111	3
Business Mathematics 100	3	Basic Health Science 141	4
Introductory Psychology 100	3	Fundamentals of Speaking 100	3
Introduction to Political Science 100	3	English Elective	3
Freshman Seminar 109	1		
	16		16

SUMMER SESSION

Internship-Externship 200	6

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Advanced Food Preparation 213	3	Food and Beverage Management 224	3
Personnel Management 240	3	Layout and Equipment 228	3
Internship-Externship 200	3	Internship-Externship 200	3
Human Relations in Business and Industry 200	3	Social Science Elective	3
Principles of Salesmanship 160	3		
	15		12

Externship—Field experience under supervision of coordinator and employer. Employer pays prevailing rate for part-time employees in the community. Any credit given for work experience must be coordinated by the program director and evaluated by the employer, the director, and the student.

Internship—This part of the work experience program provides on-the-job training in the school either in the cafeteria or other available facilities. An advantage here is that learning is controlled by the instructor.

Employment Opportunities: The food industry is the fourth largest industry in the United States. Jobs are available as manager, supervisor, host, cook, chef, merchandising manager, purchasing agent, steward, soup chef, storekeeper, pastry chef, butcher, and many others.

Total Credit Hours for Program 65

LAW ENFORCEMENT ADVISORY COMMITTEE

James R. Breakey, Circuit Judge
Ann Arbor

Captain James Borst, Ypsilanti Police Department
Ypsilanti

Robert Brown, Director
Human Relations Commission
Ann Arbor

William F. Delhey, Prosecutor
Ann Arbor

Sgt. Mario Formolo, Brighton State Police Post
Brighton

Staff Sgt. Carl Freeborn
Ypsilanti State Police Post
Ypsilanti

Sheriff Douglas Harvey
Washtenaw County Sheriff Department
Ann Arbor

Captain Walter Hawkins
Ann Arbor Police Department
Ann Arbor

The Reverend Fred R. Holtfreter, Associate Pastor
Zion Lutheran Church
Ann Arbor

Chief Walter Krasny, Ann Arbor Police Department
Ann Arbor

Jimmie L. Sumpter, Jr., Police Community Relations Specialist
Human Relations Commission
Ann Arbor

Chief Ray Walton, Ypsilanti Police Department
Ypsilanti

Program Coordinator: Paul W. Davis

LAW ENFORCEMENT TECHNICIAN

Two-Year Program

FIRST YEAR

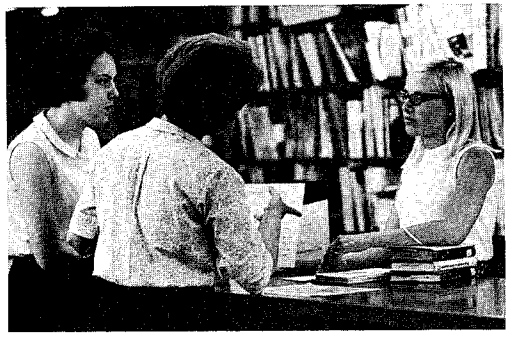
First Semester	Hours	Second Semester	Hours
Introductory Psychology 100	3	Technical Communications 100	3
Introduction to Political Science 100	3	Typewriting 130	2
Business Mathematics 100	3	Social Problems 107	3
Principles of Sociology 100	3	State and Local Government Politics 240	3
English Composition 111	3	Fundamentals of Speaking 100	3
Freshman Seminar 109	1	Psychology of Adjustment 107	3
	16		17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Specialized Law Enforcement Courses 211	6	Specialized Law Enforcement Courses 222	9
Delinquent Behavior of Youth 140	3	Criminal Investigation 224	3
Criminology 202	3	Criminal Law 209	3
Principles of Economics 211	3		15
	15		

Employment Opportunities: Employment in law enforcement for those who are well qualified and educated are almost unlimited. Future opportunities for advancement to administration is dependent upon the educational background and ability of the individual. Municipal police departments, sheriff departments, industrial security, private agencies, federal agencies, institutions, and state police are all in need of personnel.

Total Credit Hours for Program 63



LIBRARY TECHNOLOGY

ADVISORY COMMITTEE

Miss Marjorie Tompkins ..... Chairman
Assistant to Director
University of Michigan Library
Ann Arbor

Mr. Homer Chance
Director
Ann Arbor Public Library
Ann Arbor

Dr. Walfred Erickson
Head Librarian
Eastern Michigan University
Ypsilanti

Mrs. Elizabeth Hyde
Elementary Librarian
Ann Arbor Public Schools
Ann Arbor

Dr. Robert Muller
Associate Director
University of Michigan Library
Ann Arbor

Mrs. Katherine Waldhorn
Head Librarian
Ypsilanti Public Library
Ypsilanti

Mr. Gene B. Wilson
Reference Library
Ann Arbor Public Library
Ann Arbor

Mr. Harold Young
Director
Learning Materials Center
Washtenaw Community College
Ann Arbor

Faculty Coordinator: Paul W. Davis

LIBRARY TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Library Practice 111	4	Library Practice 122	4
Fundamentals of Speaking 100	3	Internship-Externship 200	3
Typewriting 130	2	Typewriting 130	2
English Composition 111	3	Introduction to Literature 160	3
Business Mathematics 100	3	Introductory Psychology 100	3
Freshman Seminar 109	1		
	16		15

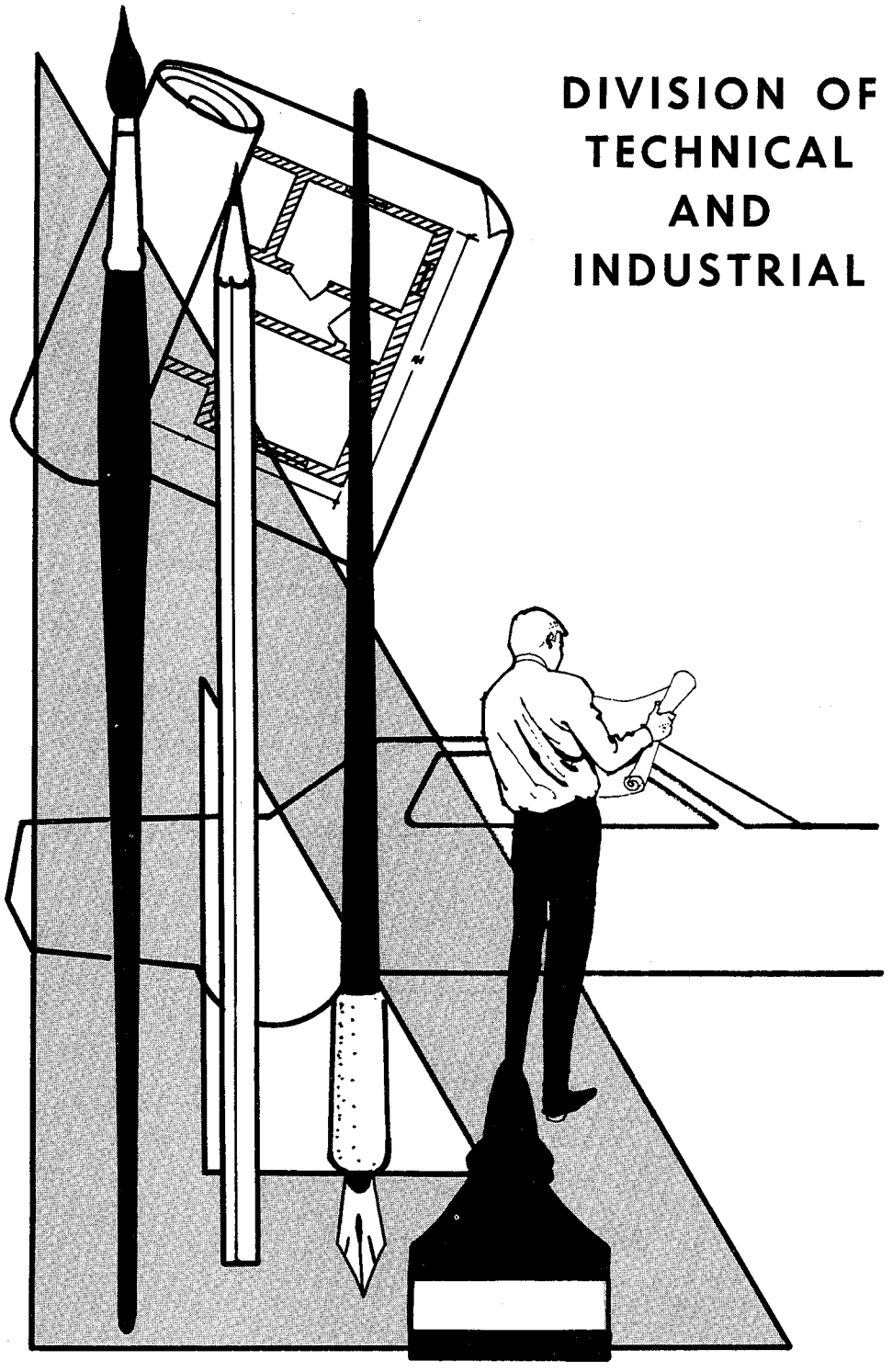
SECOND YEAR

First Semester	Hours	Second Semester	Hours
Internship-Externship 200	3	Internship-Externship 200	3
Introduction to Political Science 100	3	Art Appreciation 130	3
		World Literature 224	3
Office Systems and Procedures 150	3	Business Machines 130	2
World Literature 213	3	Human Relations in Business and Industry 200	3
Principles of Economics 211	3	Man and Society 108	3
	15		17

Employment Opportunities: Will include assisting librarians with the classifying and cataloging of books and serving clientele in public libraries, particularly in libraries maintained by public and private schools, colleges and universities, government agencies, educational and research associations, and business and industrial firms.

Total Credit Hours for Program 63

DIVISION OF TECHNICAL AND INDUSTRIAL



TECHNICAL-COMMERCIAL ART TECHNICIAN

Two-Year Program

FIRST YEAR

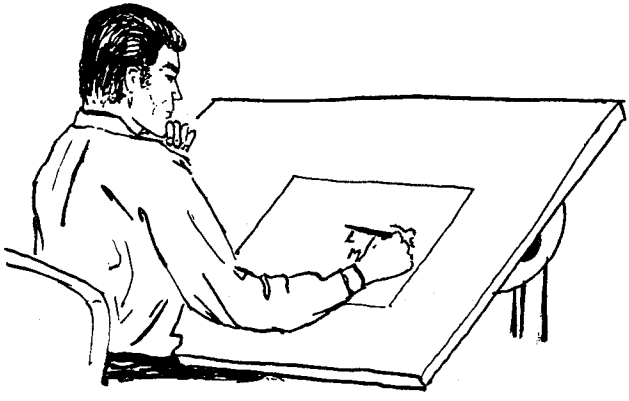
First Semester	Hours	Second Semester	Hours
Perspective and Parallel Line Projection 100	3	Basic Design 123	3
Basic Drawing 111	3	Advertising Layout 121	3
Basic Design 112	3	Architectural Rendering 122	3
Technical Drawing 100	3	Technical Illustration 101	3
English Fundamentals 91	3	Industrial Psychology 150	3
Freshmen Seminar 109	1		
	16		15

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Study Problems 236	4	Study Problems 236	4
Airbrush Techniques 213	3	Model Construction 225	2
Photography 214	2	Physical Science 142	4
Machine Shop Practices 111	2	Technical Communications 100	3
an and Society 108	3	Labor Relations 150	3
	14		16

Employment Opportunities: Book, magazine, newspaper, and medical illustration, mailing pieces and brochures, general advertising and related art areas. Basic foundation for occupational entry in the broad field of illustration.

Total Credit Hours for Program 61



AUTO BODY REPAIR
ADVISORY COMMITTEE

Owen White . . . . . Chairman
White's Auto Paint Shop
Ann Arbor

William Brown
Brown's Gulf Service
Chelsea

Clifford A. Burnham
Manager
Zahn Auto Service
Ann Arbor

Frank Carter
Carter Auto Repair
Saline

Raymond Deck
Anderson & Deck Service
Ypsilanti

Howard Freeman
Red and Rene's Sales
Auto Body Repair
Saline

Earl Nicholas
Body Shop Manager
Henderson Ford
Ann Arbor

Frank Nicholas
Body Shop Manager
Ann Arbor Buick
Ann Arbor

Neil Wagner
Dexter Body Shop
Dexter

Bill Yahr
Ideal Auto Body Shop
Ann Arbor

Faculty Coordinator: Floyd E. Belkola

AUTO BODY REPAIRMAN

One-Year Program

First Semester	Hours	Second Semester	Hours
Auto Body Repair 111	3	Auto Body Repair 123	3
Automobile Refinishing 112	3	Automobile Refinishing 124	3
Fundamentals of Welding 100	2	Welding and Fabrication Elective	3
English Elective	3	Power Sources 100	4
Mathematics Elective	3	Labor Relations 150	3
Freshman Seminar 109	1		
	15		16

Employment Opportunities: Body repairman or helper, painter or painter's helper in automobile dealership, independent body shop, or maintenance department of business or industry.

Total Credit Hours for Program 31

AUTO BODY SERVICE TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Auto Body Repair 111	3	Auto Body Repair 123	3
Automobile Refinishing 112	3	Automobile Refinishing 124	3
Fundamentals of Welding 100	2	Power Sources 100	4
English Fundamentals 91	3	Welding and Fabrication Elective	3
Foundations of Occupational Mathematics 99	3	Man and Society 108	3
Freshman Seminar 109	1		
	15		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Frame and Unit Body Straightening 210	3	Frame and Unit Body Sectioning Methods 220	3
Major Body Repair 211	3	Body Rebuilding Methods 222	3
Collision Estimating 200	3	Wheel Balancing and Alignment 104	2
Industrial Materials 101	3	Automotive Air Conditioning 202	2
Technical Communications 100	3	Labor Relations 150	3
		Typewriting 130	2
	15		15

Employment Opportunities: Automobile body repairman and/or painter in an automobile dealership, independent body shop or maintenance department of business and industry, insurance adjuster trainee, manager trainee, order writer in dealership, salesman in automotive supply house.

Total Credit Hours for Program 61

AUTOMOTIVE TECHNOLOGY
ADVISORY COMMITTEE

Myron Serbay ..... Chairman
Serbay Motor Sales, Incorporated
Ypsilanti

Jay A. Bolt
Professor of Mechanical Engineering
The University of Michigan
Ann Arbor

John Bruckner
Bruckner Oldsmobile
Milan

David Deborde
Plant and Equipment Maintenance Supervisor
United Air Lines
Detroit Metropolitan Airport

John R. Henderson
Henderson Ford Sales, Incorporated
Ann Arbor

Roderick D. Janich
Naylor Motor Sales, Incorporated
Ann Arbor

George Palmer
Vice President
Palmer Motor Sales, Incorporated
Chelsea

D. James Sanderson
Service Manager
Howard Cooper Volkswagen, Incorporated
Ann Arbor

John Steeb
Steeb Dodge Sales, Incorporated
Saline

Richard W. Whittaker
Service Manager
Superior Equipment Company
Ypsilanti

Faculty Coordinators: Kenneth E. Barron
Bruce H. Welch

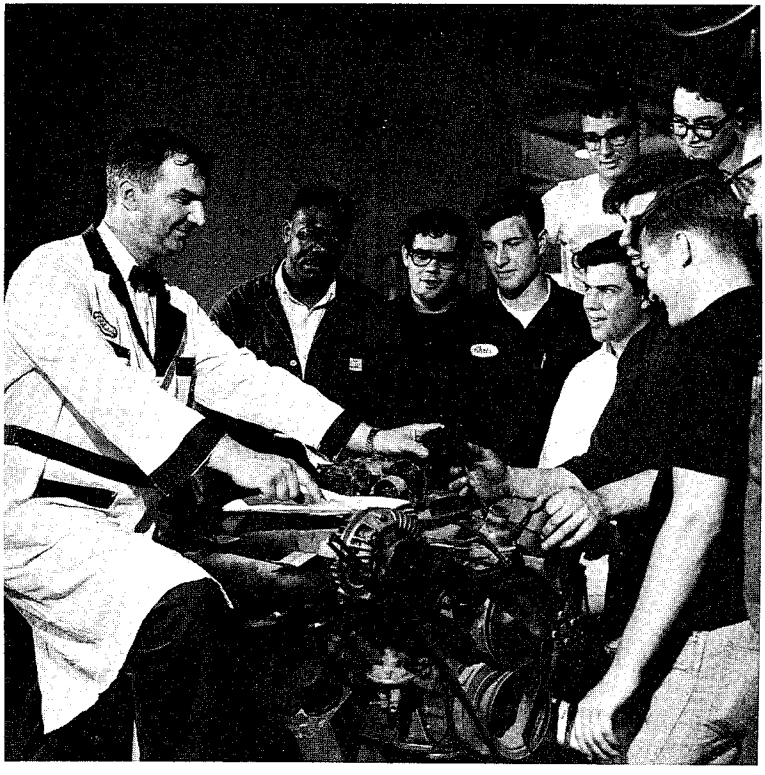
AUTOMOTIVE MECHANIC

One-Year Program

First Semester	Hours	Second Semester	Hours
Basic Ignition 101	2	Charging Systems 125	2
Engines and Carburetion 102	2	Transmission and Power Trains 127	2
Brake Systems 103	2	Carburetion and Tune up 128	2
Wheel Balancing and Alignment 104	2	Light Service Repair 150	2
Power Sources 100	3	Fundamentals of Welding 100	2
English Elective	3	Mathematics Elective	3
Freshman Seminar 109	1	Social Science Elective	3
	15		16

Employment Opportunities: Entry mechanic in a dealership or service station. May specialize in large shops on electrical systems, engines and carburetion, or alignment and brakes.

Total Credit Hours for Program 31



AUTOMOTIVE SERVICE TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Basic Ignition 101	2	Charging Systems 125	2
Engines and Carburetion 102	2	Engine Rebuilding 126	2
Brake Systems 103	2	Transmission and Power Trains 127	2
Wheel Balancing and Alignment 104	2	Carburetion and Tune up 128	2
Power Sources 100	3	Fundamentals of Welding 100	2
Fundamentals of English 91	3	Labor Relations 150	3
Freshmen Seminar 109	1	Man and Society 108	3
	15		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Engine Diagnosis 201	2	Diagnosis and Repair 225	4
Automotive Air Conditioning 202	2	Dynamometer Operation 226	3
Automatic Transmissions 203	2	Light Service Repair 150	2
Suspension Systems 204	2	Collision Estimating 200	3
Industrial Materials 101	2	Technical Communications 100	3
Introductory Algebra 40	4		
	14		15

Employment Opportunities: Entry into automotive service field as a line mechanic in a dealership or service station. Often find employment in specialty shops rebuilding engines, transmissions, or charging systems. Many opportunities also in automotive parts sales or as a manufacturer's service representative. This program is a good foundation for the potential service manager or garage foreman.

Total Credit Hours for Program 60

ARCHITECTURAL DRAFTING
ADVISORY COMMITTEE

Warren E. Poole . . . . . Chairman
Assistant University Architect
The University of Michigan
Ann Arbor

Louis Boone
President
Boone & Darr, Incorporated
Ann Arbor

J. Sterling Crandall
Lecturer, Architecture and Design
The University of Michigan
Ann Arbor

O. S. DeLancy
Lane, Riebe, Wieland
Ann Arbor

Eugene Field
President
Ypsilanti Fabrication Company, Incorporated
Ypsilanti

Zdravko T. Gerganoff
Z. T. Gerganoff & Associates, Incorporated
Ypsilanti

John Hunter
President
Porcelain Building Products, Incorporated
Ann Arbor

Herbert W. Johe
Assistant Dean, Architecture and Design
The University of Michigan
Ann Arbor

Howard F. Sims
Practicing Architect
Ann Arbor

Nelson Vanderheyden
President
Jeffress-Dyer, Incorporated
Ann Arbor

Donald F. Wright
Colvin, Robinson, Wright & Associates
Ann Arbor

ARCHITECTURAL DRAFTING DETAILER

One-Year Program

First Semester	Hours	Second Semester	Hours
Architectural Drawing 111	5	Architectural Drawing 122	5
Construction Materials 117	3	Mechanical Equipment 120	2
History of Architecture 108	2	Labor Relations 150	3
Typewriting 130	2	Introductory Algebra 40	4
English Elective	3	Specifications 200	1
Freshman Seminar 109	1		
	16		15

Employment Opportunities: Draftsman who does primarily detailing, changes, and tracings of work from architects, builders, contractors, and realtors.

Total Credit Hours for Program 31

ARCHITECTURAL DRAFTING TECHNICIAN

Two-Year Program

FIRST YEAR

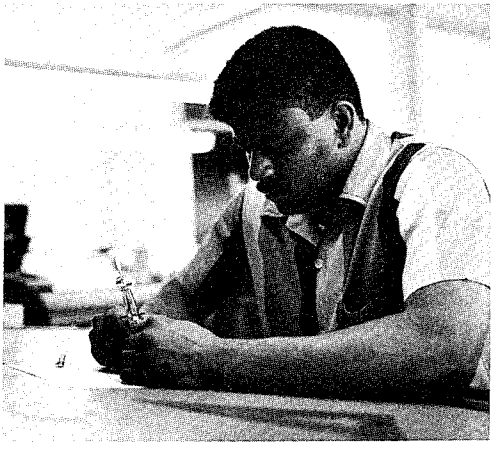
First Semester	Hours	Second Semester	Hours
Architectural Drawing 111	5	Architectural Drawing 122	5
Construction Materials 117	3	Mechanical Equipment 120	2
History of Architecture 108	2	Perspective and Parallel Line Projection 100	3
English Fundamentals 91 or English Composition 111	3	Algebra and Trigonometry 140	4
Typewriting 130	2	Human Relations in Business and Industry 200	3
Freshman Seminar 109	1		
	16		17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Architectural Drawing 213	5	Architectural Drawing 224	5
Structure in Architecture 210	2	Specifications 200	1
Estimating Construction Costs 207	3	Architectural Rendering 123	2
Surveying 209	3	Technical Communications 100	3
General Physics 111	4	Man and Society 108	3
	17		14

Employment Opportunities: A draftsman who does layout and detailing for architects, builders, contractors, realtors. The very skilled may also do design and presentation work. This program could be the foundation for eventual registration as an architect.

Total Credit Hours for Program 64



INDUSTRIAL DRAFTING
ADVISORY COMMITTEE

Arthur Bartlett ..... Chairman
Supervisor of Drafting
Bendix Systems Division
Ann Arbor

Robert Betzig
Vice President, Sales & Engineering
R & B Machine Tool Company
Saline

Ernest Calabro
Mechanical Design Engineer
Bendix Electro-Optics Division
Ann Arbor

Joseph E. Compton
Vice President, Director of Sales
John G. Hoad & Associates, Inc., Engineers—Architects
Ypsilanti

George Granger, Project Engineer
Ayres, Lewis, Norris & May
Ann Arbor

Howard Meyer, Project Engineer
Hydra-matic Division
General Motors Corporation
Willow Run Plant
Ypsilanti

Frank J. Mlinek, Chief Tool Designer
Hydra-matic Division
General Motors Corporation
Ypsilanti

W. Bruce Pester, Chief Mechanical Engineer
Argus Optics-Division of Argus, Incorporated
Ann Arbor

Thomas Ruhe, Supervisor of Design
Ford Motor Company
Ypsilanti

William Tuschak, Chief Draftsman
Hydra-matic Division
General Motors Corporation
Ypsilanti

Faculty Coordinator: Roger R. Bertoia

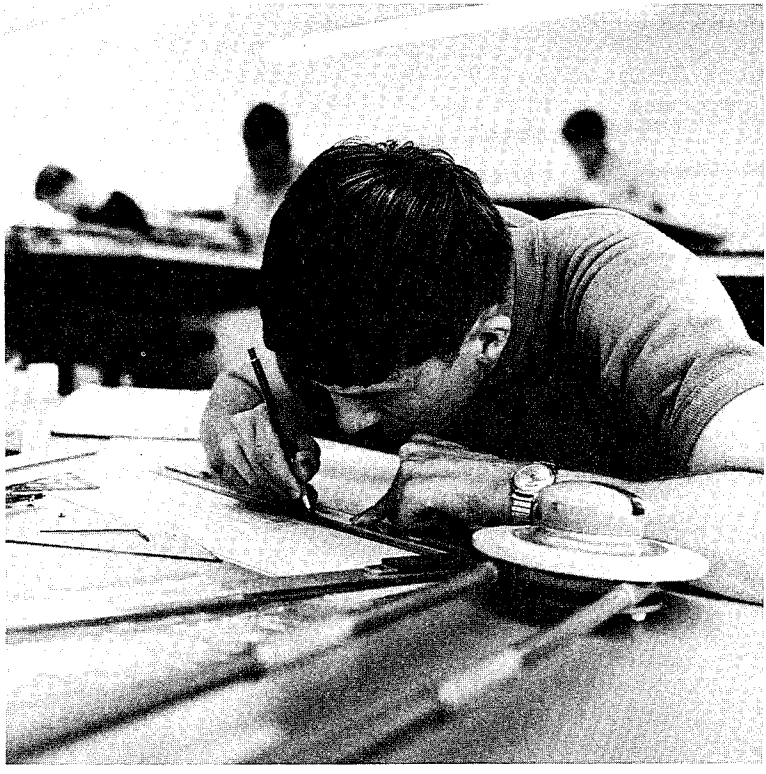
DRAFTSMAN-DETAILER

One-Year Program

First Semester	Hours	Second Semester	Hours
Industrial Drafting 111	3	Fundamentals of Jigs and Fixtures 122	3
Descriptive Geometry 112	3	Fundamentals of Die Drafting 213	3
Blueprint Reading 101	3	Manufacturing Processes 202	3
Perspective and Parallel Line Projection 100	3	Fundamentals of Welding 100	2
Mathematics Elective	3	English Elective	3
Freshmen Seminar 109	1		
	16		14

Employment Opportunities: Elementary detailing, tracing and changing drawings. Basic foundation for entry-level opportunities in the industrial drafting field.

Total Credit Hours for Program 30



INDUSTRIAL DRAFTSMAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Industrial Drafting 111	3	Fundamentals of Jigs and Fixtures 122	3
Descriptive Geometry 112	3	Mechanisms 107	3
Industrial Materials 101	3	Industrial Drafting Standards 120	2
Introductory Algebra 40	4	Manufacturing Processes 202	3
English Fundamentals 91	3	Fundamentals of Welding 100	2
Freshman Seminar 109	1	Algebra and Trigonometry 140	4
	17		17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Fundamentals of Die Drafting 213	3	Fundamentals of Industrial Tooling 224	3
Industrial Measuring Processes 105	3	Schematic-Process Drafting 206	3
Power Sources 100	4	Elective*	3
Typewriting 130	2	Introduction to Numerical Control 100	2
Technical Communications 100	3	Man and Society 108	3
	15		14

Employment Opportunities: Detailing, assembly drawing, process drawing and elementary layout drawing. Basic foundation for designers, chief draftsmen, stylists and supervisors.

Total Credit Hours for Program 63

* Elective: Principles of Data Processing 111
Perspective and Parallel Line Projection 100
Technical Illustration 101

ELECTRICAL AND ELECTRONICS ADVISORY COMMITTEE

Louis J. Cutrona . . . . . Chairman
Vice President, Research
KMS Industries, Incorporated
Ann Arbor

Dr. V. A. Basman
President
Microtron Corporation
Ann Arbor

Thomas Cell
Manager, Quality Assurance
Applied Dynamics, Incorporated
Ann Arbor

Daniel Gray
Plant Engineering Department
Saline Plant, General Parts Division
Ford Motor Company
Saline

David E. Klingler
V.P.—Engineering
Datamax Corporation
Ann Arbor

Doug Lin
Electrical Engineer
Laser Systems Center
Ann Arbor

Edwin E. Metevia
Manager, Systems Test Department
Bendix Systems Division
Ann Arbor

Howard W. Town
Vice President, Director of Engineering
National Educational Television, Incorporated
Ann Arbor

Faculty Coordinators: Dean A. Russell
Kenneth L. Wheeler

APPLIANCE REPAIRMAN

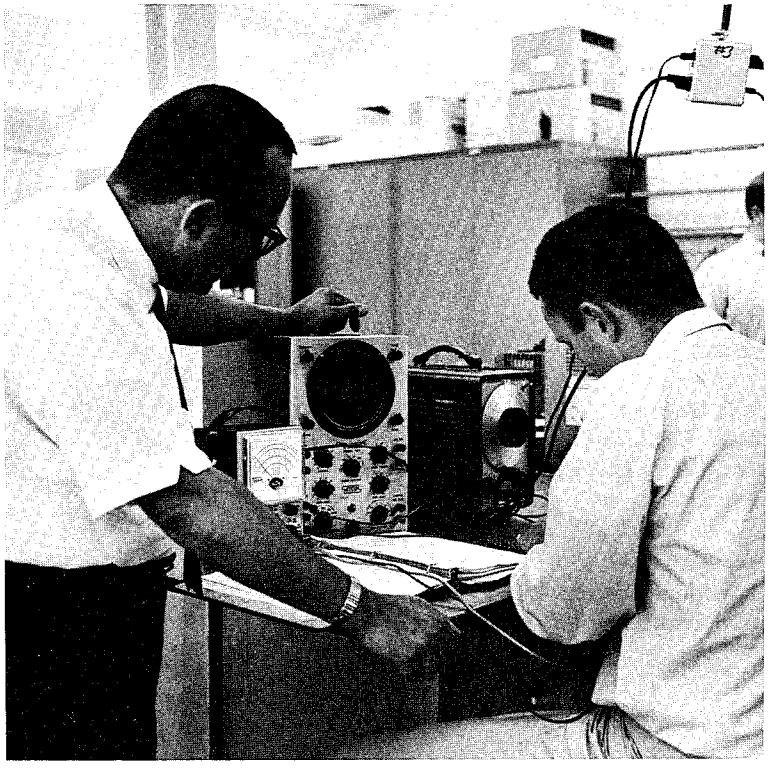
One-Year Program

First Semester	Hours	Second Semester	Hours
Introductory Electricity 90	4	Appliance Service and Repair 97**	4
Blueprint Reading 101	3	Electrical Fundamentals 111	3
Developmental Mathematics 31 or Introductory Algebra 40	3-4	Machine Shop Practices 111	2
English Elective	3	Mechanisms 107	3
Freshman Seminar 109	1	Fundamentals of Speaking 100*	3
		Elective**	2
	14-15		17

Employment Opportunities: Servicing household appliances and automobile electrical systems or pre-apprentice training for the electrical trades.

Total Credit Hours for Program 31-32

* Appropriate developmental communication arts courses may be substituted by counselor.
** May include work experience.



ELECTRONICS ENGINEERING TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Electrical Fundamentals 111	3	Electrical Fundamentals 122	3
Electrical Applications 110	2	Electrical Applications 120	2
Algebra and Trigonometry 140	4	Industrial Electricity 127	4
Schematic-Process Drawing 206	3	Blueprint Reading 101	3
English Fundamentals 91 or English Composition 111	3	General Physics 111	4
Freshman Seminar 109	1		
	16		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Audio and Power Transmission 210	3	Industrial Electronics 238	4
Electronics 211	4	Electronics 222	4
Electronic Switching and Control 237	3	Circuit Testing, Repairs, and Debugging 239**	5
Machine Shop Practices 111	2	Man and Society 108	3
Non-Technical Elective*	3		
	15		16

Employment Opportunities: Technician in an engineering laboratory, computer, research, aircraft or missile industry; radio and television serviceman; will have the technical background necessary to meet the Federal Communication Commission element requirements.

Total Credit Hours for Program 63

* Non-technical elective is to be selected from the following courses: Technical Communications 100; Fundamentals of Speaking 100 or Introduction to Business 140; in consultation with the student's advisor.

** May include work experience.

ELECTRO-MECHANICAL TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Electrical Fundamentals 111	3	Electrical Fundamentals 122	3
Electrical Applications 110	2	Electrical Applications 120	2
Machine Shop Practices 111	2	Blueprint Reading 101	3
Algebra and Trigonometry 140	4	Technical Drawing 100	3
English Fundamentals 91 or English Composition 111	3	Introduction to Numerical Control 100	2
Freshman Seminar 109	1	Labor Relations 150	3
	15		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Machine Tool Operation and Set-up 122	4	Machine Tool Technology 201	4
Programming for Numerical Control 104	2	Machine Maintenance 200	3
Electronics 211	4	Industrial Electricity 127	4
Fundamentals of Welding 100	2	Fluid Power Fundamentals 111	4
Man and Society 108	3		
	15		15

Employment Opportunities: Small or large industrial firms working with problems either electrical or mechanical. The technician will work very closely with the engineers in performing tests, compiling results, and will also work very closely with the electrician, machinist, machine builder, and maintenance department. The Electro-Mechanical Technician will be called upon to assist in solving a number of industrial problems.

Total Credit Hours for Program 61

FLUID POWER
ADVISORY COMMITTEE

Erwin Krueger ..... Chairman
Krueger Hydraulic & Manufacturing Company
Ypsilanti

Robert Guy ..... Recorder
Supervisor, Hydraulic Preventive Maintenance
Hydra-matic Division
General Motors Corporation
Willow Run Plant
Ypsilanti

Fred Gieryn
Vice President, Marketing
Double A Products
Division of Browne & Sharpe
Manchester

W. E. Hennells, Jr.
General Manager
W. E. Hennell Company
Belleville

Lee Sanford
Sales Engineer
Numatics, Incorporated
Detroit

Clifford H. Wilford
Supervisor, Hydraulic Pneumatics
Hydra-matic Division
General Motors Corporation
Willow Run Plant
Ypsilanti

Edward A. Wright
Manager
Krueger Hydraulic & Manufacturing Company
Ypsilanti

Faculty Coordinators: Robert C. Mealing
Dallas O. Garrett

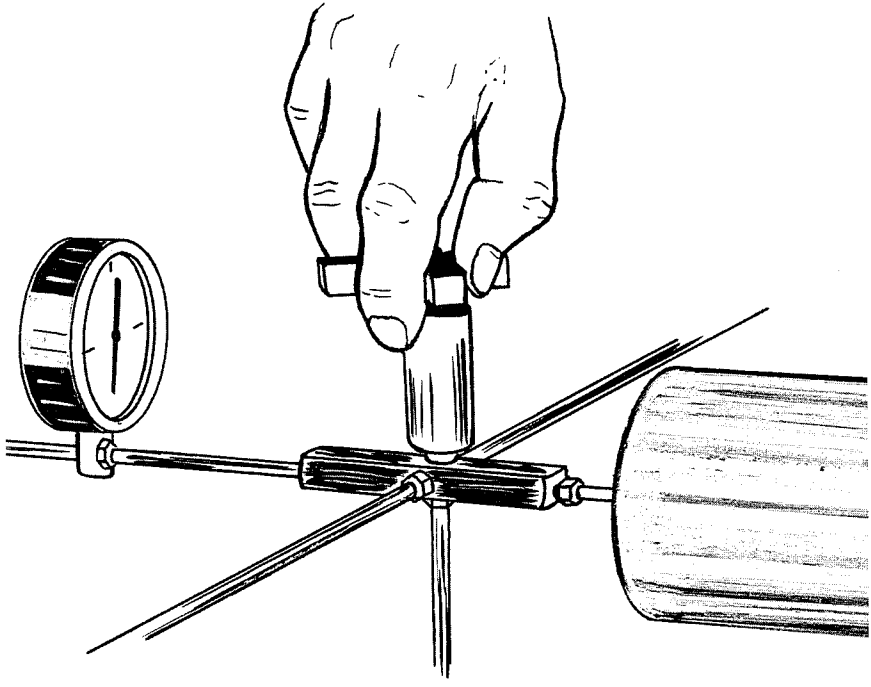
HYDRAULIC ASSEMBLER

One-Year Program

First Semester	Hours	Second Semester	Hours
Fluid Power Fundamentals 111	4	Hydraulic Generators (Pumps) 122	4
Machine Shop Practices 111	2	Hydraulic Controls 213 or Basic Hydraulic Circuits 214	3
Blueprint Reading 101	3	Machine Tool Operation and Set-Up 122	4
Mathematics Elective	3	Technical Drawing 100	3
English Fundamentals 91	3		
Freshman Seminar 109	1		
	16		14

Employment Opportunities: Large and small industries dealing in industrial or mobile hydraulic equipment. The primary jobs include installation, piping, and testing of the various hydraulic components on the completed machine or vehicle.

Total Credit Hours for Program 30



FLUID POWER TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Fluid Power Fundamentals 111	4	Hydraulic Generators (Pumps) 122	4
Machine Shop Practices 111	2	Technical Drawing 100	3
Introductory Chemistry 57-58	4	Blueprint Reading 101	3
Algebra and Trigonometry 140	4	Electrical Fundamentals 111	3
Freshman Seminar 109	1	Fundamentals of Speaking 100	3
	15		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Hydraulic Controls 213	3	Hydraulic Circuits 225	3
Basic Hydraulic Circuits 214	3	Pneumatics 226	3
Introduction to Numerical Control 100	2	Industrial Electricity 127	4
Machine Tool Operation and Set-Up 122	4	Electronic Switching and Control 237	3
Technical Communications 100	3	Man and Society 108	3
	15		16

Employment Opportunities: The fluid power technician works very closely with the engineer as well as the assembler in solving problems related to hydraulic and pneumatic controls. The technician will assist in designing circuits and testing components.

Total Credit Hours for Program 62

MECHANICAL TECHNOLOGY ADVISORY COMMITTEE

Ward Bennett, Chief Engineer
Moeller Manufacturing Company, Incorporated
Belleville

Earl Dean, Machinist
Buhr Machine Tool Company
Ann Arbor

Fred Gieryn, Vice-President, Marketing
Double A Products
Division of Browne & Sharpe
Manchester

Virgil Goodwin
Maintenance Department
Hydra-matic Division
General Motors Corporation
Ypsilanti

Robert Guy
Supervisor, Hydraulic Preventive Maintenance
Hydra-matic Division
General Motors Corporation
Ypsilanti

John Helms, Personnel Director
Buhr Machine Tool Company
Ann Arbor

W. E. Hennells, Jr. General Manager
W. E. Hennell Company
Belleville

Erwin Krueger
Krueger Hydraulic and Manufacturing Company
Ypsilanti

Clifford H. Wilford, Supervisor, Hydraulic Pneumatics
Hydra-matic Division
General Motors Corporation
Ypsilanti

Edward A. Wright, Manager
Krueger Hydraulic and Manufacturing Company
Ypsilanti

Faculty Coordinators: Dallas O. Garrett
Robert C. Mealing

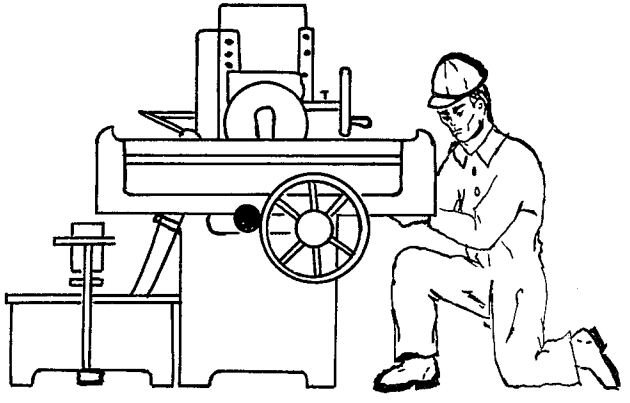
TOOLROOM MACHINE OPERATOR

One-Year Program

First Semester	Hours	Second Semester	Hours
Machine Shop Practices 111	2	Machine Tool Operation and Set-Up 122	4
Blueprint Reading 101	3	Blueprint Reading 102	3
Industrial Materials 101	3	Mechanical Testing 213	3
Mathematics Elective	3	Technical Drawing 100	3
English Elective	3	Mathematics Elective	3
Freshman Seminar 109	1		
	15		16

Employment Opportunities: Pre-Apprentice Program: For those who wish to improve their chances of gaining employment as a machinist or tool and die maker. Excellent opportunities are available for those wishing to enter these skilled trades.

Total Credit Hours for Program 31



MECHANICAL-ENGINEERING TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Blueprint Reading 101	3	Machine Shop Practices 111	2
Algebra and Trigonometry 140	4	Electrical Fundamentals 111	3
Physical Science 142	4	Technical Drawing 100	3
English Fundamentals 91 or English Composition 111	3	Descriptive Geometry 112	3
Freshman Seminar 109	1	Basic Statistics 128	4
	15		15

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Introduction to Numerical Control 100	2	Machine Tool Technology 201	4
Industrial Materials 101	3	Mechanical Testing 213	3
Machine Tool Operation and Set-Up 122	4	Technical Communications 100	3
Fluid Power Fundamentals 111	4	Basic Hydraulic Circuits 214	3
Fundamentals of Speaking 100	3	Man and Society 108	3
	16		16

Employment Opportunities: The mechanical-engineering technician will work very closely with the manufacturing and production engineers. He will perform tests, complie results, write reports, and assist in solving mechanical problems. Present jobs are primarily connected with large industrial firms.

Total Credit Hours for Program 62

* Students are also encouraged to elect Calculus with Analytic Geometry

QUALITY CONTROL INSPECTOR

One-Year Program

First Semester	Hours	Second Semester	Hours
Industrial Materials 101	3	Industrial Measuring Processes 105	3
Machine Shop Practices 111	2	Mechanical Testing 213	3
Blueprint Reading 101	3	Blueprint Reading 102	3
Introductory Algebra 40	4	Algebra and Trigonometry 140	4
Technical Communications 100	3	Labor Relations 150	3
Freshman Seminar 109	1		
	16		16

Employment Opportunities: Inspect steel, rubber, glass, wood and plastics products for conformity to manufacturer's specifications, verifies heat resistance, hardness and dimensions of products, using micrometers, heating furnaces, hardness testing machines, gages, tapes, and templates. Reject or regrades products not meeting specification.

Total Credit Hours for Program 32

METALLURGICAL TECHNOLOGY ADVISORY COMMITTEE

William Mertens ..... Chairman
Chief Metallurgist, Metallurgical Department
Hydra-matic Division
General Motors Corporation
Willow Run Plant
Ypsilanti

N. A. Prittinen ..... Secretary
General Manager
Chemical & Metallurgical Department
General Parts Division
Ford Motor Company
Ypsilanti

Eugene Carpentier
President
Universal Die Casting Division
Hoover Ball & Bearing
aline

John Maier
General Supervisor, Metallurgical Department
Hydra-matic Division
General Motors Corporation
Willow Run Plant
Ypsilanti

William G. Scholz
Metallurgical Supervisor
Climax Molybdenum Company
Ann Arbor

Irvin L. Slane
Design Engineer
Engineering Department
Rockwell-Standard Corporation
Chelsea

Lauren Winquist
Supervisor, Powdered Metals Developmental Laboratory
General Parts Division
Ford Motor Company
Ypsilanti

Faculty Coordinator: Robert A. Fatur

METALLURGICAL TECHNICIAN

Two-Year Program

FIRST YEAR

First Semester	Hours	Second Semester	Hours
Industrial Materials 101	3	Physical Metallurgy 122	3
General Chemistry 111	4	Blueprint Reading 101	3
Introductory Algebra 40	4	General Chemistry 122	4
English Fundamentals 91 or English Composition 111	3	Algebra and Trigonometry 140	4
Freshman Seminar 109	1	Technical Communications 100	3
	15		17

SECOND YEAR

First Semester	Hours	Second Semester	Hours
General Metallography 214	3	Advanced Metallography 225	3
Mechanical Testing 213	3	Materials Analysis 226	3
Machine Shop Practices 111	2	Basic Statistics 128	4
Fundamentals of Welding 100 or Mechanisms 107	2-3	General Physics 122	4
General Physics 111	4	Introduction to Political Science 100 or Man and Society 108	3
	14-15		17

Employment Opportunities: A technician who assists engineers, chemists, and physicists in the study of metals and other materials. Opportunities also exist in metal processing and assembly plants in the fields of quality control and failure analysis. Provides a good foundation for future employment in laboratories and plants engaged in making applications of new materials.

Total Credit Hours for Program 63-64

WELDING AND FABRICATION ADVISORY COMMITTEE

Burley Trew ..... Chairman
Quality Welding Company
Brighton

Edward Brown
Brown's Welding
Chelsea

William G. Fredrick
Thoton Sources
Ann Arbor

Semyon Portnow
Thoton Sources
Ann Arbor

Edward Reichmann
Superior Tank and Welding Company
Dearborn

Walter Samonek
Plumbers and Steam Fitters Apprentice Trades Union
Brooklyn

Faculty Coordinator: Daniel C. Gray

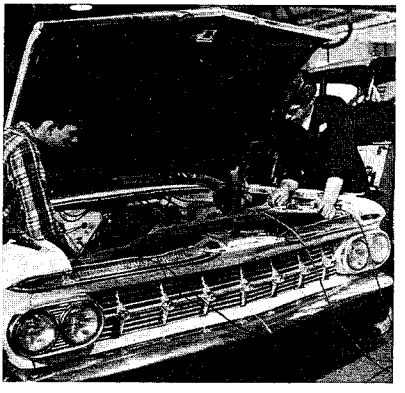
COMBINATION WELDER MECHANIC

One-Year Program

First Semester	Hours	Second Semester	Hours
Welding and Fabrication 111	6	Welding and Fabrication 122	6
Machine Shop Practices 111	2	Blueprint Reading 101	3
Industrial Materials 101	3	Mathematics Elective	3
English or Speech Elective	3	Labor Relations 150	3
Freshman Seminar 109	1		
	15		15

Employment Opportunities: Mechanic in any facility requiring experienced or specialized welding repair or fabrication. Mechanic and maintenance person for oil companies to repair and fabricate pieces for petroleum transportation.

Total Credit Hours for Program 30



WELDING AND FABRICATING TECHNICIAN

Two-Year Program

FIRST YEAR

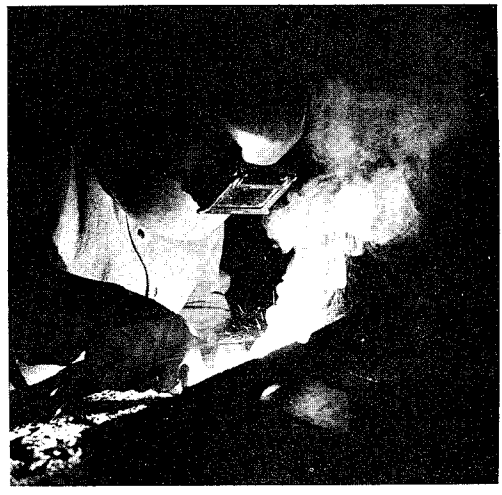
First Semester	Hours	Second Semester	Hours
Welding and Fabrication 111	6	Welding and Fabrication 122	6
Machine Shop Practices 111	2	Technical Drawing 100	3
Industrial Materials 101	3	Introductory Algebra 40	4
English Fundamentals 91	3	Labor Relations 150	3
Freshman Seminar 109	1		
	15		16

SECOND YEAR

First Semester	Hours	Second Semester	Hours
Welding and Fabrication 213	3	Welding and Fabrication 224	3
Power Sources 100	3	Mechanisms 107	3
Blueprint Reading 101	3	Blueprint Reading 102	3
Mechanical Testing 213	3	Technical Communications 100	3
Introductory Chemistry 57-58	4	Man and Society 108	3
	16		15

Employment Opportunities: Technician in a fabrication shop or experimental laboratory. Manager trainee or technician in an automotive maintenance center of a business or industry where extensive repair and rebuilding is done.

Total Credit Hours for Program 62



TRADE RELATED INSTRUCTION

PURPOSE

One of the purposes of Washtenaw Community College is to provide courses or programs which fulfill the vocational needs of adults. Industrial firms are provided the opportunity of cooperating in programs which will assist with the development of their employees, enabling them to function with maximum ability. This, in turn, will increase the employee's worth and merit both in his company and community. Trade-related instruction supplies the industrial community an opportunity for employee participation in a program of training beneficial for the employee, especially during the most formative years, 18 through 30. Such instruction has a lasting effect on the individual, the company, and the community.

Washtenaw Community College provides the related instruction required for apprentices. The college and the apprenticeship coordinator work directly with the apprentice and the sponsoring firm. The related instruction program has been approved by the Bureau of Apprenticeship and Training of the U. S. Department of Labor, and the Michigan State Department of Education.

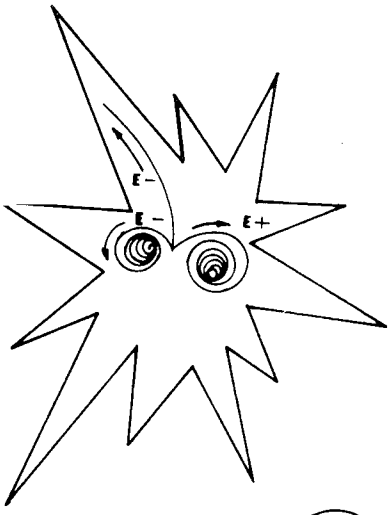
Apprentices and trainees may enroll. Sponsoring firms indicate to the college the individual employees that will be attending and what occupation they are pursuing. Journeymen are also encouraged to attend trade-related instruction (TRI) classes.

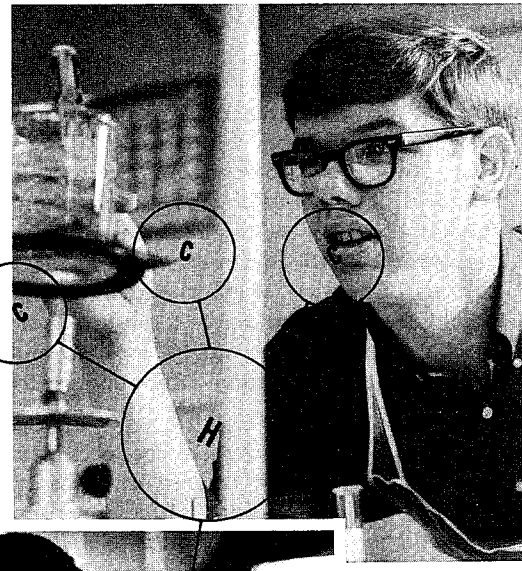
ASSOCIATE DEGREE PROGRAM FOR SKILLED TRADESMEN

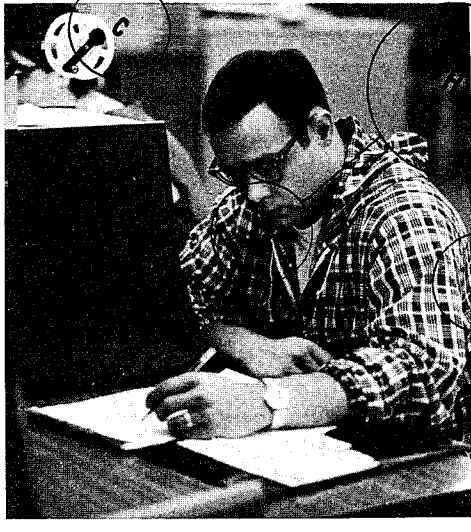
Washtenaw Community College invites all journeymen and apprentices to investigate the Associate Degree Program offered by the college. An Associate Degree (Technical) can be awarded to skilled tradesmen upon earning 60 hours of credit. Credits earned in the trade-related curriculum may be applied to the degree. Credits earned at other colleges offering trade-related subjects may also be applied. For further information, please contact any member of the counseling staff or persons in charge of Trade-Related Instruction.

PRE-APPRENTICESHIP TRAINING

Individuals who desire to enter an apprenticeship program but who have not passed the required entrance examination are invited to contact the counseling staff or faculty in the trade-related program. A personal pre-apprenticeship curriculum can be arranged to help prepare for industrial entrance examinations. However, Washtenaw Community College cannot promise placement in an apprenticeship program. This type of employment is at the mutual discretion of employers, employees, and organizations representing the skills involved







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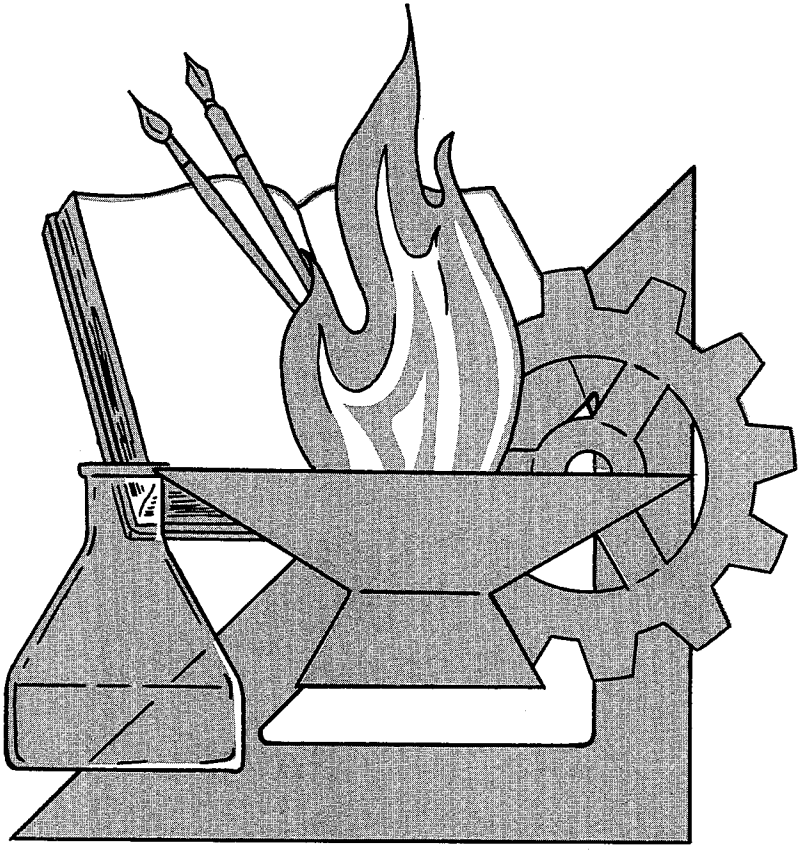
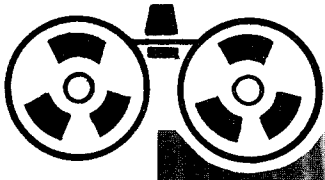
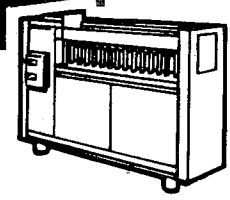
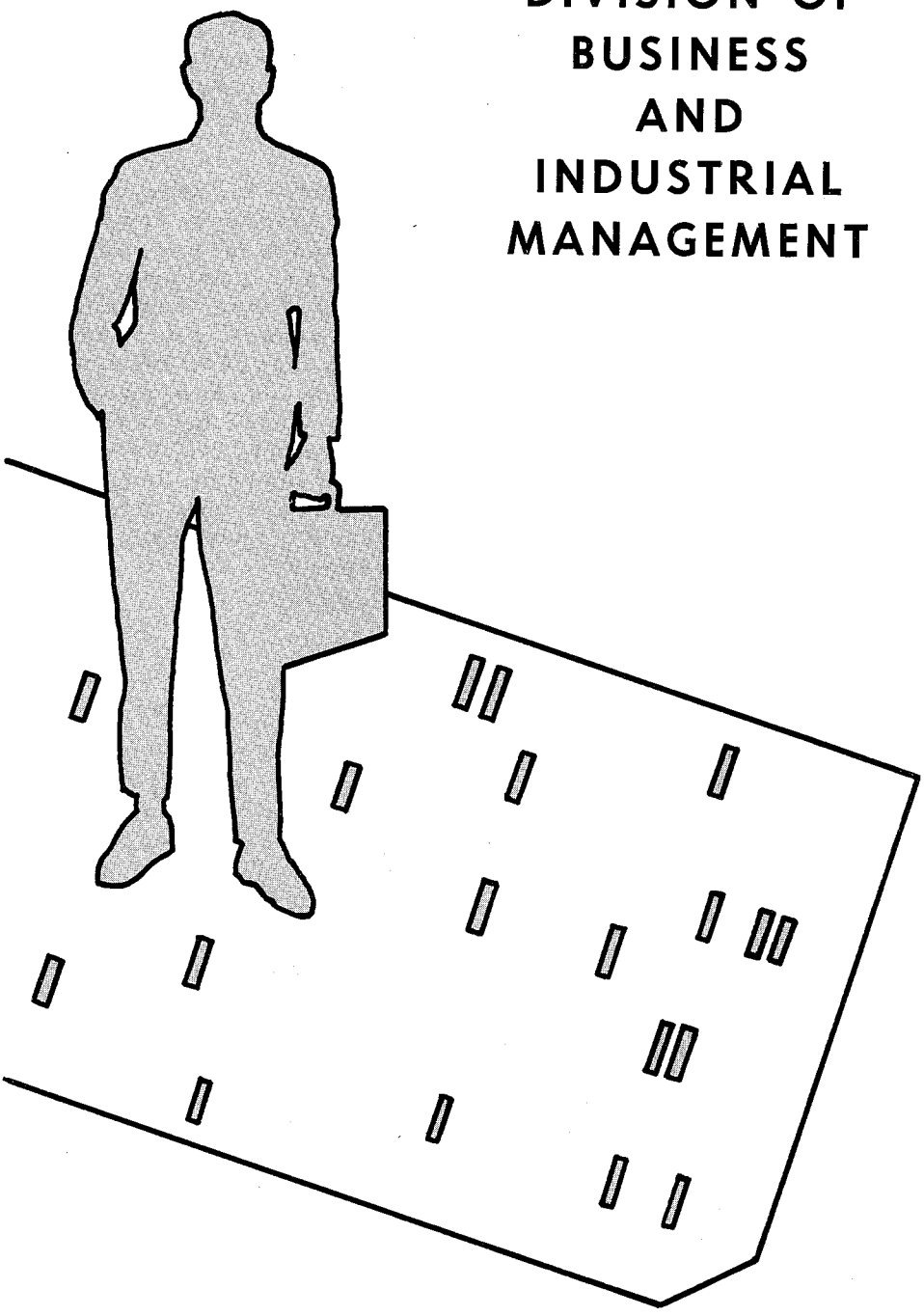
COURSE DESCRIPTIONS







DIVISION OF BUSINESS AND INDUSTRIAL MANAGEMENT



200 Internship-Externship ..... 3 credit hours

Prerequisites: (Internship) Student in a two-year program must have completed minimum of one year of college, or equivalent. Student in a one-year program must have completed one semester of college, or equivalent. Students must have been enrolled full-time—12 credit hours or more—in the immediately preceding semester. (Externship) Student must have satisfactorily completed minimum of 6 credit hours in the immediately preceding semester.

Internship-Externship opportunities are available to interested and qualified students of Business and Industrial Management Programs. **Internships** are programs of study designed to enable full-time students to gain simultaneous occupational experience, which is integrated with their academic studies. **Externships** are programs of study designed for full-time employees for occupational upgrading purposes and are integrated with their job activities. Students planning to enroll for Internship-Externship credit should first review their plans with their academic adviser and the Internship-Externship Program Coordinator to ensure proper program planning and to secure the appropriate divisional director's permission. No more than 12 credit hours of supervised, integrative occupational experience through the Internship-Externship Programs may be applied toward the Associate Degree, and no more than 6 credit hours toward a one-year Certificate of Achievement.

(1-hour weekly seminar **plus** directed field projects.)

ACCOUNTING

30 Fundamentals of Accounting ..... 3 credit hours

A non-professional, beginning course in accounting which introduces the student to the theory and practice of double-entry bookkeeping. Emphasis is placed on the development of an understanding of basic financial records and forms and on ability to apply elementary accounting procedures to business and/or industrial situations. (3 hours per week)

111 Principles of Accounting ..... 3 credit hours

Prerequisite or co-requisite: Introduction to Business 140 or divisional permission.

An introductory study of accounting principles to acquaint the student with the theory and logic that underlie accounting practices and procedures. Emphasis is placed upon the role of accounting in developing essential information about business and/or industrial organizations and their operations. Course coverage includes the accounting cycle, financial statements, controlling accounts, special columnar journals, and the voucher system. This is the first of two accounting courses required of all Business Administration transfer students. (3 hours per week)

122 Principles of Accounting ..... 3 credit hours

Prerequisite: Principles of Accounting 111 or equivalent.

An introduction to the accounting function as it applies to the ownership, income and expense, and cost aspects of business and/or industrial enterprise. Accounting is perceived as an essential function in the achievement of enterprise goals. Special emphasis is placed upon interpretation of accounting data. Course materials relate to the business partnership, corporation, and industrial manufacturing. This is the second of two accounting courses required of all Business Administration transfer students. (3 hours per week)

200 Intermediate Accounting ..... 3 credit hours

Prerequisite: Principles of Accounting 111 and Principles of Accounting 122 or equivalent.

A detailed study of specialized phases of accounting such as the treatment of cash and temporary investments, receivables, inventories, investments, plants and equipment, intangibles, deferred charges, liabilities, capital stock and surplus, and financial statements. (3 hours per week)

MANAGEMENT AND SECRETARIAL

111 Business Law ..... 3 credit hours

Text and case study of the general laws applicable to business covering the nature of law, courts and court procedures, crimes and taxes, contracts, agency, labor relations, and partnerships. (3 hours per week)

122 Business Law ..... 3 credit hours

Prerequisite: Business Law 111

The study of corporations, property, sales negotiable instruments, insurance, and bankruptcy. (3 hours per week)

130 Business Machines ..... 3 credit hours

Prerequisite: Developmental Mathematics 31 or Foundations of Occupational Mathematics 99 or equivalent.

Instruction in the basic mathematical processes—addition, subtraction, multiplication, division—on modern calculating machines of both listing and non-listing types. Instruction in operation and use of duplicating and transcribing machinery and equipment. Emphasis throughout the course is on machine applications to mathematical problem-solving in business and industry. (5 hours per week PLUS minimum 5-6 practice hours)

111 Principles of Data Processing . . . . . 4 credit hours

Prerequisite: First year standing or divisional permission.

An introduction to the principles and concepts in the field of data processing and its application to the management decision-making process in business and industry. The course develops an understanding of problem definition and organization, and covers the role of data processing in business as well as an acquaintance with elementary computer programming techniques. Included is a survey of unit record equipment and the study of various types of electro-mechanical and electronic data processing equipment and their utilization in making business decisions. Laboratory exercises are combined with classroom instruction to realistically relate the various units of data processing equipment to the electronic computer. Emphasis throughout the course is on the analysis of systems and procedures for processing business data. (4 hours per week PLUS minimum 4-6 practice hours)

122 Data Processing Applications . . . . . 4 credit hours

Prerequisite: Principles of Data Processing 111 or equivalent.

Course designed to acquaint the student with data processing applications in business and/or industrial operations. Emphasis is given to the development of an understanding of machine-systems for processing data and the advantages inherent in mechanization. Includes a study of data processing applications in the areas of inventory control, payroll accounting, accounts receivable, and accounts payable. (4 hours per week PLUS minimum 4-6 practice hours)

213 Data Processing Systems and Procedures . . . . . 4 credit hours

Prerequisite: Data Processing Applications 122 or equivalent.

An introduction to the principles and concepts of programming systems and procedures thereby enabling the student to develop the essential groundwork for more advanced study of programming systems. Major emphasis is on the purposes and functions of the various types of programming systems and procedures and their relevance to business-industrial enterprise. (4 hours per week PLUS minimum 4-6 practice hours)

224 Computer Programming . . . . . 4 credit hours

Prerequisite: Data Processing Systems and Procedures 213 or equivalent.

An applied study of the functions and capabilities of specific data processing machinery and equipment, to acquaint the student with some

of the tools and raw materials essential to programming. Included is a complete exposition of the COBOL (common business-oriented language) system, and an introduction to the FORTRAN (formula translation) language system of computer programming. Actual programming exercises are combined with the study of the factors involved in electronic data processing systems design relative to hardware, accounting control, systems controls, and purpose. Course coverage is designed to provide the student with sufficient knowledge of programming systems concepts to enable him to readily adapt to any specific system. (4 hours per week PLUS minimum 4-6 practice hours)

200 Independent Directed Study ..... 2-6 credit hours

Prerequisite: Divisional permission.

A planned program of study in selected business-industrial subject matter under the guidance and direction of a regular staff member. Designed to supplement classroom study in a way that will enhance the student's total educational experience. Includes readings, analyses, conferences, reports. Variable credit.

Note: Meeting time is on an "arranged" basis.

140 Introduction to Business ..... 3 credit hours

Prerequisite: First year standing.

An introductory study of the functions, objectives, problems, organization, and management of modern business and/or industrial enterprise. Designed to acquaint the student with the free-enterprise system of business-economic activity and the impact of the consumer and governmental forces upon the system. The student develops an insight into the vital role of the administrative (management) function in our economy as a whole and in the operation of a single business unit. The student is provided with a practical orientation, exploration, and background of information in business and industry. (3 hours per week)

130 Shorthand ..... 3 credit hours

An integrative program of study in Gregg shorthand designed to meet the vocational standards of the modern business office. Emphasis is placed on shorthand principles and practices, development of transcription techniques and skills, and the ability to transcribe office-style dictation found in business and other specialized fields such as insurance, law, and medicine. Credit and contact hours are progressive and are contingent on student progress as determined by proficiency tests undertaken upon completion of predetermined phases (130A, B, C) of the course work. (4 hours per week PLUS minimum 8-10 practice hours)

230 Machine Shorthand ..... 2 credit hours

An integrative, applied approach to the study of modern machine shorthand designed to acquaint the student with the theory and principles of machine shorthand as it relates to business and industry and other specialized fields. Initial emphasis is given to developing the student's awareness of the mechanics and operational aspects of the shorthand machine. Skill development and speed building in recording and transcribing notes are then pursued in normal sequence. Course credit and contact hours are progressive and are contingent on student progress as determined by proficiency tests undertaken upon completion of predetermined phases (230A, B) of the course work. (2 hours per week PLUS minimum 6-8 practice hours)

130 Typewriting ..... 2 credit hours

An integrative, programmed approach to the development of the student's operative skill in typewriting, either as a vocational tool or for personal use. Course coverage includes training in the mastery of the keyboard, development of proper techniques, building speed and accuracy, exposure to basic typing applications (business communications, tabulation problems, manuscripts, office forms, etc.). Credit and contact hours are progressive and are contingent on student progress as determined by proficiency tests undertaken upon completion of predetermined phases (130A, B, C) of the course work. (3 hours per week PLUS minimum 6-8 practice hours)

150 Office Systems and Procedures ..... 3 credit hours

Prerequisite or co-requisite: High school typewriting proficiency or concurrent enrollment in typewriting or equivalent.

A practical study of the fundamental systems and procedures comprising the modern business-industrial and/or professional office. Emphasis is upon developing the student's insights into the responsibilities of the office staff, personal qualifications, human relations factors, and their essential relationship to the effective integration of all office systems and procedures. Includes the study of filing and records systems, telephone and telegraph communications, written reports, transcribing and duplicating machinery and equipment. Problem-oriented sessions and projects enable the student to develop a practical view of the office system and its vital role in the administration of the total business-industrial and/or professional organization. (3 hours per week)

160 Principles of Salesmanship ..... 3 credit hours

Prerequisite: Introduction to Business 140 or divisional permission.

A study of the basic principles and concepts of the sales function in modern business-industrial enterprise in the marketing of goods and services. Included is an analysis of sales techniques, the sales "cycle," sales demonstrations, as well as personal career salesmanship. Emphasis is given to creativity in selling, and the impact of socio-economic and psychological factors related to consumer needs, motivations, and product performance as they affect the sale of consumer and/or industrial goods and services. (3 hours per week)

200 Human Relations in Business and Industry ..... 3 credit hours

Prerequisite: Second year standing or divisional permission.

A practical study of the modern concepts of administrative principles and practices with special emphasis on the human relations aspects of management responsibility as it affects employee attitudes, morale, and productivity. Development of insights into relationships among people in business and industrial organizations, and the role of the administrator in achieving coordination and cooperation of individuals and groups in the pursuit of established organizational goals. Major emphasis is on relationships among individuals and/or small groups. Classroom instruction consists of lectures, recitation-discussion, and problem-oriented sessions to enable the student to realistically relate the course materials to the human relations aspect of modern business and/or industrial enterprise. (3 hours per week)

208 Principles of Management ..... 3 credit hours

Prerequisite or co-requisite: Principles of Economics 211 and second year standing or equivalent.

A study of the basic principles of management at the administrative, staff, and operational (line) levels of modern business and/or industrial enterprise. The student develops an understanding of the universality of management functions and principles, and insights into the historical development of management concepts and their evolution into a modern management philosophy. Consideration is also given to the nature and structure of organizations and to recent developments in management decision-making and leadership styles in an organizational context. Classroom instruction consists of lectures, recitation-discussions, and problem-oriented sessions thus enabling the student to develop a practical philosophy of management and to acquire realistic insights into administrative principles and techniques as they relate to all fields of business and/or industrial activity. (3 hours per week)

230 Office Management ..... 3 credit hours

The application of the principles of management to the planning, organization, and control of office work. The direction and control of services and performance, simplification of procedures and methods, and the establishment of standards and planning of physical facilities and business forms are also included. (3 hours per week)

240 Personnel Management ..... 3 credit hours

Prerequisite: Introduction to Business 140 and Principles of Management 208 or equivalent.

An exposition of the fields of activity covered in modern personnel work. Topics covered are employment techniques, wages and hours, job evaluation, training, employer ratings, collective bargaining, employment counseling, and collateral benefits such as pensions and fringe benefits. (3 hours per week)

250 Principles of Marketing ..... 3 credit hours

Prerequisite or co-requisite: Principles of Economics 211 and second year standing or equivalent.

A study of the institutions and functions developed for carrying on trade operations, retail and wholesale agencies, elements of marketing efficiency, the cost of marketing, price maintenance, unfair competition, and the relationship of government to marketing. (3 hours per week)

260 Sales Management ..... 3 credit hours

Prerequisite: Introduction to Business 140 and Principles of Salesmanship 160 or equivalent.

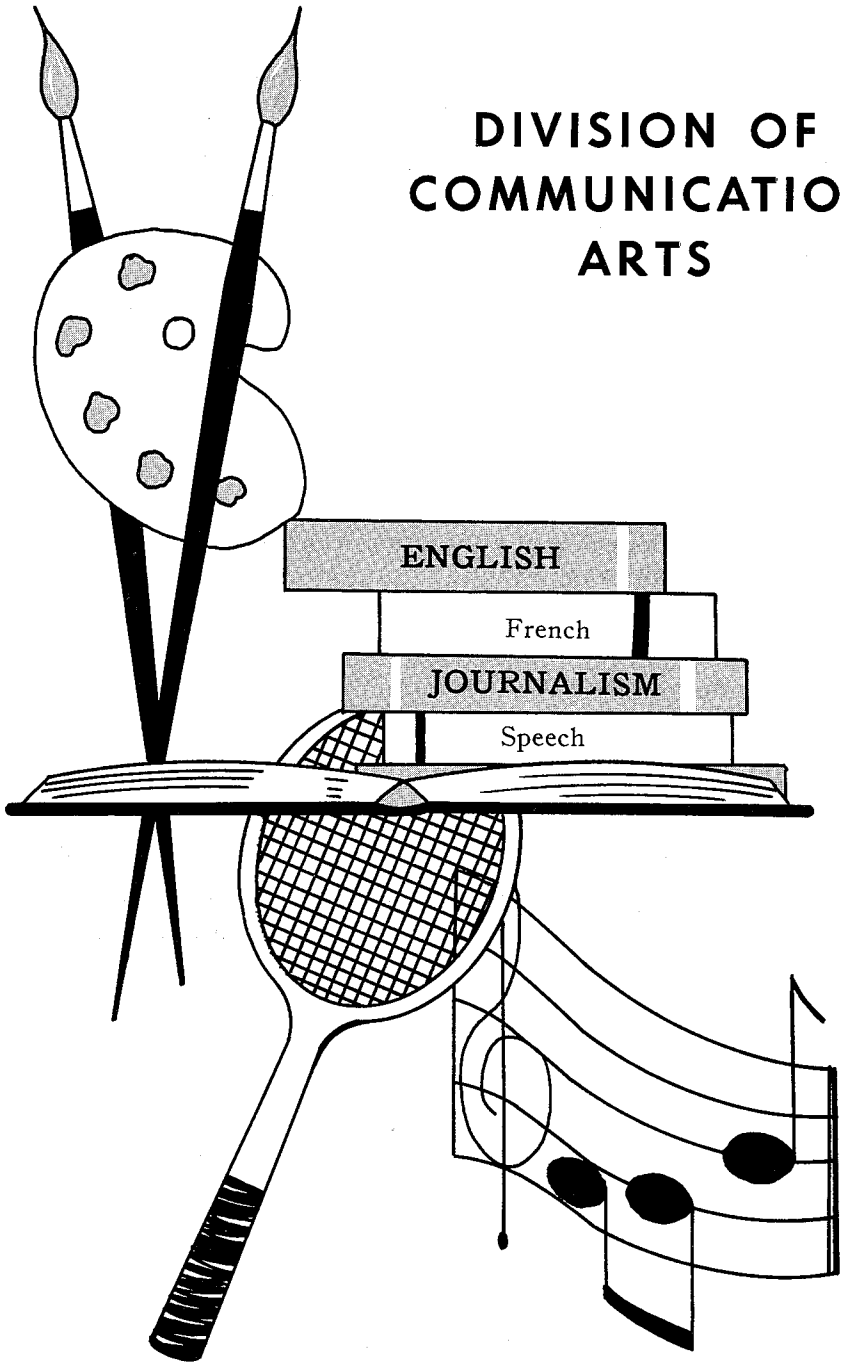
A study of the managerial functions of planning, organization, and direction of sales effort; the management of sales and services. Personnel and control of sales operations are emphasized. (3 hours per week)

270 Advertising Management ..... 3 credit hours

Prerequisite or co-requisite: Principles of Marketing 250 or equivalent or divisional permission.

A practical managerial approach to the study of the basic principles and concepts which underlie advertising practice and procedure in the marketing-promotional and distribution aspects of modern business-industrial enterprise operations. Course coverage includes the role of advertising in the individual firm (micro-analysis) and the total economy (macro-analysis); also advertising objectives, methods, techniques, preparation, research, surveys, copywriting, layout, media selection, and testing advertising effectiveness, as well as advertising rates and budgetary factors. (3 hours per week)

DIVISION OF COMMUNICATION ARTS



100 Work Experience ..... 1-6 credit hours

Washtenaw Community College provides students in both General and Occupational programs an opportunity to earn credits while engaged in supervised and usually subsidized work experience directly related to the educational or occupational objective of the student. Students who plan on enrolling for work experience credit must first review their plans with their academic advisor and the appropriate divisional director and then secure the director's permission. Work experience credits may be applied to the certificate of achievement or the associate degree. No more than twelve credit hours of supervised work experience may be applied to the associate degree requirements and no more than six for a certificate of achievement.

ART

111 Basic Drawing ..... 3 credit hours

This is an initial course in drawing in several media using a variety of techniques. Essentials of visual form, analysis of structure and texture are studied. (6 hours per week)

122 Basic Drawing ..... 3 credit hours

Prerequisite: Basic Drawing 111

A continuation of Basic Drawing 111, this course gives the student further practice in the techniques studied in the first semester, and introduces serveral new media. (6 hours per week)

112 Basic Design ..... 3 credit hours

Two-dimensional problems in design. Experimentation with basic elements of design, such as line, form, texture, and color, using a wide variety of media. (6 hours per week)

123 Basic Design ..... 3 credit hours

Prerequisite: Basic Design 112

Experimentation with three-dimensional design. Structural composition. Use of materials and tools of sculpture and ceramics. (6 hours per week)

113 Water Color ..... 3 credit hours

Prerequisite: Basic Drawing 111

Fundamental techniques in handling waterpainting media. Analysis of subject matter using still life and landscape. (6 hours per week)

124 Water Color ..... 3 credit hours

Prerequisite: Basic Drawing 111

A continuation of Water Color 113 with emphasis on composition, pictorial concepts, and development of personal expression. (6 hours per week)

114 Oil Painting ..... 3 credit hours

Prerequisite: Basic Drawing 111

Development of painting skills in oil, exploring a wide range of expression based on still life, landscape, and the human figure. (6 hours per week)

125 Oil Painting ..... 3 credit hours

Prerequisite: Oil Painting 114

A continuation of Oil Painting 114, with emphasis on developing an individual painting style. (6 hours per week)

130 Art Appreciation ..... 3 credit hours

Significant works of art in varied forms which exemplify major cultural patterns from the time of the Greeks to the present will be studied. The student will be encouraged to evolve his own criteria for evaluating art. (3 hours per week)

ENGLISH

Reading Laboratory

The laboratory is designed to help improve the student's reading and learning skills. Classes will consist of five weeks of instructional sessions, followed by assigned laboratory periods whose length will depend upon the individual student's needs.

30 Developmental English ..... 3 credit hours

This course is designed for any student who needs to improve his basic writing skills due to deficiencies in grammar, vocabulary, spelling, and punctuation. Primary emphasis will be placed on writing intelligible sentences and paragraphs. Once the student has mastered basic writing skills, he will write brief papers appropriate to his area of specialization. Students will be given individual instruction. (3 hours per week)

40 Developmental Reading . . . . . 3 credit hours

The aim of this course is to help any student deficient in reading skills. Individualized instruction is given on the basis of diagnostic testing. Emphasis is placed on reading comprehension and vocabulary development. (3 hours per week)

50 Reading Improvement . . . . . 3 credit hours

Prerequisite: Permission of instructor.

This course is meant for the competent student interested in improving his reading speed and comprehension. Reading techniques appropriate to academic materials are stressed, as are the acquiring of good study skills, the taking of notes, and the writing of examinations. (3 hours per week)

91 English Fundamentals . . . . . 3 credit hours

English Fundamentals 91 and 92 constitute a sequence which stresses the practical applications of the English language in everyday life. The sequence is primarily designed for those students enrolled in non-transfer programs. English Fundamentals 91 emphasizes both oral and written composition in the preparation of short essays, interviews, a brief documented report, letters of application, and questionnaire forms. (3 hours per week)

92 English Fundamentals . . . . . 3 credit hours

Prerequisite: English Fundamentals 91.

This course focuses on short papers and written and oral reports, as well as an enrichment program in the kinds of communication that will meet the student's probable future needs. (3 hours per week)

100 Technical Communications . . . . . 3 credit hours

This course provides the student with the skills to communicate by means of writing, speaking, and demonstration, and is designed primarily for those studying to be technicians in industry, the health occupations, and business.

In addition to improving writing and speaking skills of a technical nature, the student will learn the methods of reporting factual information through the analysis of problems and events related to his technical specialty. The uses of audio-visual equipment, the creating of graphic presentations, and the development of an appreciation of precise reporting through the use of elementary statistics are all parts of this course. (3 hours per week)

111 English Composition . . . . . 3 credit hours

English Composition 111 and 122 constitute a sequence designed for students who intend to transfer to senior colleges and universities. The student will write both in-class and outside themes frequently. Reading materials will serve as the basis for these themes and for classroom discussions. (3 hours per week)

122 English Composition . . . . . 3 credit hours

Prerequisite: English Composition 111.

A continuation of English Composition 111, during which a full-length research paper will be written and additional literary materials introduced. (3 hours per week)

160 Introduction to Literature: Poetry and Drama . . . . . 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

An introduction to the study of poetic and dramatic literature, this course is designed to give an understanding of literature through close reading and discussion of selected works of poetry and drama. (3 hours per week)

170 Introduction to Literature: Short Story and Novel . . . . 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

A companion course to Introduction to Literature: Poetry and Drama 160. In both, encouragement will be given to the student to evolve his own criteria for assessing the value of a literary work. (3 hours per week)

200 Business Communication . . . . . 3 credit hours

Prerequisite: English Fundamentals 91 and 92, or English Composition 111 and 122.

A course to develop the student's oral and written communication skills as they relate to business and/or industrial enterprise. Emphasis is placed upon the social and psychological aspects and the public relations function of business communication, along with its prime purpose of transmission of information and persuasion. The student develops an awareness of the importance of clarity, conciseness, accuracy, and appropriateness of tone in all types of business communication—oral and written. Includes business correspondence and business reports, and the gathering, preparation, organization, and presentation of data. (3 hours per week)

210 Children's Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

A general survey of the prose, poetry and illustrated books suitable for the elementary grades. Required by most institutions of students entering elementary education. Also for those in library studies or work, or useful as a general education course for parents. (3 hours per week)

211 American Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

A study of our nation's literature from the beginnings to the Civil War, stressing the major authors of the period. (3 hours per week)

222 American Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

A continuation of American Literature 211, covering the period from the Civil War to the present. (3 hours per week)

212 English Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

A study of English literature from the Anglo-Saxon period through the eighteenth century. Readings stress the major authors from Chaucer to Johnson. (3 hours per week)

223 English Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

English literature continued. A study of representative writers of the Romantic, Victorian, and Modern periods. (3 hours per week)

213 World Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

World Literature 213 and 224 is a sequence which attempts an approach to the eternal values of man through literary masterpieces written from the time on ancient Greece to the present. (3 hours per week)

224 World Literature ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111.

A continuation of World Literature 213, the second part of this sequence offers a detailed study of some of the great literary experiences since the Renaissance and attempts to show how they have contributed to our present cultural heritage. (3 hours per week)

270 Creative Writing ..... 3 credit hours

Prerequisite: English Fundamentals 91 or English Composition 111, or permission of instructor.

A course in the fundamentals of creative writing through the analysis of various forms of writing and frequent written exercises in fiction, poetry, and basic playwriting. While the student is encouraged to develop writing skills according to his own interests and abilities, the course is based on the assumption that an understanding of the skills involved in creative writing will also make the student a better reader of the masterpieces of poetry, fiction, and drama. This course is also designed for adults who are seeking an avocation in creative writing, and are interested in learning the fundamentals of the craft. (3 hours per week)

100 Journalism Practicum ..... 1 credit hour

Students interested in working on the staff of the college publications do so under the direction of the publications advisor. This course may be repeated for credit up to a maximum of four times. (2 hours per week)

111 Introduction to Journalism and Elementary Reporting ..... 3 credit hours

This first-semester course includes an introduction to mass communications and elementary reporting techniques. Members of the class serve on the college newspaper staff. (3 hours per week)

122 Advanced Reporting and Editing ..... 3 credit hours

This second-semester course includes a study of advanced depth reporting and newspaper editing techniques. Members of the class serve on the staff of the college newspaper, which they assist in editing. (3 hours per week)

FOREIGN LANGUAGES

111 First Year French ..... 4 credit hours

This course is designed for those who are beginning, or who wish to review their foreign language study. Emphasis is on the oral-aural approach. (5 hours per week)

122 First Year French ..... 4 credit hours

Prerequisite: French 111.

A continuation of French 111. Class conversation, elementary readings, and language laboratory practice stress the spoken language and help develop a basis for further study. (5 hours per week)

111 First Year Spanish ..... 4 credit hours

This is a beginning course in Spanish and stresses the spoken language through practice in the language laboratory. (5 hours per week)

122 First Year Spanish ..... 4 credit hours

Prerequisite: Spanish 111.

The work begun in Spanish 111 is continued, with additional stress on readings and class conversations. (5 hours per week)

111 First Year Russian ..... 4 credit hours

This course is designed for those who have had little or no experience with Russian. Practice in listening and speaking in the classroom and the language laboratory. (5 hours per week)

122 First Year Russian ..... 4 credit hours

Prerequisite: Russian 111.

A continuation of Russian 111, with continued emphasis on the oral-aural approach. (5 hours per week)

213 Second Year French ..... 4 credit hours

Prerequisite: French 122 or permission of instructor.

Advanced conversations and readings emphasize several cultural aspects of the language and continue the work done in French 111 and 122. Students with good high school backgrounds in French may be eligible for admission to this course without having taken French 111 and 122. (5 hours per week)

224 Second Year French ..... 4 credit hours

Prerequisite: French 213 or permission of instructor.

This is a continuation of French 213. Short-wave broadcasts and language laboratory practice augment the oral-aural method. (5 hours per week)

213 Second Year Spanish ..... 4 credit hours

Prerequisite: Spanish 122 or permission of instructor.

This course is designed for those who have good backgrounds in Spanish, and who wish to continue their study of the language. (5 hours per week)

224 Second Year Spanish ..... 4 credit hours

Prerequisite: Spanish 213 or permission of instructor.

A continuation of Spanish 213, with advanced readings and conversations, and more attention to Spanish culture. (5 hours per week)

MUSIC

130 Band ..... 1 credit hour

This course in performance is open to all students and the public upon registration for the course. It may be repeated for credit up to a maximum of four times. (2 hours per week)

140 Chorus ..... 1 credit hour

This course in performance is open to all students and the public upon registration for the course. It may be repeated for credit up to a maximum of four times. (2 hours per week)

150 Basic Musicianship ..... 2 credit hours

This course is designed to give the prospective school teacher singing, music reading, and theory experience in the elements of music. It acquaints the student with concepts of rhythm and tonality, with the aim of developing musical skills and understanding. (2 hours per week)

160 Music Appreciation ..... 3 credit hours

An introduction to music, the aim of this course is to acquaint the student with the major works of music through recordings. Presentations will deal with the rudiments of music, their function in a variety of works, different styles, and the growth and development of musical forms. (3 hours per week)

SPEECH

30 Developmental Speech ..... 2 credit hours

Improvement of vocabulary, spoken grammar, pronunciation, and articulation. Critical treatment of individual speaking problems. Prerecorded practice tapes for student use with a tape recorder. The language laboratory will be used when needed. If a student elects Developmental English 30 or Developmental Reading 40, and intends to take Fundamentals of Speaking 100 he must take Developmental Speech 30 as a prerequisite. (4 hours per week)

100 Fundamentals of Speaking . . . . . 3 credit hours

Instruction in essential speech processes and skills is offered. Organization of speeches and effective delivery will be studied through the use of practical problems. If a student is taking Developmental English 30 or Developmental Reading 40, he must elect Developmental Speech 30 before electing Fundamentals of Speaking 100 (3 hours per week)

185 An Introduction to Public Speaking and Debate . . . . . 3 credit hours

Prerequisite: Fundamentals of Speaking 100.

An introduction to the rhetoric of persuasive and argumentative speaking. The historical and contemporary forms of debate. Experience in the preparation and delivery of major speeches, and experience in team debating. (3 hours per week)

187 Modern Communication Skills . . . . . 3 credit hours

Prerequisite: Fundamentals of Speaking 100.

Extensive practice in reading aloud for contemporary communication situations, including preparation and presentation of copy for radio and TV; and the presentation of reports, technical and general, using a public address system. The course includes techniques for reading literature aloud for children and adults. Extensive individual practice with a tape recorder. (3 hours per week)

191 Basic Acting and Directing . . . . . 3 credit hours

Acting as a speech experience, developing confidence, emotional perception, and an objective appraisal by the average student of his own special speech talents. Through the performance of dramatic roles the second-semester speech student achieves a greater freedom of movement and vocal variety in any public situation. It also provides the fundamentals of theatre work for the student who would like to continue his experience through local community theatre. (3 hours per week)

192 Basic Staging . . . . . 3 credit hours

Make-up; lighting; costuming; set design; the history of the theatre building from the Greeks to the present. (3 hours per week)

195 An Introduction to Broadcasting . . . . . 3 credit hours

Prerequisite: Fundamentals of Speaking 100.

The history of broadcasting in the United States with emphasis on the formation of the FCC and the development of public regulation of broadcasting. Broadcasting organization from the local station to the network. Radio and television studios, their equipment and operation. (3 hours per week)

HEALTH, PHYSICAL EDUCATION, AND RECREATION

110 Principles of Safety ..... 2 credit hours

Stress is placed on the scope of safety problems in school, home, and industry, along with securing and evaluating up-to-date information on the safety needs of individuals. (2 hours per week)

120 Healthful Living ..... 3 credit hours

Should develop in each student the responsibility for guiding and evaluating his own health. Promotes the acquisition of attitudes, habits, skills, and ideas favorable to efficient and healthful living. Includes material and information concerning mental, physical, social well-being. (3 hours per week)

130 Standard American Red Cross First Aid ..... 2 credit hours

Outlined by the American Red Cross, this course consists of lectures, textbooks, and practice work in first aid. A certificate is awarded to each student completing the course. (2 hours per week)

PHYSICAL EDUCATION ACTIVITY COURSES

The importance of physical education activity classes lies in their contribution to such educational objectives as organic development, neuromuscular coordination, and social efficiency. For students intending to transfer to a four-year institution, twelve activity hours will be required during the four-year college career.

111 Physical Education ..... 3 activity hours

Participation and instruction in such activities as basketball, soccer, and touch football.

122 Physical Education ..... 3 activity hours

Participation and instruction in such activities as gynmastics, softball, volleyball, and track.

100 Conditioning Activities ..... 2 activity hours

106 Wrestling and Judo ..... 2 activity hours

107 Archery and Golf ..... 2 activity hours

108 Badminton and Tennis ..... 2 activity hours

109 Bowling ..... 1 activity hour

140 Swimming ..... 2 activity hours

141 Cross Country . . . . . 2 activity hours

150 Varsity Tennis
(Prerequisite: Permission of Coach) . . . . . 3 activity hours

151 Varsity Basketball
(Prerequisite: Permission of Coach) . . . . . 3 activity hours

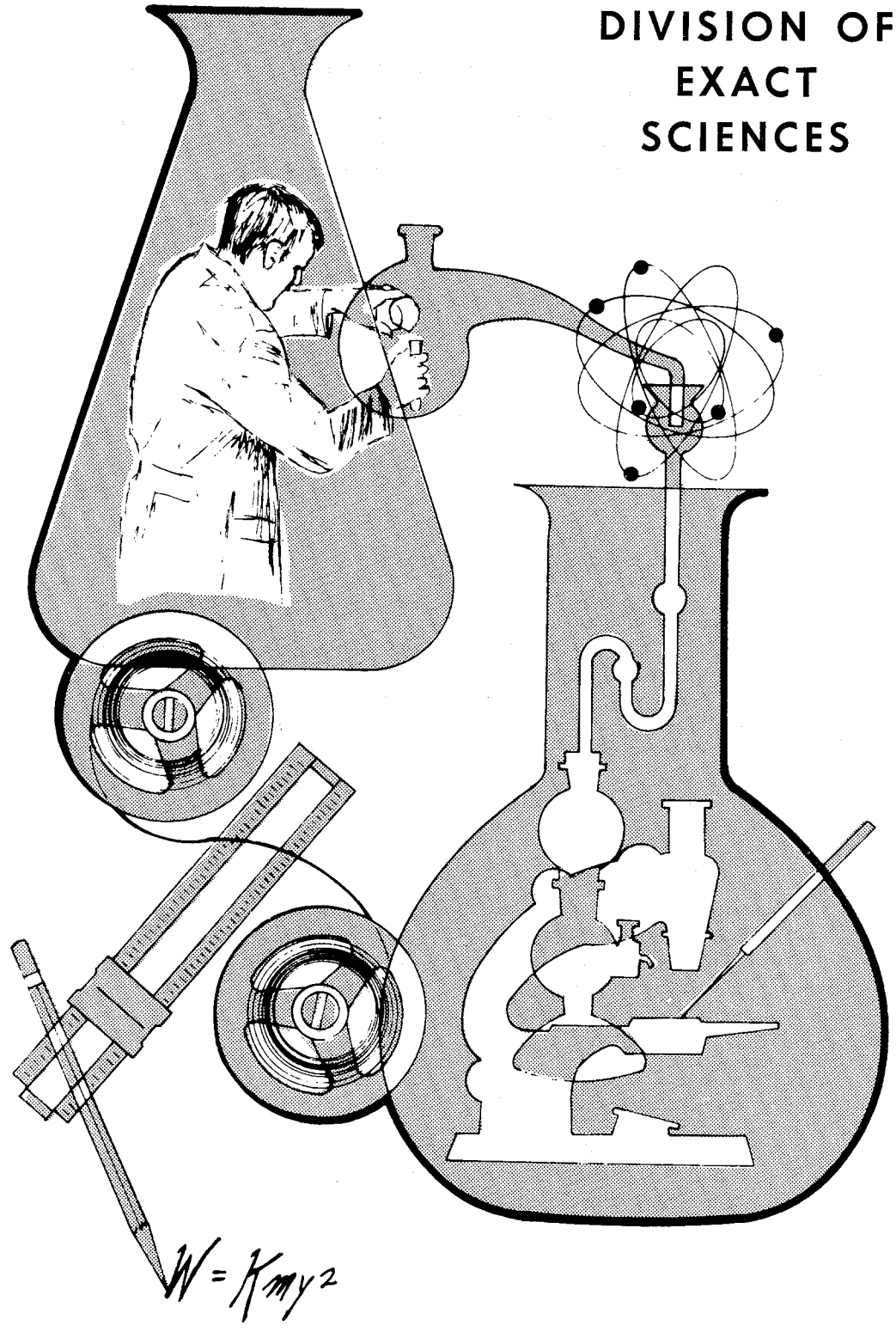
160 Varsity Track and Field
(Prerequisite: Permission of Coach) . . . . . 3 activity hours

172 Varsity Wrestling
(Prerequisite: Permission of Coach) . . . . . 3 activity hours

182 Varsity Baseball
(Prerequisite: Permission of Coach) . . . . . 3 activity hours

192 Varsity Golf
(Prerequisite: Permission of Coach) . . . . . 3 activity hours

DIVISION OF EXACT SCIENCES



100 Work Experience ..... 1-6 credit hours

Washtenaw Community College provides students in both General and Occupational programs an opportunity to earn credits while engaged in supervised and usually subsidized work experience directly related to the educational or occupational objective of the student. Students who plan on enrolling for work experience credit must first review their plans with their academic advisor and the appropriate divisional director and then secure the director's permission. Work experience credits may be applied to the certificate of achievement or the associate degree. No more than twelve credit hours of supervisd work experience may be applied to the associate degree requirements and no more than six for a certificate of achievement.

BIOLOGY

Prior to or concurrent with his first science course, the student is urged to elect Mathematics, Notational Systems 10.

111 Concepts of Biology ..... 4 credit hours

Prerequisite: One high school science course or Chemistry 57.

Intended for non-science students but essential for biology majors. A survey of the principles coupled with a detailed study of the major concepts of biology with emphasis on intermediate metabolism, DNA, RNA, population interactions, embryology, and genetics. Involved are three hours of lecture and four of laboratory. (7 hours per week)

122 General Biology ..... 4 credit hours

Prerequisite: Concepts of Biology 111.

Intended as a second science course for non-biological majors. Biological principles are applied to higher life forms including man. Modern biology is included in both the three lecture hours and the four laboratory hours. (7 hours per week)

127 Botany ..... 4 credit hours

Prerequisite: Concepts of Biology 111

A field and laboratory investigation of plants is carried on during the two lecture hours and four laboratory hours per week providing a detailed study of structure and function. (6 hours per week)

128 Zoology ..... 4 credit hours

Prerequisite: Concepts of Biology 111.

A field and laboratory investigation of the animal kingdom is carried on during the two lecture and four laboratory hours per week providing a detailed study of classification, evolutionary relationships, structure, and functions. (6 hours per week)

141 Basic Health Science ..... 4 credit hours

A core science course for health science students. Subject matter drawn from anatomy, physiology, bacteriology, microbiology, and pathology. The two weekly hours of laboratory are directed to the appropriate health science program, while the three lecture hours are held in common. (5 hours per week)

217 Microbiology ..... 5 credit hours

Prerequisite: Concepts of Biology 111.

An introduction to the study of micro-organisms in which the morphology, physiology, and immunology of these organisms are studied. (9 hours per week)

211 Anatomy and Physiology ..... 3 credit hours

Detailed studies of gross and microscopic anatomical structure of the human body and the function to structure relationships. Designed primarily for students on Health Science programs. (3 hours per week)

222 Anatomy and Physiology ..... 3 credit hours

Prerequisite: Anatomy and Physiology 211.

A continuation of Anatomy and Physiology 211. (3 hours per week)

CHEMISTRY

Prior to or concurrent with his first science course, the student is urged to elect Mathematics, Notational Systems 10.

57 Introductory Chemistry ..... 3 credit hours

A preparatory course for the student who has no background in high school science or algebra. This course may be taken by the student wishing to improve his background before taking General Chemistry 111, or by the student desiring a terminal exposure to chemistry. Credit for Introductory Chemistry 57 is contingent on the successful completion of either Introductory Chemistry Laboratory 58 or General Chemistry 111. (3 hours per week)

58 Introductory Chemistry Laboratory . . . . . 1 credit hour

Prerequisite: Introductory Chemistry 57 (May be taken concurrently).

A laboratory experience in basic chemical laboratory practices and procedures. Introductory Chemistry Laboratory 58 should be elected to accompany Introductory Chemistry 57 except for those students intending to elect General Chemistry 111. (3 hours per week)

111 General Chemistry . . . . . 4 credit hours

Prerequisite: High school chemistry, 1 year high school algebra.

A beginning general college chemistry course which includes the laws of chemical combination, states of matter, atomic and molecular structure, bonding, and other basic principles. General Chemistry 111 has three 1-hour lectures and one 3-hour laboratory per week. (6 hours per week)

122 General Chemistry . . . . . 4 credit hours

Prerequisite: General Chemistry 111.

A continuation of General Chemistry 111, including ionic equilibria and qualitative analysis. The accompanying laboratory will include the qualitative identification of unknown substances, and the quantitative determination of unknown substances using elementary instrumental techniques. General Chemistry 122 has two 1-hour lectures, and two 3-hour laboratory sessions per week. (8 hours per week)

211 Organic Chemistry . . . . . 3 credit hours

Prerequisite: General Chemistry 122.

A lecture course dealing with nomenclature, stereo-chemistry, and reactions of aliphatic and aromatic compounds. (3 hours per week)

218 Analytical Chemistry . . . . . 4 credit hours

Prerequisite: General Chemistry 122.

The study of quantitative separation and determination of chemical substances through the use of gravimetric, volumetric, optical, and electrometric methods. Analytical Chemistry 218 has two 1-hour lectures, and two 3-hour laboratory sessions per week. (8 hours per week)

222 Organic Chemistry . . . . . 5 credit hours

Prerequisite: Organic Chemistry 211.

A continuation of Organic Chemistry 211 involving the study of the derivatives of aliphatic and aromatic compounds. The accompanying

laboratory will stress techniques used in the preparation and handling of organic compounds. Organic Chemistry 222 has three 1-hour lectures and two 3-hour laboratory sessions per week. (9 hours per week)

EARTH SCIENCE

100 Introductory Geology ..... 4 credit hours

A course designed primarily for students who desire to obtain a broad perspective of the science. Practical training in earth science, including work with minerals, rocks, fossils, maps, meteorology, astronomy, and oceanography, and field trips to points of geologic interest are included in the three weekly laboratory hours. (5 hours per week)

109 Common Rocks and Minerals ..... 3 credit hours

Involved is the identification of rocks, minerals, and some fossils; the study of an area as revealed in rocks and minerals. Especially useful for prospective elementary school teachers. (3 hours per week)

114 Physical Geology ..... 4 credit hours

Physical features of the earth with special reference to their origin and significance along with interpretation of topographic maps and the study of common rocks and minerals. Field trips are involved in the two hours of lecture and three hours of laboratory. (5 hours per week)

125 Historical Geology ..... 4 credit hours

Prerequisite: Physical Geology 114.

A study of the development of North America as a typical continent, covering the formation of mountains, plains, and evolution of life on land and water, and the identification of fossils and interpretation of geologic maps. Field trips are involved. (5 hours per week)

MATHEMATICS

10 Notational Systems ..... 1 credit hour

An independent study program designed for all science students, covering: the metric system, units and dimensions, exponential numbers, the slide rule, graphic display, and temperature. Taught with programmed material.

20 Math Lab ..... Non-credit

An opportunity for students to work on any mathematical difficulty or project under the direction and supervision of the mathematics staff. Students may avail themselves of this opportunity voluntarily or may be referred to the lab by an instructor. Program text material is utilized.

31 Developmental Mathematics . . . . . 3 credit hours

A review of mathematics involving whole numbers, fractions, decimals, and percentages. Diagnostic tests will be utilized to determine the appropriate area of concentration for each student. Students will have the opportunity to study supplementary units in modern mathematics and material preparatory to elementary algebra. Programmed material is used. (4 hours per week)

32 Developmental Mathematics . . . . . 3 credit hours

Open only on recommendation of instructor.

A continuation of Developmental Mathematics 31. (4 hours per week)

40 Introductory Algebra . . . . . 4 credit hours

Prerequisite: Developmental Mathematics 31 or proficiency examination.

Intended for the student who has not had high school algebra or who needs review. An introduction to the basic concepts of algebra such as sets, properties of the real number system, operations on algebraic expressions, equations and inequalities, properties of the right triangle, and functions. (5 hours per week)

60 Mathematics for Parents . . . . . 2 credit hours

This course is designed to introduce the interested parent to some of the mathematical concepts now found in elementary school. The aim is to familiarize the parent with sets, number bases, properties of numbers, measurement, elementary logic, probability, permutations. (2 hours per week)

98 Plane and Solid Geometry . . . . . 4 credit hours

Prerequisite: Introductory Algebra 40 or proficiency examination (equivalent to one year of high school algebra)

Review of simple geometric configurations; basic definitions and axioms for a logical system, development of notion of "proof", nature of deductive reasoning, rectangular coordinates, directed line segments, loci, equation of theline and circle, three-dimensional figures, planes, and geometry of the sphere. (4 hours per week)

99 Foundations of Occupational Mathematics . . . . . 3 credit hours

A first course for both business and health science students. It consists of an integrated development of the structural concepts and practical computational skills in numbers and arithmetic that are commonly encountered in occupational usage. The discussions are supplemented with typical problems concerning percentage, fractions, ratios and proportions, graphs, and interest. (3 hours per week)

101 Integrated Mathematics . . . . . 3 credit hours

Prerequisite: Introductory Algebra 40 or equivalent (one year of high school algebra).

Intended for the non-mathematics-science transfer student desiring an insight into the development of mathematics and its role in the evolution of our culture. Content is drawn from: arithmetic, algebra, geometry, probability and statistics. (3 hours per week)

102 Integrated Mathematics . . . . . 3 credit hours

Prerequisite: Integrated Mathematics 101 or permission of instructor.

A continuation of the study begun in Integrated Mathematics 101. (3 hours per week)

107 Principles of Elementary Mathematics . . . . . 3 credit hours

Designed to familiarize the teacher aide with the content and methodology of mathematics as currently taught in the elementary school. Primary emphasis will be on understanding the mathematics with appropriate attention to methodology through demonstration and discussion. (3 hours per week)

111 Mathematical Analysis . . . . . 4 credit hours

Prerequisite: Algebra and Trigonometry 140 or proficiency examination (equivalent to two years of high school algebra).

This course serves as a college level algebra course and is designed to provide the background for a solid study of calculus and analytic geometry. A study of the abstract nature of mathematics including sets, implications, methods of proof, number systems, mathematical induction, binomial theorem, vectors, matrices, determinants, inequalities, relations, algebraic and transcendental functions, trigonometric functions of a real variable, and graphing. (4 hours per week).

122 Calculus with Analytic Geometry . . . . . 5 credit hours

Prerequisite: Mathematical Analysis 111 or a good record in four years of high school mathematics.

Course includes one and two dimensional analytical geometry, functions, limits, continuity, differentiation of algebraic, polynomial, trigonometric, exponential and logarithmic functions, integration of polynomial functions, and applications of the derivative and differential. (5 hours per week).

127 Trigonometry ..... 2 credit hours

Prerequisite: Algebra and Trigonometry 140, or proficiency examination (equivalent to two years of high school algebra).

Designed for the student who needs further study of trigonometry for physics, engineering, or technical courses. Major content areas are: sets, relations, functions, trigonometry functions of angles; graphs of circular functions; solutions of triangles; trigonometry identities and equations; complex numbers; and series. (2 hours per week).

128 Basic Statistics ..... 4 credit hours

Prerequisite: Introductory Algebra 40 or proficiency examination (equivalent to one year of high school algebra).

A basic course for students in Business Administration, Education, Psychology, Social Science, Engineering, and in all other fields in which measurements and predictions are made. Includes an elementary study of the tabulation of data, graphic representation, measures of central tendency and dispersion, probability, types of distributions, sampling, hypothesis testing, and elementary aspects of correlation. (4 hours per week).

130 Scientific and Technical Programming ..... 4 credit hours

A course in Fortran programming and basic mathematical techniques suitable for use with computers. Other computer languages are touched upon and some attention is given to numerical control. Selected programs will be written, compiled, and executed by the student. Suitable for both vocational and science students who will need to use mathematics and computers as tools of their professions. Both lecture and laboratory time are involved. (5 hours per week)

140 Algebra and Trigonometry ..... 4 credit hours

Prerequisite: Introductory Algebra 40 or proficiency examination (equivalent to one year of high school algebra).

The course is designed both to develop necessary skills for the engineering, scientific, or vocational student and to provide the background for further work in mathematics. Major content areas are: real numbers, relations and functions, lines and planes, quadratic equations, complex numbers, trigonometric functions, trigonometric sentences, polynomial functions, exponents and logarithms, sequences and series, probability, and applications. (4 hours per week)

213 Calculus with Analytic Geometry . . . . . 5 credit hours

Prerequisite: Calculus with Analytic Geometry 122.

Includes the conic sections, parametric equations, hyperbolic functions, indeterminate forms, curve-tracing, Newton's method, techniques of integration, definite integrals, areas and improper integrals. (5 hours per week)

224 Calculus with Analytic Geometry . . . . . 5 credit hours

Prerequisite: Calculus with Analytic Geometry 213.

Includes surfaces, partial differentiation, applications, centroids, moments, multiple integrals, series, and differential equations. (5 hours per week)

229 Introduction to Numerical Analysis . . . . . 3 credit hours

Prerequisite: Calculus with Analytic Geometry 213 and Scientific and Technical Programming 130.

An introduction to mathematical methods applicable to the digital computer including finite differences, numerical integration and differentiation, solution of linear and non-linear equations, and solution of ordinary differential equations with initial conditions. This course will also include the writing and executing of programs involving these methods. (3 hours per week)

237 Finite Mathematics for Business . . . . . 3 credit hours

Prerequisite: Introductory Algebra 40 or proficiency examination (equivalent to one year of high school algebra).

Especially suited to student intending to continue with further training in the business area. Topics covered include sets, logic, probability, matrices, linear programming, and theory of games. (3 hours per week)

PHYSICS

Prior to or concurrent with his first science course, the student is urged to elect Mathematics, Notational Systems 10.

91 X-Ray Physics . . . . . 3 credit hours

Provides the student with both specialized information on X-ray equipment and the theoretical background to make it meaningful. Covered are: fundamentals of electrical and radiation physics and the basic principles underlying the operation of X-ray equipment and auxiliary devices. This is a lecture course with no laboratory. (3 hours per week)

92 X-Ray Physics . . . . . 3 credit hours

Prerequisite: X-ray Physics 91

A continuation of X-ray Physics 91, with emphasis on construction and operation of X-ray equipment. (3 hours per week)

111 General Physics . . . . . 4 credit hours

Prerequisite: Algebra and Trigonometry 140 or two years of high school algebra (may be taken concurrently).

Designed for both liberal arts and vocational students, this course concentrates on the science skills. A study of length, mass, and time measurements; mechanics, work, and power, motion, acceleration, and kinematics; properties of matter and heat are included. The three hour per week laboratory is of major importance. (6 hours per week)

122 General Physics . . . . . 4 credit hours

Prerequisite: General Physics 111.

A continuation of General Physics 111, the course includes units on electricity; light and atomic physics. (6 hours per week)

142 Physical Science . . . . . 4 credit hours

A core science course for health science students and others, which includes basic understanding of the science method. Subject matter will be drawn from physics, chemistry, and pharmacology. A study of the contributions of science to society is included. The emphasis is on science skills such as: observation, evaluation, experimentation, comparison and reporting. The two weekly hours of laboratory are sectioned by program while the three lecture hours are held in common. (5 hours per week)

211 Mechanics, Sound, and Heat . . . . . 5 credit hours

Prerequisite: High school physics or equivalent and Calculus with Analytic Geometry 122.

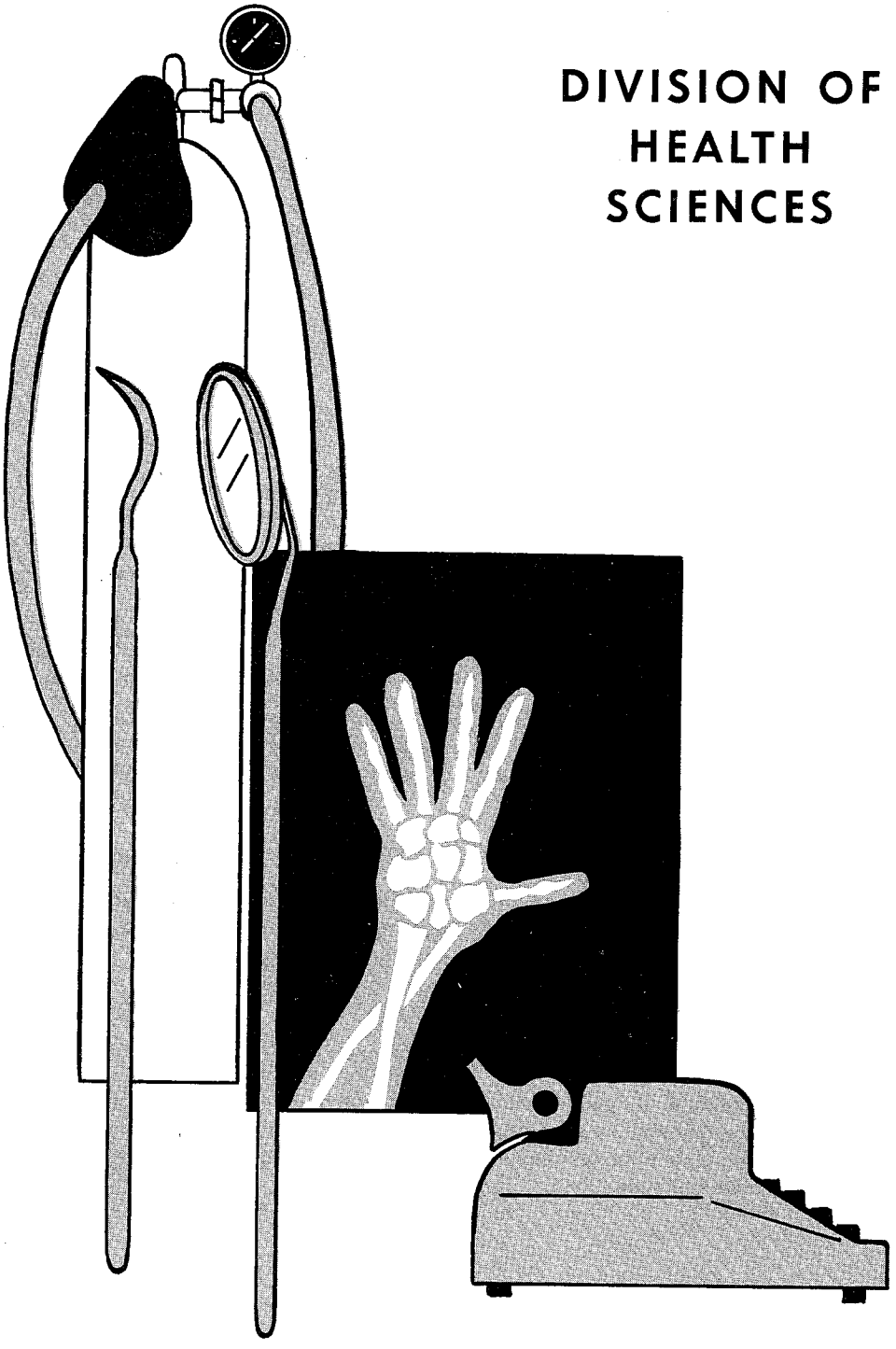
A course designed for engineering and science majors. The solution of problems dealing with mechanics, heat, and sound, utilizing physical principles and mathematical technique are involved. The Calculus is used. A three-hour laboratory meets weekly. (7 hours per week)

222 Electricity, Light, and Nuclear Physics . . . . . 5 credit hours

Prerequisite: Mechanics, Sound, and Heat 211.

A continuation of Physics 211 stressing electricity, light, and atomic physics. (7 hours per week)

DIVISION OF HEALTH SCIENCES



100 Clinical Practice and Work Experience for Health Science Division . . . . . 1-6 credit hours

Most students who are enrolled in health occupation are required to meet certain registry requirements through clinical practice and work experience related to their health occupation specialty. Health occupation coordinators will inform students of the number of credit hours they will need to carry each semester. Additionally, students will be informed of the number of clock hours and content of the clinical or work experience through their health occupation coordinator. (3-40)

DENTAL ASSISTING

110 Orientation to Dental Assisting . . . . . 1 credit hour

Prerequisite: Admission to dental assisting curriculum.

General orientation to college and the history of dentistry. The role of the Dental Assistant Association, code of ethics, certification of dental assistants, and observation in dental offices. Dental jurisprudence and malpractice prevention are included in this course. (1 hour per week)

111 Dental Science . . . . . 4 credit hours

Prerequisite: Orientation to Dental Assisting 110 (may be taken concurrently).

This course deals with dental terminology, histology; tooth growth, eruption and anatomy; physiology and anatomy of the head. (4 hours per week)

121 Principles of Operatory Procedures . . . . . 4 credit hours

This is a study of the names and uses of dental instruments, preparation and care of patients, proper chairside assistance and operation of equipment, bacteriology and sterilization. (4 hours per week)

122 Advanced Dental Science . . . . . 4 credit hours

Prerequisite: Dental Science 111.

Continuation of Dental Science 111. This is a study of the relation of oral health to general health, oral pathology, diet and nutrition, occlusions, drawing and wax carving of selected teeth to millimeter measurements. (4 hours per week)

203 Dental Materials . . . . . 3 credit hours

Prerequisite: Advanced Dental Science 122.

Chemical properties and uses of dental materials and solutions; manipulative techniques, dental pharmacology and anesthesia are included in this course. (4 hours per week)

213 Dental Roentgenology . . . . . 3 credit hours

Prerequisite: Dental Science 111 and Advanced Dental Science 122.

Principles, practices, and precautions in the operation of dental X-ray units are studied. This course also involves instruction and practice in making intra-oral and extra-oral X-ray exposures; processing and mounting X-ray films are included. (4 hours per week)

212 Dental Office Procedures . . . . . 4 credit hours

Prerequisite: Principles of Operatory Procedures 121.

Office practices as related to operating procedures, case history records, treatment planning, and estimates are involved in this course. (4 hours per week)

214 Principles of Dental Laboratory Procedures . . . . . 3 credit hours

Prerequisite: Dental Materials 203; Dental Office Procedures 212 (may be taken concurrently).

This is a study of the practice of manipulation of cold cure acrylic material in making custom impression trays, retainers, and minor denture repairs; preparation of impression materials, use of dental laboratory equipment and storage of laboratory supplies. (4 hours per week)

225 Advanced Dental Laboratory Procedures . . . . . 3 credit hours

Prerequisite: Principles of Dental Laboratory Procedures 214.

This course involves carving inlay patterns, investing and casting inlay restorations; pouring of plaster and stone cases; making stone, amalgam, and copper electroplated dies. (4 hours per week)

INHALATION THERAPY

111 Inhalation Therapy Procedures . . . . . 3 credit hours

This is a comprehensive course dealing with the equipment used by the inhalation therapist technician. The course involves principles of operation, makes and models, advantages, maintenance and repair, methods and the demonstration and practice of the various analyzers and tests, chambers and hoods, humidifiers and inhalators, humidity rooms, masks and catheters, nebulizers and aerosols, resuscitators, respirators, regulators and manifold, tents, and incubators. (4 hours per week)

113 Nursing Arts for Inhalation Therapy . . . . . 3 credit hours

The nursing problems relative to patients receiving inhalation therapy will be presented, analyzed, and discussed. The organization of the hospitals and public health nursing services will be discussed. The relationship of the nursing service, inhalation therapy, and physical therapy will be presented. Practical demonstrations in nursing and physical therapy procedures will be given. (3 hours per week)

122 Inhalation Therapy Procedures . . . . . 3 credit hours

Prerequisite: Inhalation Therapy Procedures 111.

This course is a continuation of Inhalation Therapy Procedures 111. (4 hours per week)

124 Nursing Arts for Inhalation Therapy . . . . . 3 credit hours

Prerequisite: Nursing Arts for Inhalation Therapy 113.

This course is a continuation of Nursing Arts for Inhalation Therapy 113. (3 hours per week)

125 Introduction to Applied Inhalation Therapy . . . . . 1 credit hour

This course of study is designed as an introduction to the major unit in inhalation therapy. The trainees will receive classroom instruction concerning the use of inhalation therapy as related to the various medical and surgical specialties. (1 hour per week)

136 Applied Inhalation Therapy . . . . . 3 credit hours

This course is a continuation of Introduction to Applied Inhalation Therapy 125. Major emphasis in this class will be placed on practical, bedside teaching: (1) emergency and accident room (2) internal medicine (3) obstetrics (4) pediatrics (5) surgery, general (6) surgery, thoracic and (7) neurosurgery. (3 hours per week)

219 Seminar — Inhalation Therapy . . . . . 3 credit hours

In this course, four hours every week will be scheduled for seminar discussions of current problems, therapeutic complications, review of current literature, reports of scientific meetings, and round table discussions. (3 hours per week)

MEDICAL OFFICE WORKER

111 Introduction to Medical Assisting . . . . . 3 credit hours

What is medical assisting? In this course, the student will explore the general field of assisting, including the history of medical practice, the ethics involved in medical practice as they relate to the conduct of the medical assistant. The student will be introduced to nursing aid techniques and begin study of the practice of routine office duties, such as, general office hygiene, care and use of equipment, and the importance of supply inventory. Medical terminology will also be intorduced, i.e., the instruments and their names and use, care and the ability to identify the equipment and its function. Field visitations will be arranged. (3 hours per week)

120 Medical Terminology . . . . . 3 credit hours

See X-Ray Technology for course description.

122 Medical Assisting . . . . . 4 credit hours

This course is a continuation of the series. Emphasis will be placed on the study of diseases, their etiology, symptoms and treatment. The student will also study normal body functioning and the effects of improper care on these functions (i.e., nutrition). Elementary first aid, bandaging techniques, and standardized methods of dressing will be explored. (4 hours per week)

X-RAY TECHNOLOGY

111 Fundamentals of X-Ray Technology . . . . . 4 credit hours

This course includes the practical and theoretical aspects of medical radiology technology. The production and control of X-radiation and its ionizing effect on matter will be emphasized. Instruction will also be given in X-ray films, film holders, grids, the photographic effect of X-rays and X-ray protection. (5 hours per week)

122 Fundamentals of X-Ray Technology ..... 4 credit hours

Prerequisite: Fundamentals of X-Ray Technology 111.

This course is a continuation of the fundamental concepts of radiologic techniques. (5 hours per week)

213 Principles of X-Ray Technology ..... 4 credit hours

Prerequisite: Fundamentals of X-Ray Technology 122.

This course is designed to give the student instruction in nursing procedures pertinent to X-ray technology, special procedures, introduction to radiation therapy, and topographic anatomy. (5 hours per week)

224 Principles of X-Ray Technology ..... 4 credit hours

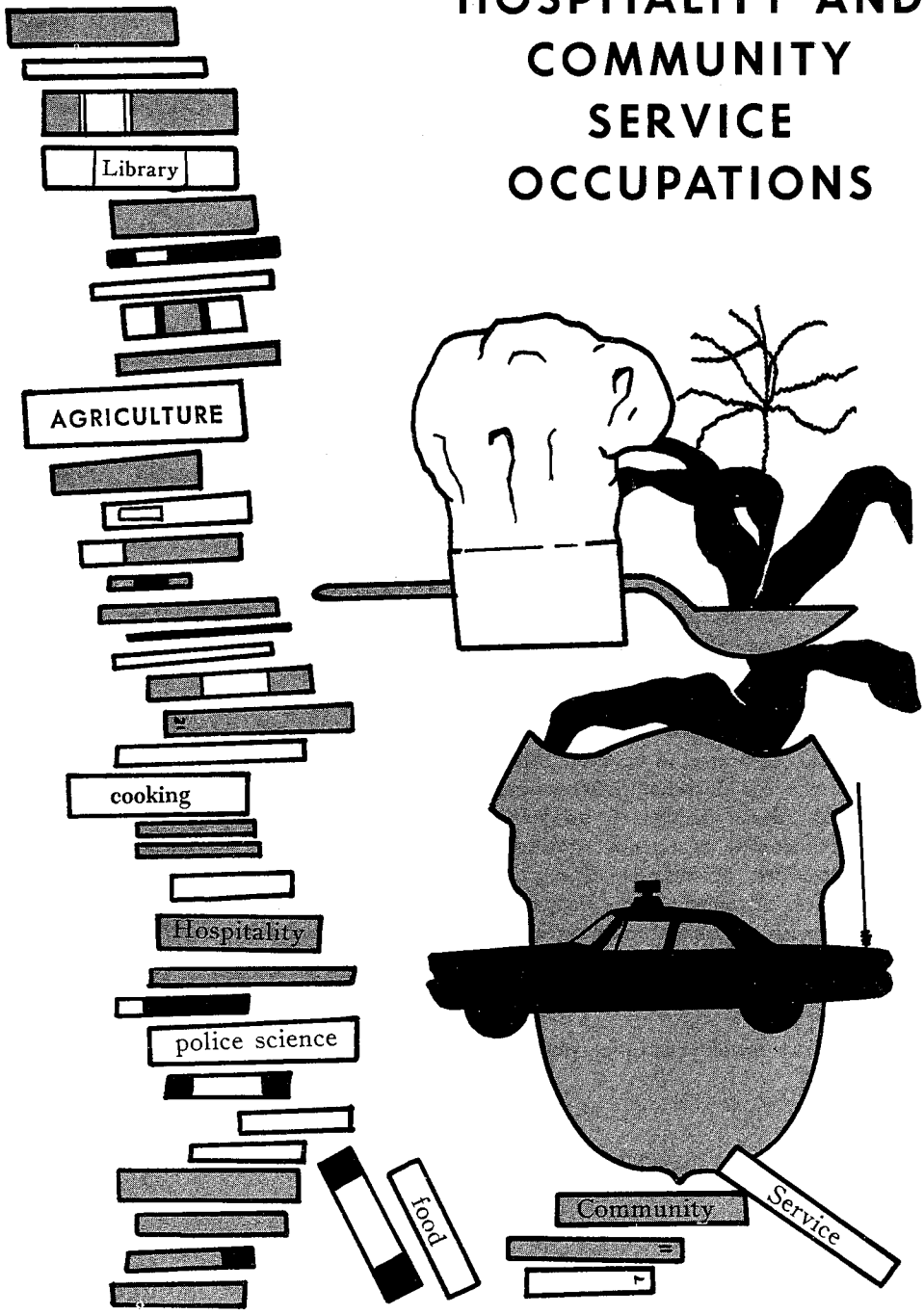
Prerequisite: Principles of X-Ray Technology 213.

This course is outlined for a general review. Included in the course is automatic processing maintenance, oral radiography, research for the radiologic technologist, radioisotopes, and civil defense and disaster planning. (5 hours per week)

120 Medical Terminology ..... 3 credit hours

A study designed to acquaint the student with the origin and structure of medical terms. The intent of this course is to help the student interpret and understand requests for radiographic examinations and to read and understand medical articles and reports. (3 hours per week)

DIVISION OF HOSPITALITY AND COMMUNITY SERVICE OCCUPATIONS



100 Work Experience . . . . . 1-6 credit hours

Washtenaw Community College provides students in both General and Occupational programs an opportunity to earn credits while engaged in supervised and usually subsidized work experience directly related to the educational or occupational objective of the student. Students who plan on enrolling for work experience credit must first review their plans with their academic adviser and the appropriate divisional director and then secure the director's permission. Work experience credits may be applied to the certificate of achievement or the associate degree. No more than twelve credit hours of supervised work experience may may be applied to the associate degree requirements and no more than six for a certificate of achievement.

200 Internship-Externship . . . . . 3 credit hours

Prerequisites: (Internship) Student in a two-year program must have completed minimum of one year of college, or equivalent. Student in a one-year program must have completed one semester of college, or equivalent. Students must have been enrolled full-time–12 credit hours or more–in the immediately preceding semester. (Externship) Student must have satisfactorily completed minimum of 6 credit hours in the immediately preceding semester.

Internship-Externship opportunities are available to interested and qualified students of Hospitality and Community Service Occupations programs. **Internships** are programs of study designed to enable full-time students to gain simultaneous occupational experience, which is integrated with their academic studies. **Externships** are programs of study designed for full-time employees for occupational upgrading purposes and are integrated with their job activities. Students planning to enroll for Internship-Externship credit should first review their plans with their academic adviser and the Internship-Externship Program Coordinator to ensure proper program planning and to secure the appropriate divisional director's permission. No more than 12 credit hours of supervised, integrative occupational experience through the Internship-Externship Programs may be applied toward the Associate Degree, and no more than 6 credit hours toward a one-year Certificate of Achievement.

(1-hour weekly seminar **plus** directed field projects.)

AGRIBUSINESS

111 Introduction to Horticulture ..... 3 credit hours

Principles of horticultural science related to fruits, flowers, vegetables, and landscape plants. (3 hours per week)

115 Lawn and Turf Management ..... 3 credit hours

Identification, adaptability, and evaluation of deciduous and narrow-leafed evergreen shrubs, trees, and vines as landscape plants. Turf care and analysis. (3 hours per week)

122 Insect and Disease Control ..... 3 credit hours

Spray and dust equipment and application: pesticide and growth regulating chemicals, their use in the growing of horticulture crops, and influence on the physiology of the plant. (3 hours per week)

126 Plant Breeding and Propagation ..... 4 credit hours

Principles of plant propagation by seed, cuttage, layerage, and graftage; scion and stock relationship; stocks for fruit and ornamental plants; and practices employed by nurseries in propagation of plants. (4 hours per week)

120 Landscaping ..... 3 credit hours

Additional emphasis on the flowering characteristics of both deciduous and broad-leaf evergreen shrubs, trees, and vines. Turf management is included. (3 hours per week)

213 Greenhouse Management ..... 4 credit hours

Control of greenhouse environment and its effect on growth and production of horticultural crops. (4 hours per week)

227 Ornamental Plant Ecology ..... 3 credit hours

Principles of floriculture crop physiology: includes control of environmental conditions, and management. Emphasis on cut flowers in even numbered years; on container-grown plants in odd-numbered years. (3 hours per week)

224 Maintenance of Garden and Grounds ..... 3 credit hours

General principles of gardening, and maintenance of institutional grounds. Greenskeeping and further study of turf management. (3 hours per week)

228 Nursery ond Arboriculture Practices ..... 4 credit hours

Management practices employed by wholesale, retail, and landscape nurseries. Field trips to nurseries required. (4 hours per week)

230 Soils and Fertilizers . . . . . 3 credit hours

More advanced study of soils and fertilizers. Reference to plant ecology. (3 hours per week)

EDUCATIONAL AIDE/ASSISTANT

111 Teacher Aide Techniques . . . . . 3 credit hours

Techniques of showing and explaining interesting and constructive art work, songs, games, music, dances, sand and water play for nursery and elementary school children. (3 hours per week)

122 Teacher Aide Techniques . . . . . 3 credit hours

Relationship of the teacher aide to the professional teacher and administrator. Limitations of the teacher aide; further development of the techniques approached in 111. (3 hours per week)

213 Teacher Aide Techniques . . . . . 3 credit hours

Problems concerning the student. More specific treatment of methods for assisting the teacher, such as, grading papers, bulletin boards, observation of student behavior patterns, and classroom supervision. (3 hours per week)

224 Teacher Aide Techniques . . . . . 3 credit hours

A comprehensive approach to becoming specialized in an area of choice, such as, science, math, or industrial education. Orientation toward the laboratory assistant and supplemental counseling toward choice of proper electives. (3 hours per week)

209 Instructional Media and Materials . . . . . 3 credit hours

A practical and comprehensive approach to the applications of visual materials and auditory aids. (3 hours per week)

200 Arts and Crafts . . . . . 3 credit hours

An elementary approach to drawing, cutting, pasting, painting, making play dough, paper-mache, potato printing, paper construction and art work with non-ferrous metals. (3 hours per week)

FOOD SERVICE TECHNOLOGY

100 Introduction to Restaurant Management . . . . . 3 credit hours

A course of orientation designed to give the history, organization, problems, and opportunities in the restaurant industry. A study of restaurant functions; promotional and personnel functions of management; trends and developments in the industry today and a study of techniques and procedures of modern management. (3 hours per week)

111 Elementary Food Preparation . . . . . 3 credit hours

Production and use of food and materials, development of standards of food preparations; the effect of these factors upon economic, nutritive value and aesthetic appeal of food materials. (3 hours per week)

122 Introductory Volume Food Management . . . . . 3 credit hours

An introduction to the various types of large volume food service institutions, with emphasis on operational differences, varied menu construction, raw material estimates, large volume preparation techniques, and the use of institutional food service equipment. (3 hours per week)

213 Advanced Food Preparation . . . . . 3 credit hours

Prerequisite: Elementary Food Preparation 111.

The major emphasis will be upon estimates of raw materials needed, preparation of foods in volume and the use of institutional food service equipment. A study of work organization of food preparation processes. (3 hours per week)

228 Layout and Equipment . . . . . 3 credit hours

This course is designed to provide the student with knowledges and skills needed in these areas for more efficient production, service and controls in a food and beverage operation. Planning is stressed; time and motion principles employed and layout and design analysis methods utilized. (3 hours per week)

224 Food and Beverage Management . . . . . 3 credit hours

A course in basic principles of volume food services and the analysis of food management problems, including a consideration of the following topics: job analysis methods; selection, control, supervision, and training of personnel; work plans and schedules; labor and food cost control; purchasing; equipment use and care; menu planning; sanitation and safety. (3 hours per week)

LAW ENFORCEMENT

224 Criminal Investigation . . . . . 3 credit hours

Investigative techniques; criminalistics; case studies; including discussion on quantum of proof in criminal investigations and probative value of physical evidence. (3 hours per week)

209 Criminal Law . . . . . 3 credit hours

For either lawyer or layman; designed to broaden the understanding of the student concerning the various agencies involved in administration of criminal law. Emphasis is placed upon the more important law enforcement functions from arrest to executive pardon. (3 hours per week)

211 Specialized Law Enforcement Course Series . . . . . 3 credit hours

These courses will be field experience and practical training courses including firearms, traffic control, etc., experiences may be evaluated for credit in the case of in-service personnel. (3 hours per week)

222 Specialized Law Enforcement Course Series . . . . . 9 credit hours

A continuation of the specialized courses offered in 211. (9 hours per week)

LIBRARY

111 Library Practice . . . . . 4 credit hours

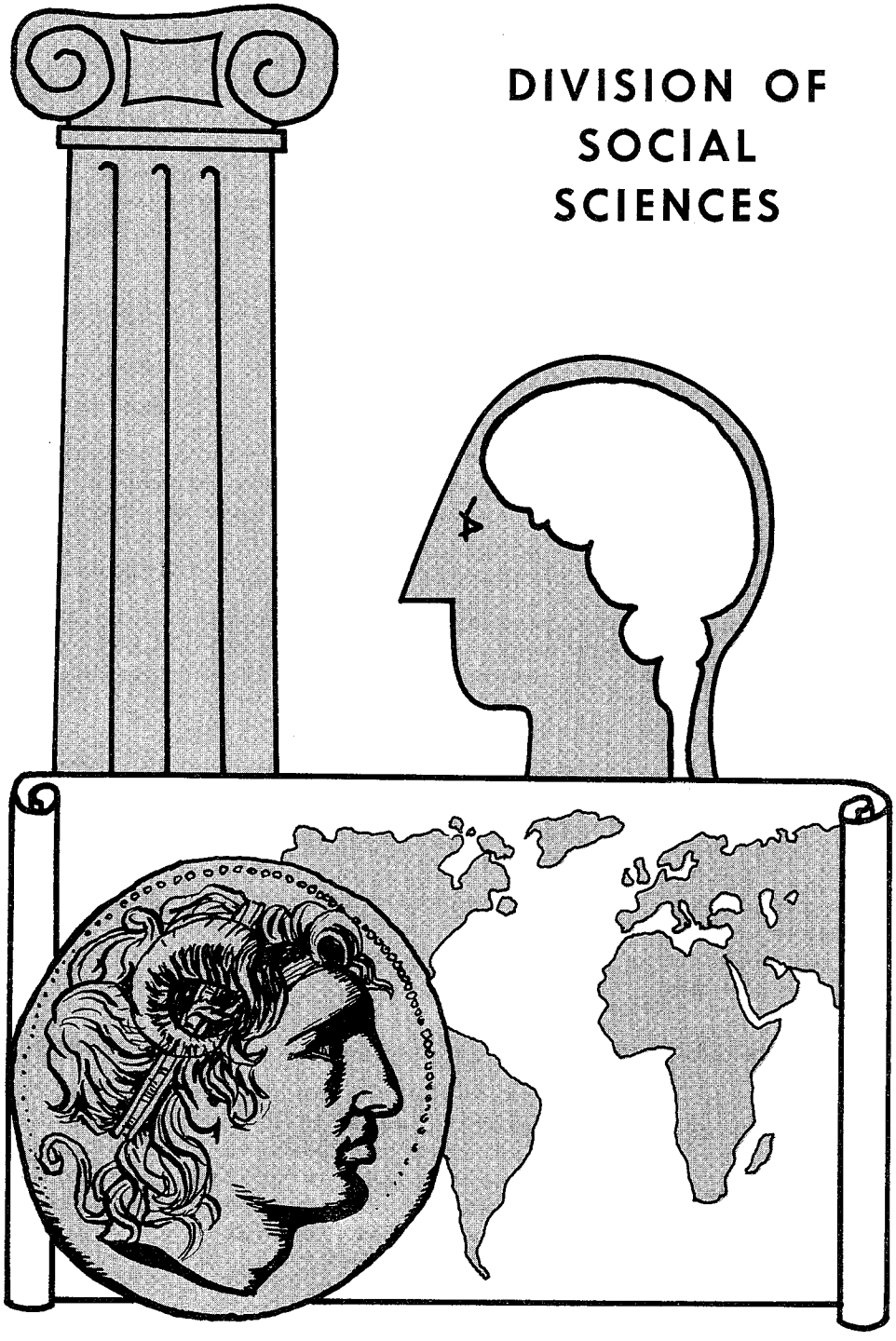
An introduction to techniques and information needed by supportive staff in libraries; widely used classification schemes, quick reference tools, and major bibliographies; use of the card catalog and the typing of catalog cards. (6 hours per week)

122 Library Practice . . . . . 4 credit hours

Emphasis on circulation, preparation, and maintenance of library materials. Order of books, bindery preparation, financial records and other type records. (6 hours per week)

CATALOG NOTATION: The first professional degree in librarianship is the Master's Degree, requiring five years of schooling beyond high school graduation. The present 2 year course for library technician is meant only to prepare persons who will assist the professional librarian, and does not substitute for the librarian's education provided by graduate library schools.

DIVISION OF SOCIAL SCIENCES



100 Work Experience . . . . . 1-6 credit hours

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ANTHROPOLOGY

150 Religions of the World . . . . . 3 credit hours

A study of the religions of non-literate peoples and of the great religions of the world from an anthropological perspective. Emphasis on the role each religion plays in a specific culture. (3 hours per week)

200 Introduction to Anthropology . . . . . 3 credit hours

Introduction to the principal fields of anthropological study and fundamental concepts in terms of their concern with the nature of man as it is revealed in his development of culture. (3 hours per week)

ECONOMICS

50 Personal Finance . . . . . 3 credit hours

A basic economics course covering cost of establishing and maintaining a household, problems of consumer credit; installment buying; taxes; major costs of families; basic economic principles, insurance, stocks and bonds, mortgages; social security, Medicare, and other topics. (3 hours per week)

150 Labor Relations . . . . . 3 credit hours

Our changing labor force, development, structure, and philosophy of U.S. unionism. Collective bargaining; bargaining power and the role of the strike; union-management issues, public labor policies. The economics of labor market; comparison with foreign labor movements; operation of labor market; productivity and wages; economic development and the role of the labor force. (3 hours per week)

207 Basic Economics Principles ..... 4 credit hours

A one-semester college-transfer course intended for liberal arts and pre-professional students who will take only one course in economics. It is not intended for economics or business majors. Will provide the student with a framework for more systematic thought about economic matters. Areas studied include: nature and scope of economics, essentials of income data, prices, income, employment, distribution of income, role of the banking system, business fluctuations, economic growth, the functioning of the American economic system and alternate economic systems. (4 hours per week)

211 Principles of Economics ..... 3 credit hours

Study of the American economic system including the nature of economics, resources, business organization in the United States, pricing and allocation of resources, distribution of income. Required of all business administration transfer students. (3 hours per week)

222 Principles of Economics ..... 3 credit hours

Prerequisite: Successful completion of Principles of Economics 211.

Continuation of principles including money, banking, price levels, volume of economic activity, public finance, international economics, and economic growth. Required of all business administration transfer students. (3 hours per week)

GEOGRAPHY

101 Earth Science ..... 4 credit hours

Study of fundamental earth patterns and distributions with special emphasis on geologic history of the earth, life from its evolutionary beginnings, the physiographic face of the land, the universe, and some emphasis on meteorology and weather patterns. (4 hours per week)

102 World Regional Geography ..... 4 credit hours

Introductory course designed to aid students in developing the ability to view people, nations, and current happenings in their proper environmental settings. Involves a study of selected natural regions of the world and their utilization by the people of different cultural backgrounds. (4 hours per week)

150 Urban Geography ..... 3 credit hours

Deals with the spatial aspects of urban development. Primarily the focus is upon cities. This focus is broadened to include all areas that are sufficiently city-like in housing density and land use characteristics to be referred to as urban. Includes analysis of comprehensive city and regional planning as related to land use. (3 hours per week)

200 Michigan: Geography and History ..... 3 credit hours

A comprehensive survey of the various types of natural resources and regions within the state and of the cultural adjustment man has made to natural conditions. Special emphasis will be placed on points of history with geographic interest. The economic, social, and political development of the territory is shown as a part of the history of the Great Lakes area. (3 hours per week)

202 Economic Geography ..... 3 credit hours

Distribution, production, and trade of the world's major mineral resources, manufacturing products, and causes for the location of manufacturing. (3 hours per week)

208 Conservation ..... 3 credit hours

Analysis of the problems facing man in the conservation of water, mineral, timber, oil, gas, and the flora and fauna resources native to the United States. Implication for the future. Some emphasis to Michigan and the depletion of resources within the state as well as to methods of control. (3 hours per week)

HISTORY

101 Western Civilization to 1700 ..... 4 credit hours

Cultural and institutional development of the early Orient and Classical and Medieval Europe will be stressed. Students planning to transfer to a senior college are expected to take History 101 and History 102 in the freshman year. (4 hours per week)

102 Western Civilization Since 1700 ..... 4 credit hours

A study of cultural developments and growth of institutions from 1700 to the present. Emphasis upon the expansion of European civilization. A foundation for the understanding of contemporary world problems. (4 hours per week)

107 Introduction to East Asian Civilization ..... 3 credit hours

A survey of the geography, history, and culture of East Asia. Primary emphasis will be placed on the impact of Western Civilization on the peoples of East Asia and the subsequent transformation of East Asian civilization. 1500 to the present. (3 hours per week)

130 Evolution of American Democracy . . . . . 3 credit hours

A study of American democracy through the rise of our political institutions. Influence of the frontier, frontier individualism, sectionalism, the implication of disunion in the Civil War, growth of industry, labor movement, social reform programs, and the present world responsibilities of the United States are considered. Students who have enrolled in United States, 1500-1865 201; or United States, 1865-Present 202 may not elect this course. (3 hours per week)

150 History of the American Negro . . . . . 3 credit hours

Survey and analysis of the literature and some of the problems and interpretations of the history of the American Negro from the Revolutionary War to the present. (3 hours per week)

157 Problems in Contemporary World History . . . . . 3 credit hours

A topical approach to some of the major historical developments of the past half century (since 1914). (3 hours per week)

201 United States, 1500-1865 . . . . . 3 credit hours

Introductory American history from pre-Columbian Europe to the close of the Civil War. Broad survey with emphasis on the growth of institutions and ideals as they were brought from Europe and modified and developed here. (3 hours per week)

202 United States, 1865-Present . . . . . 3 credit hours

General survey of American society and politics since the Civil War. Special emphasis on social and cultural factors as well as politics. A continuation of United States, 1500-1865 201, but no prerequisite necessary. (3 hours per week)

207 Development of American Culture 1865 to the Present . . 3 credit hours

Development of American culture from the Civil War period to the present. Especially recommended for students contemplating a career in teaching, or in the social science. (3 hours per week)

PHILOSOPHY

101 Introduction to Philosophy . . . . . 3 credit hours

Introduction to basic philosophical principles, methods, and problems by a close study of representative philosophers. Emphasis on analytical and speculative functions. (3 hours per week)

150 Logic . . . . . 3 credit hours

Emphasis on modern methods of deductive proof and the theory of communications with applications for industry, business, and government trainees. (3 hours per week)

POLITICAL SCIENCE

100 Introduction to Political Science . . . . . 3 credit hours

A course emphasizing the general principles and problems of modern government, with emphasis on American institutions and experience; place of goverment in the social process, nature of political organization, authority and freedom, forms of government and theories of the state; techniques, processes, and machinery of popular control (public opinion, interest groups, parties and elections); executive, legislative and judicial functions. Modern philosophies of government, relations among nations, and subordinate units of governments are mentioned. MEETS THE MINIMUM REQUIREMENTS OF MICHIGAN LAW FOR THE ASSOCIATE DEGREE. (3 hours per week).

107 Comparative Government . . . . . 3 credit hours

An introductory comparative functional analysis of the governmental structures, institutions, and politics of modern government. Emphasis will be given to authoritarian states including: the USSR, People's China, Fascist Italy, and Nazi Germany and to Democratic states including: Great Britain, France, West Germany, and The Republic of Italy. Introductory analysis of the dynamics of political behavior in the developing societies will be included in the course. (3 hours per week)

150 State and Local Government and Politics . . . . . 3 credit hours

Forms and functions of state and local governments in the United States; the growth of the urban community in America and consequent development of its social and political problems. The organization and process of government in the urban complex with interactions of city, town, state, and metropolitan-wide governments analyzed. Methods of studying community decision-making will be evaluated. Michigan, Washtenaw County communities, and metropolitan Detroit will be drawn upon frequently for resource material and for purposes of illustration. (3 hours per week)

200 International Relations . . . . . 3 credit hours

An introduction to the nature and problems of international politics. An examination of the development of the modern state system, nationalism and imperialism. The techniques and instruments that govern international relations, power politics, and international organization in the nuclear age are analyzed. (3 hours per week)

209 Contemporary Political Ideologies—The Isms . . . . . 3 credit hours

A systematic analysis of basic contemporary political ideologies. Origins and evolution of the major political theories of the modern age with particular emphasis on democracy, socialism, communism, fascism, and nationalism. (3 hours per week)

230 Political Parties and Pressure Groups . . . . . 3 credit hours

An analysis of American political parties and pressure groups; emphasizes their origins, functions, organization, methods, and the relationship between party politics and public opinion. (3 hours per week)

PSYCHOLOGY

100 Introductory Psychology . . . . . 3 credit hours

An introduction to the scientific study and interpretation of human behavior, surveying such topics as psychological development, learning, thinking, motivation, emotions, perception, intelligence, aptitudes, and personality. Basic principles and their practical application are discussed. (3 hours per week)

107 Psychology of Adjustment . . . . . 3 credit hours

A study of the processes involved in the adjustment of the individual to the problems of everyday living. Emphasis given to the study of the development of techniques of adjustment to meet conflict situations in the social environment. (3 hours per week)

150 Industrial Psychology . . . . . 3 credit hours

Includes human efficiency, workers' satisfactions, group relations. Conditions and methods of work, performance rating, attitude studies, safety training, supervision, motivation, personal adjustment, labor-management problems. (3 hours per week)

200 Child Psychology . . . . . 3 credit hours

Stresses the child as an individual, his original nature and temperament, and his position as part of the group. Introduction of social raw materials is considered. In addition, such topics as the conditioning and re-conditioning of behavior patterns, and the individuality and similarity of responses are developed. (3 hours per week)

SOCIAL SCIENCE

108 Man and Society . . . . . 3 credit hours

Covers the basic ideas in the fields of sociology and political science for students who plan to terminate their careers at the end of two years. Emphasis is placed on the social bases of law and government, with particular emphasis placed on the operation of American national and state governments. MEETS THE MINIMUM REQUIREMENTS OF MICHIGAN LAW FOR THE ASSOCIATE DEGREE. (3 hours per week)

SOCIOLOGY

100 Principles of Sociology . . . . . 3 credit hours

Emphasis is placed on basic concepts used in an analysis of social behavior and the processes by which new members of group are oriented to prevailing patterns of behavior. A study of the process of cultural change basic to all program in social work, or advanced work in the social sciences. (3 hours per week)

107 Social Problems . . . . . 3 credit hours

Problems of satisfying human needs and wants are considered. These include socio-psychological (non-economic) needs and wants as well as treatment of the ways in which resources are allocated and products distributed in response to economic needs and wants. Emphasizes cross-cultural and historical perspectives. The significance of change through time, of continuing transition to industrialism with the major theme being the disruptive disparity between the rates of technological and societary change and consequent need to cultivate sciences concerned with human behavior. (3 hours per week)

150 Marriage and the Family . . . . . 3 credit hours

Designed for all students, the aim of the course is to promote stable marital relations. Special emphasis on the psychology of sex, adjustment of the individual to problems of everyday living, techniques of adjusting to conflict situations, emotions, perception, personality. (3 hours per week)

153 Juvenile Delinquency . . . . . 3 credit hours

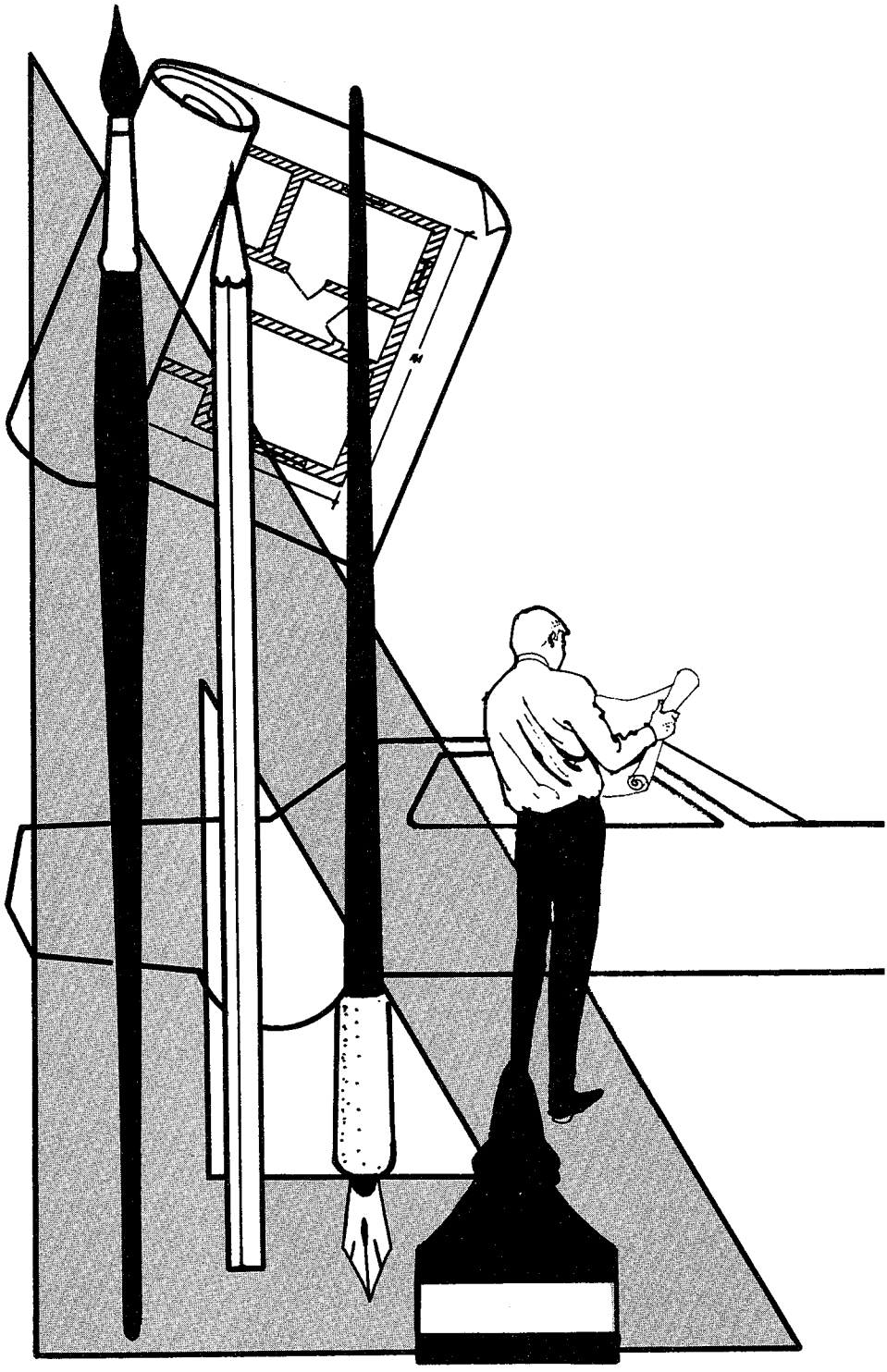
Growing up process of late childhood and adolescence from sociological and cultural viewpoint. Problems of the individual in his social environment and group forces which lead to his maladjustment and sociological principles for working with youth from the viewpoint of parent, teacher, police, and youth organization leader. (3 hours per week)

202 Criminology ..... 3 credit hours

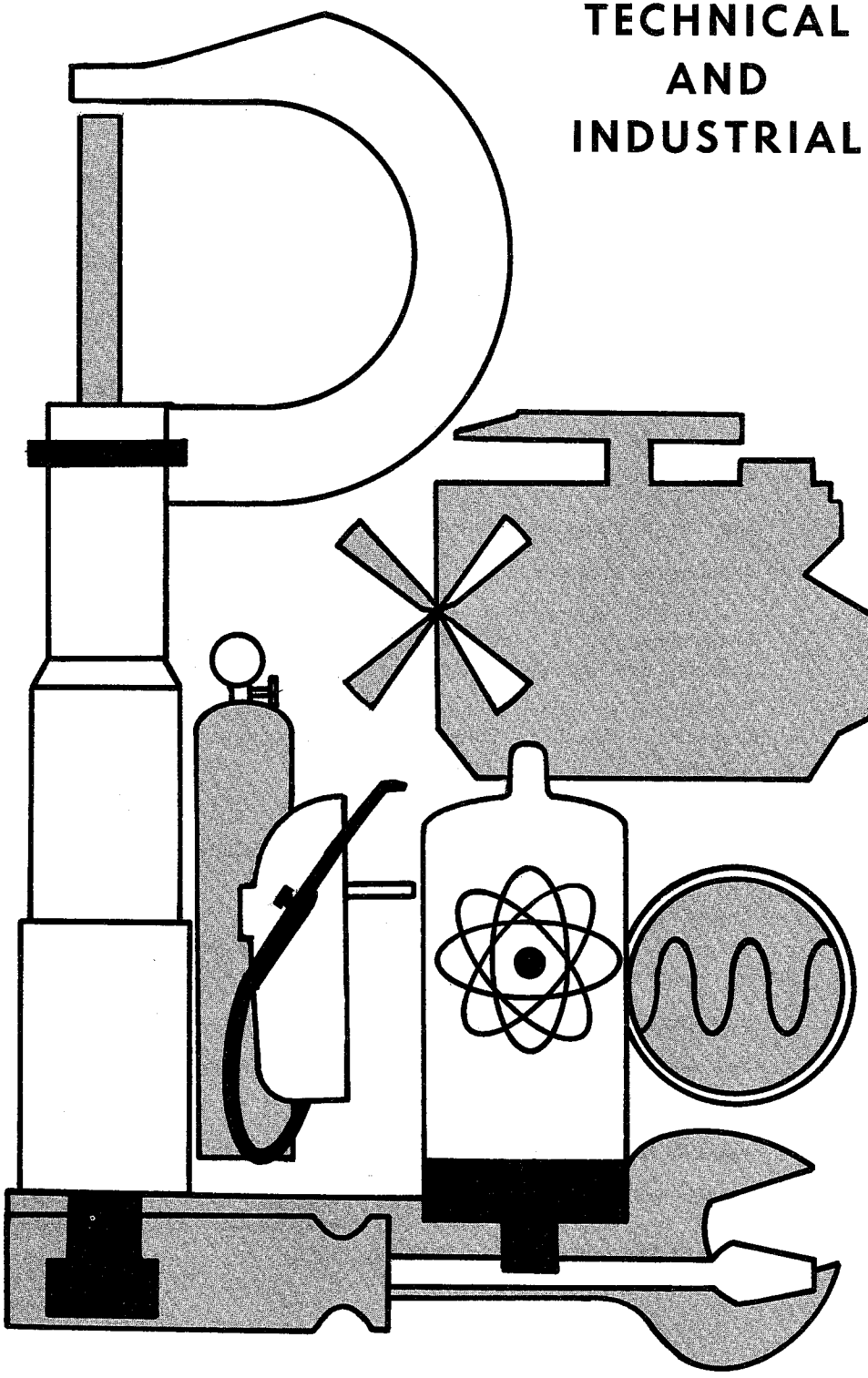
An examination of the theories which attempt to explain criminal behavior. The punishment vs. rehabilitation schools of thought will be dealt with as will capital punishment. Attention will also be given to the functioning of police and court systems. (3 hours per week)

256 Sociology of Occupations ..... 3 credit hours

Deals with vocational choice and forces changing contemporary occupational structure. Factors associated with typical career patterns of occupations and professions. Social organization of occupational groups with emphasis on their ideology and and politics. (3 hours per week)



DIVISION OF TECHNICAL AND INDUSTRIAL



TECHNICAL-COMMERCIAL ART

100 Perspective and Parallel Line Projection . . . . . 3 credit hours

Introduction to one, two, and three vanishing points, and oblique, isometric, dimetric, and trimetric methods of projecting lines and planes. (6 hours per week)

101 Technical Illustration . . . . . 3 credit hours

Prerequisite: Perspective and Parallel Line Projection 100

Projection problems using orthographic, written and other information sources, presentation techniques and media used in industry, aircraft, automotive, boat, product, electrical and electronics; exploded views, sections and phantom drawings. (6 hours per week)

111 Basic Drawing . . . . . 3 credit hours

See Art (Division of Communication Arts) for course description.

112 Basic Design . . . . . 3 credit hours

See Art (Division of Communication Arts) for course description.

121 Advertising Layout . . . . . 3 credit hours

Prerequisites: Perspective and Parallel Line Projection 100 and Basic Drawing 111 and Basic Design 112. (Prerequisite waived for Business and Industrial Management or equivalent experience)

Introduction to layout and lettering techniques and methods used in commercial advertising forms; brochures, posters, advertisements, key line and final art. (6 hours per week)

122 Architectural Rendering . . . . . 3 credit hours

Prerequisite: Perspective and Parallel Line Projection 100 or consent of Division.

Interior and exterior rendering problems using ink, pencil, pastel, colored pencil, wash techniques, and other methods for various reproduction requirements. (6 hours per week)

123 Basic Design . . . . . 3 credit hours

See Art (Division of Communication Arts) for course description.

213 Airbrush Techniques . . . . . 3 credit hours

Prerequisite: Architectural Rendering 122

Introduction to airbrush rendering using various compatible media forms, and the rendering of assigned problems in art work and photographic retouching. (6 hours per week)

214 Photography ..... 2 credit hours

Prerequisites: Basic Drawing 111 and Basic Design 123

Introduction to photography, composing the picture, lighting, use of the light meter and exposure study, the use of photography as a communication form; assigned problems using the still camera. (4 hours per week)

225 Model Construction ..... 2 credit hours

Model construction using information from blueprints, schematics, sketched and other communication form, the use of wood, clay, cardboard, and other media for construction; assigned problems. (4 hours per week)

236 Study Problems ..... 2-8 credit hours

Prerequisite: Consent of Division.

Directed work in major study area; a period of concentrated effort to an assigned problem; the demonstration of the individual's development of understanding and skill development.

AUTO BODY REPAIR AND PAINTING

111 Auto Body Repair ..... 3 credit hours

Co-requisite: Fundamentals of Welding 100

An introductory course in auto body repair fundamentals. Repairs are made on damaged body panels while studying the working properties of automobile sheet metal and basic damage conditions. Analyzing typical damage conditions and establishing accepted repair procedures are an important part of this course. (9 hours per week)

112 Automobile Refinishing ..... 3 credit hours

An introductory course in the methods and procedures used with automobile refinishing materials. Acrylic lacquers and enamels are used to spray paint automobile body panels and complete automobiles. Proper use of refinishing materials and the development of basic skills and knowledge of the trade are stressed. (9 hours per week)

123 Auto Body Repair ..... 3 credit hours

Prerequisite: Auto Body Repair 111 and Welding and Fabrication 111 (or consent of Division)

A detailed study of the automobile body that includes the use of hydraulic jacks and accessories to make typical repairs to the front, side, and rear sections of automobiles damaged by collision. Typical repair jobs are selected to provide the student diversified experience on body trim and hardware, panel replacement, and aligning various body components. (9 hours per week)

124 Automobile Refinishing . . . . . 3 credit hours

Prerequisite: Automobile Refinishing 112

A continuation of the units begun in course 112 including the improvement of skills, mixing and matching of high metallic colors, spot repair and complete refinishing of acrylic lacquers and enamels. Special color effects including the use of "candy" and metal flake are studied. Proper use of materials and quality workmanship are stressed. (9 hours per week)

200 Collision Estimating . . . . . 3 credit hours

An introductory course designed to expose the student to the use of flat rate manuals to establish parts and labor prices in estimating damaged automobiles. Modern methods of repair are demonstrated and emphasis is placed on the economics of repairing as opposed to replacing damaged body sections. Procedures used to obtain complete estimates are included. (5 hours per week)

210 Frame and Unit Body Straightening . . . . . 3 credit hours

Prerequisite: Consent of Division

The problems involved in repairing various frame design. The laboratory work includes advanced instruction in using portable frame straightening equipment to diagnose and straighten common damage conditions. (9 hours per week)

211 Major Body Repair . . . . . 3 credit hours

Prerequisite: Auto Body Repair 123
Co-requisite: Frame and Unit Body Straightening 210

Advanced instruction in the use of portable frame and body straighteners to repair major body damage. Three common types of damage are selected for study as being representative of front end, rear end, and side collision damage. (9 hours per week)

220 Frame and Unit Body Sectioning Methods . . . . . 3 credit hours

Prerequisite: Frame & Unit Body Straightening 210

Advanced instruction in reinforcing methods and sectioning of the unitized body. The problems involved in sectioning and replacing structural members of conventional type frames are also covered. (9 hours per week)

222 Body Rebuilding Methods . . . . . 3 credit hours

Prerequisite: Major Body Repair 211
Co-requisite: Frame & Body Sectioning 220

The procedures and problems involved in sectioning automobile bodies. Three repair jobs will be selected in conjunction with course 220 as being representative of front end, unit body, and rear end collisions. (9 hours per week)

AUTOMOTIVE SERVICE

101 Basic Ignition . . . . . 2 credit hours

An introduction to fundamentals of electricity, storage batteries and battery ignition. The operation of the storage battery and battery ignition systems is covered both in theory and practical application on live cars. (4 hours per week)

102 Engines and Carburetion . . . . . 2 credit hours

The principles, design, construction, and operation of modern automotive engines and carburetors are studied both in theory and practical application on live cars. (4 hours per week)

103 Brake Systems . . . . . 2 credit hours

Specialized instruction in hydraulic principles as applied to automotive hydraulic brake systems, including the operation and service of these systems on live vehicles. (4 hours per week)

104 Wheel Balancing and Alignment . . . . . 2 credit hours

A detailed study of wheel alignment and balancing. Students perform wheel and steering diagnosis and repairs on live units. (4 hours per week)

125 Charging Systems . . . . . 2 credit hours

Prerequisite: Basic Ignition 101

A continuation of Basic Ignition 101 including the operation and service of the charging systems both A.C. and O.C. operation and service of current starting systems. Tests and adjustments are made on live vehicles whenever possible. (4 hours per week)

126 Engine Rebuilding . . . . . 2 credit hours

Prerequisite: Engines and Carburetion 102

Specialized instruction in procedures to completely rebuild an engine. Mechanical operations such as cylinder boring, piston service, rod and cap reconditioning are stressed. Completed engine is tested for performance on dynamometer. (4 hours per week)

127 Transmission and Power Trains . . . . . 2 credit hours

A detailed study of construction, operation, and service techniques for conventional driveline units. Students will receive practical experience on passenger cars and light trucks. (4 hours per week)

128 Carburetion and Tune-up . . . . . 2 credit hours

Prerequisite: Basic Ignition 101 and Engines and Carburetion 102

Theory of operation and the diagnosis and service of one, two, and four barrel carburetors are covered, as well as service procedures for complete tune-ups. Modern test equipment and procedures are stressed. (4 hours per week)

150 Light Service Repair . . . . . 2 credit hours

A detailed study of service procedures used on new car inspection and adjustment. Students will also repair, replace, and adjust door latches, locks, windows, and window regulators. (4 hours per week)

201 Engine Diagnosis . . . . . 2 credit hours

Prerequisite: Carburetion and Tune Up 128

Diagnosis of engines and components with the latest test equipment and procedures. The engine, cranking systems, fuel system, ignition system, and charging systems are covered, as well as the equipment needed to make the correct diagnosis. (4 hours per week)

202 Automotive Air Conditioning . . . . . 2 credit hours

Prerequisite: Consent of Division

Specialized instruction in the operation and service of automotive air conditioning, including diagnosing and charging of units on live vehicles. (4 hours per week)

203 Automatic Transmissions . . . . . 2 credit hours

Prerequisite: Consent of Division.

A detailed study of automatic transmissions including principles of operation and repair procedures. Classroom instruction is coordinated with experience in servicing live units. (4 hours per week)

204 Suspension Systems . . . . . 2 credit hours

Prerequisite: Wheel Balancing and Alignment 104

Nomenclature, theory, and service of the suspension systems on modern passenger cars and light trucks is covered in classroom with service performed on live vehicles. (4 hours per week)

225 Diagnosis and Repair . . . . . 4 credit hours

Prerequisite: Consent of Division

A detailed study in diagnosis procedures that are used in dealerships and garages. Shop work will be based upon diagnosis and will follow the pattern of most commercial garages. (8 hours per week)

226 Dynamometer Operation . . . . . 3 credit hours

Prerequisite: Consent of Division.

Specialized instruction in chassis and engine dynamometer operation. Basic methods of testing horsepower and torque capacities at engine and rear wheels will be studied. (4 hours per week)

ARCHITECTONICS

100 Blueprint Reading for Construction Trades . . . . . 3 credit hours

Elementary blueprint reading for persons in the construction trades. Architectural construction prints and drawings are used as the basis of instruction.

108 History of Architecture . . . . . 2 credit hours

A study of the historical development of architectural styles and their relation to the culture of the period. Typical design, structure, and construction features are emphasized. (2 hours per week)

111 Architectural Drawing . . . . . 5 credit hours

An introduction to the construction and requirements including the preparation of working drawings for the construction of structures classified "Light Frame Structures." (12 hours per week)

117 Construction Materials . . . . . 3 credit hours

A survey of typical types of materials used in basic construction. Emphasis is placed on the properties, selection, and building techniques appropriate for a wide range of materials. Included are woods, metals, plastics, glass, and aggregate materials. (3 hours per week)

120 Mechanical Equipment . . . . . 2 credit hours

A survey of heating, ventilating, plumbing, and electrical equipment used in building construction. Special emphasis is given to standard methods of cataloging such technical data. Students prepare mechanical specifications for the structures studied in Architectural Drawing 111. (2 hours per week)

122 Architectural Drawing ..... 5 credit hours

Prerequisite: Architectural Drawing 111

Preparing architectural drawings from diagrammatic sketches, pictures, surveys, and conference notes from an individual. The student is taught to develop preliminary studies and working drawings for an architectural project approved by the instructor. (12 hours per week)

123 Architectural Rendering ..... 2 credit hours

Prerequisite: Perspective and Parallel Line Projection 110 or consent of instructor.

Interior and exterior rendering problems using ink, pencil, pastel, colored pencil, wash techniques, and other methods for various reproduction requirements. (4 hours per week)

200 Specifications ..... 1 credit hour

An introduction to the uniform system for filing material specifications and the organization and preparation of building specifications. (1 hour per week)

207 Estimating Construction Costs ..... 3 credit hours

Prerequisite: Construction Materials 117 and Mechanical Equipment 120

An introduction to the methods of estimating construction costs for building construction projects involving the use of quantitative survey methods of estimating materials, labor, equipment. Methods of computing overhead and profit are included. (3 hours per week)

209 Surveying ..... 3 credit hours

Prerequisite: Algebra and Trigonometry 140 or equivalent

A lecture and field course on the process of surveying and the analysis of the data collected. (4 hours per week)

210 Structure in Architecture ..... 2 credit hours

An introduction to the use of structural members (i.e., steel, timber, and reinforced concrete, etc.) (2 hours per week)

213 Architectural Drawing ..... 5 credit hours

Prerequisite: Architectural Drawing 122

Major problems in architectural drawing are studied through the preparation of drawings and cost estimates for a moderate sized building such as a school or church. (12 hours per week)

224 Architectural Drawing . . . . . 5 credit hours

Prerequisite: Architectural Drawing 213

Major problems in architectural drawing are presented through the preparation of drawings and cost estimates for a large size building project such as a shopping center or multi-story apartment. (12 hours per week)

INDUSTRIAL DRAFTING

100 Perspective and Parallel Line Projection . . . . . 3 credit hours

See Technical-Commercial Art for course description

100 Technical Drawing . . . . . 3 credit hours

The graphic language, free hand sketching, lettering, pictorial drawing, orthographic drawing techniques, geometry of technical drawing, auxiliaries, and related technical terms. (6 hours per week)

107 Mechanisms . . . . . 3 credit hours

The principles of linkage, cams, centros, displacements, motions, velocities, mechanisms, and vectors are studied and their applications presented graphically. (6 hours per week)

111 Industrial Drafting . . . . . 3 credit hours

Prerequisite: Technical Drawing 100 or two years of high school drafting.

Standard practice and procedures, materials, tool design standards, commercial standards, cutting tools, and production tooling are included in this basic course. (6 hours per week)

112 Descriptive Geometry . . . . . 3 credit hours

Prerequisite: Technical Drawing 100 or consent of Divisional Director.

The study of points, lines, and planes and their relationships in space. Emphasis is given to the practical application of principles to actual problems as they occur in industry. (6 hours per week)

120 Industrial Drafting Standards . . . . . 2 credit hours

Prerequisite: Industrial Drafting 111

An introductory course in the use of industrial, government, and military specifications and standards as they apply to the field of industrial drafting. (2 hours per week)

122 Fundamentals of Jigs and Fixtures . . . . . 3 credit hours

Prerequisite: Industrial Drafting 111 and Descriptive Geometry 112

The various basic types of jigs, fixtures, and their combinations are studied. The use of standard parts catalogues and the development of skills applicable to detailing and assembly drawing are stressed. (6 hours per week)

206 Schematic—Process Drafting . . . . . 3 credit hours

Prerequisite: Consent of Division

An introductory course in the approaches used for factory layout, product flow, equipment utilization and setup. (6 hours per week)

213 Fundamentals of Die Drafting . . . . . 3 credit hours

Prerequisite: Fundamentals of Jigs and Fixtures 122

An introduction to the principles, types, nomenclature, and standards of dies. Special attention is given to the use of manuals and catalogs as well as standard detailing and assembly drawing practices. (6 hours per week)

224 Fundamentals of Industrial Tooling . . . . . 3 credit hours

Prerequisite: Fundamentals of Die Drafting 213

An introductory course in the principles of industrial tool design. The course material also provides for practice in production scheduling, cost analysis, specification preparation, and drafting for numerical controlled machining. (6 hours per week)

ELECTRICITY-ELECTRONICS

90 Introductory Electricity . . . . . 4 credit hours

Introductory course for the student who has had no previous instruction in electricity-electronics. An introduction to electron theory, magnetism, electro-magnetism, sources of electricity, electrical units, alternating current generation, inductance, and reactance. (6 hours per week)

97 Appliance Service and Repair . . . . . 4 credit hours

Basic experiences with typical equipment found in the home or small business including washers, dryers, refrigerators, air conditioners, electrical appliances, and small utility type devices. Emphasis is placed on the replacement and installation of new components. (8 hours per week)

100 Power Sources . . . . . 4 credit hours

Introduction to the fundamental principles of pneumatics, hydraulics, and electricity. Advisors may substitute appropriate courses when student's background and experience have been evaluated. (6 hours per week)

110 Electrical Applications . . . . . 2 credit hours

Prerequisite: Electrical Fundamentals 111

Laboratory experiments applying electrical theory and calculations to electrical circuits. (Required of those students in the Electronic Engineering Technician program.) (3 hours per week)

111 Electrical Fundamentals . . . . . 3 credit hours

Prerequisite: High school algebra or equivalent
Co-requisite: Electrical Applications 110 (For Electronics Engineering Technician only)

Fundamentals of electric current generation, conutation, measurement, and application. Magnetic phenomena, AC wave generation and measurement, alternating current transformers. The use of oscilloscopes; AC current, volt, and watt meters; tachometers; V.O.M.; and impedance bridge. (5 hours per week)

120 Electrical Applications . . . . . 2 credit hours

Prerequisite: Electrical Fundamentals 111 and Electrical Applications 110.
Co-requisite: Electrical Fundamentals 122.

A continuation of Electrical Applications 110. The course work will parallel that of Electrical Fundamentals 122. Required of those students in the Electronic-Engineering Technician program. (3 hours per week)

122 Electrical Fundamentals . . . . . 3 credit hours

Prerequisite: Electrical Fundamentals 111, preceded or accompanied by Algebra and Trigonometry 140. Approved students who have completed Introductory Electricity 90

Alternating current generation, commutation, and rectification; exercises in the solution of series, parallel, and complex circuit problems. Common motor starting and speed controls are covered. An introduction to solid state and vacuum tube diodes and triodes is included. (5 hours per week)

127 Industrial Electricity . . . . . 4 credit hours

Prerequisite: Electrical Fundamentals 111, preceded or accompanied by Electrical Fundamentals 122.

Single and three phase transformers and motors, motor controls, switch boxes. Home and commercial wiring circuit diagrams. Segments of the National Electric Code are presented. (6 hours per week)

210 Audio and Power Transmission . . . . . 3 credit hours

Prerequisite: Electrical Fundamentals 122.

Network theorems; series, parallel, and tuned resonance (IF) circuits; impedance transformation and matching; and AC and DC coupling methods. (3 hours per week)

211 Electronics . . . . . 4 credit hours

Prerequisite: Electrical Fundamentals 111 and 122.

Transistor and vacuum tube theory and equivalent circuits; amplifier circuits and applications; familiarization with various electronic components and instruments. (6 hours per week)

222 Electronics . . . . . 4 credit hours

Prerequisite: Electronics 211 and Audio and Power Transmission 210

The theory and use of "feed back" circuits; oscillators; detectors; amplitude, frequency, SSB and phase modulation; and pulse circuits. Suitable for students interested in communications electronics. (6 hours per week)

237 Electronic Switching and Control (Logic) . . . . . 3 credit hours

Prerequisite: Introductory Electricity 90, Electrical Fundamentals 111, or consent of the division.

A presentation of the theory of electronic logic accompanied by problems using "AND" gates, "OR" gates, shift registers, time delays and counters, M.I.L.: and machine printed logic symbols. The binary number system and Boolean Algebra are applied. Magnetic storage theory is included. (4 hours per week)

238 Industrial Electronics . . . . . 4 credit hours

Prerequisite: Electronics 211 and Audio and Power Transmission 210

The study and use of silicon controlled rectifiers; special solid state devices, and gas filled tubes. Industrial applications of electronics to such problems as light regulation, motor speed and direction control. A study is made of printed circuitry, mocro-module, flip chip, and other packaged circuits as well as JEDEC, NEMA, and EIA standards.(6 hours per week)

239 Circuit Testing, Repair and Debugging . . . . . 5 credit hours

Prerequisite: Preceded or accompanied by Electronics 222 and Industrial Electronics 238.

Maintenance and trouble shooting of circuits—including those used in radio and television. Electrical equipment is deliberately made inoperative and then assigned to a student to "debug." Wiring schematics and service manuals are used. Each student is to design, lay out, fabricate, and wire an appropriate project. (11 hours per week)

FLUID POWER

111 Fluid Power Fundamentals . . . . . 4 credit hours

Basic components of hydraulic and pneumatic systems as well as a general understanding of the basic laws and formulas used in simple hydraulic and pneumatic applications. Pumps, control valves, control assemblies, actuators, ASA, JIC, and the Numatrol System are used to demonstrate simple circuits. (5 hours per week)

122 Hydraulic Generators (Pumps) . . . . . 4 credit hours

Prerequisite: Fluid Power Fundamentals 111 or consent of Division

Experience with a variety of different types and styles of pumps including piston, van, gear, and combination pumps. Construction, care, and application to circuitry provide the laboratory experiences. (5 hours per week)

213 Hydraulic Controls . . . . . 3 credit hours

Prerequisite: Fluid Power Fundamentals 111 or consent of Division

Pressure and volume and the application to directional and control assemblies are studied. Manual, solenoid and pilot directed controls as well as intensifiers and acculators are stressed. (4 hours per week)

214 Basic Hydraulic Circuits . . . . . 3 credit hours

Prerequisite: Fluid Power Fundamentals 111 or consent of Division

The fundamentals, review of components, and necessary computations for basic hydraulic circuits. Trouble shooting techniques in the hydraulic circuit, including the importance of oil viscosity and line component malfunctions are stressed. (4 hours per week)

225 Hydraulic Circuits . . . . . 3 credit hours

Prerequisite: Basic Hydraulic Circuits 214 or consent of Division

Study of the operations, applications, and maintenance of hydraulic circuits to typical machines such as: lathe, broach, mill and die cast machines. Modern implications for computer fluidics are introduced. (4 hours per week)

226 Pneumatics . . . . . 3 credit hours

Prerequisite: Basic Hydraulic Circuits 214 or consent of Division

A study of basic air system components and circuits. Valves, compressors, inhibitors, refrigerants, and accumlators as well as air over oil circuitry and applications to fluidics are studied. (4 hours per week)

MECHANICAL TECHNOLOGY

100 Introduction to Numerical Control . . . . . 2 credit hours

The principles and applications of numerical control with special emphasis given to tape language, formats, codes and their industrial applications. (2 hours per week)

101 Industrial Materials . . . . . 3 credit hours

See Metallurgy for course description.

101 Blueprint Reading . . . . . 3 credit hours

Fundamentals of blueprint reading as applied to the manufacturing industry. Basic drafting principles are studied and applied to specific problems. This course is designed for: pre-engineers, draftsmen, machine operators, machine repairmen, electronic technicians, inspectors, and supervisors. (3 hours per week)

102 Blueprint Reading . . . . . 3 credit hours

Prerequisite: Blueprint Reading 101

Advanced blueprint reading principles. Included are tool, jig and fixture, die and body prints. Special emphasis is given to inspection and measurement. (3 hours per week)

104 Programming for Numerical Control . . . . . 2 credit hours

Prerequisite: Introduction to Numerical Control 100 or consent of Division.

The fundamental procedure of developing programs for point-to-point, continuous path and contour programs. Fixture design, use of cheese boards and computer-controlled rotary fixtures will be studied. (4 hours per week)

105 Industrial Measuring Processes . . . . . 3 credit hours

Theory and practice in the use and care of measuring devices including ring gauges, plug gauges, snap gauges, air gauges, optical flats, profilometers, optical comparators, and many types of electronic measuring gauges. Application of these devices is made to typical problems. (5 hours per week)

111 Machine Shop Practices . . . . . 2 credit hours

Precision and semi-precision measuring instruments and their applications are studied and used. Included also are the basic principles of machine tool operations. Selected films and field trips are used to supplement the laboratory experiences. (3 hours per week)

122 Machine Tool Operation and Set-Up . . . . . 4 credit hours

Prerequisite: Machine Shop Practices 111 or consent of Division.

Designed to provide familiarity with common machine tools. The set-up and operation of the lathe, mill, shaper, drill press, I.D., O.D., and surface grinder, screw machines and presses are given special emphasis. Experience with machining a variety of materials is included. (6 hours per week)

200 Machine Maintenance . . . . . 3 credit hours

Basic industrial machines are disassembled, inspected, and tested for part replacement or repair. Manufacturing specifications and tolerances are used as the basis for determining machine condition. (5 hours per week)

201 Machine Tool Technology . . . . . 4 credit hours

Prerequisite: Machine Tool Operation and Set-Up 122

Advanced methods of adjusting and using common machine tools. Typical industrial applications to demonstrate measuring instruments, gauges, thread cutting, gear cutting, speeds and feeds, tolerances, tool grinding, indexing and gearing. (6 hours per week)

202 Manufacturing Processes . . . . . 3 credit hours

Prerequisite: Machine Shop Practices 111 or consent of Division.

Advanced principles of machining including: hot and cold forming, casting, stamping, powdered metal forming, automation techniques, and chemical and electrical forming. (4 hours per week)

METALLURGY

101 Industrial Materials . . . . . 3 credit hours

A survey of the source, manufacture, and specific properties of modern industrial materials, including metals, alloys, cements, clay products, plastics, rubber, wood, fuels, coatings and lubricants. Demonstrations of their properties provide the laboratory experiences. (4 hours per week)

122 Physical Metallurgy ..... 3 credit hours

Co-requisite: High school algebra or equivalent.

The physical and mechanical characteristics of metals, alloys, crystal structure, constitutional diagrams, binary alloy systems, heat treatment of steel, temperature control and measurement, and the effects of various processes will be studied in the classroom and evaluated in the laboratory. (6 hours per week)

213 Mechanical Testing ..... 3 credit hours

Prerequisite: Consent of Division.

A combination lecture and laboratory course on the mechanical testing of materials (with specific emphasis on metallic specimens) when subjected to the following tests: hardness, tension, compression, torsion, shear, bending, impact, and fatigue. (6 hours per week)

214 General Metallography ..... 3 credit hours

Prerequisite: Physical Metallurgy 122

A study of the constitutional diagrams of metals and alloys of the binary and ternary systems. Advanced heat treatment of steel, cast irons, surface treatments, special processes and their effect on properties and microstructure are studied by use of microscopic and photographic techniques. (6 hours per week)

225 Advanced Metallography ..... 3 credit hours

Prerequisite: General Metallography 214

The microstructure of steel and its alteration are studied through treatment, precipitation, hardening of alloys, heat transfer, hardenability and steel selection in the classroom and laboratory. (6 hours per week)

226 Materials Analysis ..... 3 credit hours

Prerequisite: General Chemistry 122 and General Metallography 214

A laboratory and lecture course in introductory qualitative and quantitative analysis as it specifically applies to metallurgical materials. The qualitative section will deal with how the cations (basically metals) are separated and identified. The quantitative section will deal with the measurement of quantity of the metallurgical alloying elements in steel with specific emphasis and practice on carbon, silicon and sulfur determinations. (6 hours per week)

WELDING AND FABRICATION

100 Fundamentals of Welding . . . . . 2 credit hours

A basic combination welding course dealing with oxy-acetylene and arc welding. Designed to meet the needs of students enrolled in Auto Body Repair, Auto Mechanics, Detailer Draftsman, etc. Typical applications are made in a laboratory setting. (4 hours per week)

111 Welding and Fabrication . . . . . 6 credit hours

The use of oxy-acetylene and arc welding equipment to perform such operations as butt, lap, and fillet welds using bare and shielded, straight polarity and reverse polarity electrodes on mild steel plate, also using filler rods for oxy-acetylene operation. Cast iron welding and brazing and silver soldering are included. (18 hours per week)

122 Welding and Fabrication . . . . . 6 credit hours

Prerequisite: Welding and Fabrication 111

Advanced instruction in oxy-acetylene and arc welding with emphasis on "out of position" welded joints in both mild steel plate and pipe. Procedures are covered for cutting, beveling, fabricating and welding various joints on steel plate and pipe. Related theory, codes, and standards are included. (18 hours per week)

213 Welding and Fabrication . . . . . 3 credit hours

Prerequisite: Welding and Fabrication 122

Tungsten-inert-gas shield arc welding with manually operated torch on such metals as aluminum, mild steel, and stainless steel. Technical theory directly related to tig welding including the composition and properties of metals. (6 hours per week)

224 Welding and Fabrication . . . . . 3 credit hours

Prerequisite: Welding and Fabrication 213

Specialized oxy-acetylene welding, inert-gas-shielded arc, and consumable carbon dioxide welding. Emphasis is given the welding of various metals such as aluminum, stainless steel, high alloy steels, and cast iron. Procedures for welding of the exotic metals such as titanium, tantalum, columbium, zirconium, and molybdenum are included. (6 hours per week)

FACULTY

Alexander, W. E. . . . . Biology
B.S.—Hampton Institute
M.S.—University of Wisconsin
M.A.—The University of Michigan

Amaru, Augustine . . . . . Political Science
B.A.—Boston University
M.A.—Michigan State University

Anthony, Melvin . . . . . Counselor
B.A.—The University of Michigan
M.A.—The University of Michigan

Barron, Kenneth E. . . . . Automotive Service
B.S.—Central Michigan University

Belknap, Charles L. . . . . Mathematics
B.S.—The University of Michigan
M.S.—The University of Michigan

Belkola, Floyd E. . . . . Auto Body Repair and Painting
G.M. Training Center
DuPont Refinishing School

Bertoia, Roger R. . . . . Industrial Drafting
B.S.—The University of Michigan
M.S.—The University of Michigan

Bottoroff, Ralph S. . . . . Mathematics
B.A.—University of Northern Iowa
M.A.—University of Illinois

Bylsma, Donald, Jr. . . . . Sociology
B.S.—Wayne State University
M.A.—Wayne State University

Byrd, David R. . . . . Architectural Drafting
Graduate, Hampton Institute Trade School
Registered Architect, District of Columbia

Cherniak, William . . . . . Director, Communication Arts
B.A.—University of Western Ontario
A.M.—The University of Michigan

Cregar, James M. . . . . Political Science
A.B.—Indiana University
M.A.—Western Reserve University

Croake, Edith M. ..... English
B.A.—The University of Michigan
M.A.T.—Northwestern University
M.A.—Northwestern University

Davenport, James M. ..... Educational Media Specialist
B.A.—Ohio Northern University

Davis, Paul W. ..... Director, Hospitality and Community Service Occupations
B.S.—Ball State University
Ed.M.—Ball State University

Day, Donald E. ..... Internship-Externship
B.S.—Western Michigan University
M.A.—Eastern Michigan University

Dowding, Tasman A. ..... Mathematics
B.S.—Kent State University
Ed.M.—Kent State University

Drew, Gerianne K. ..... Dental Assisting
Certified Dental Assistant

Encinio, Philip A. ..... English
B.S.—Northern Arizona University
M.A.—Arizona State University

Fatur, Robert A. ..... Metallurgical Technology
Wayne State University
Detroit Institute of Technology

Ford, Andrew F. ..... Director, Technical and Industrial
B.S.—Wayne State University
M.Ed.—Wayne State University

Garrett, Dallas O. ..... Mechanical Technology
B.S.—Wayne State University
M.A.—Eastern Michigan University

Glusac, Ivan C. ..... Geography
B.S.—Wayne State University
M.A.—The University of Michigan

Gray, Daniel C. ..... Welding and Fabrication
Journeyman Pipe Fitter and Boilermaker
Air Force Technical School
Certified Welder—Navy, Air Force, Army

Griswold, George H. ..... Chemistry
B.A.—College of Wooster
M.S.—Eastern Michigan University

Hammond, Carl F. ..... Inhalation Therapy
B.S.—Eastern Michigan University

Hastings, Janet G. ..... Mathematics
B.A.—The University of Michigan
M.A.—Cornell University

Hentz, Gary R. ..... Counselor
B.S.—Eastern Michigan University
M.A.—Eastern Michigan University

Hower, Guy W. ..... Counselor
B.B.A.—The University of Michigan
M.A.—The University of Michigan

Hunt, Paul R. ..... Dean, Occupational Studies
B.S.—Wayne State University
M.A.—Wayne State University
Ed.D.—Wayne State University

Jackson, Robert L. ..... Trade Related Instruction
Journeyman—Tool and Die and Diecast Die Maker
Henry Ford Community College
Tool and Processing Engineer

Jones, James A. ..... Director, Counseling
B.A.—Southern Illinois University
M.S.—Southern Illinois University

Jelneck, William E. ..... Business Manager
B.S.—Detroit Institute of Technology

Keck, Donald J. ..... History
B.A.—University of Buffalo
Ed.M.—University of Buffalo

Kokkales, Paul C. ..... Accounting
B.S.—Eastern Michigan University
M.A.—The University of Michigan

Koti, Charles D. ..... Industrial Drafting
Lawrence Institute of Technology
Wayne State University

Lamminen, Arthur J. . . . . Director, Business and Industrial Management
B.S.—Tri-State College
M.A.—Michigan State University

Laursen, Dan . . . . . Biology
M.Sc.—University of Copenhagen
M.Ed.—University of Copenhagen
Ph.D.—University of Copenhagen

Mallory, Richard H. . . . . Director, Auxiliary Services
B.S.—University of Detroit

Martin, Herbert L. . . . . Psychology
B.A.—Eastern Michigan University
M.A.—Eastern Michigan University

Martin, John W. . . . . Technical-Commercial Art
Certificate—Miensinger Art School
Certificate—Arts and Crafts Art School
A.A.—Macomb County Community College

McBroom, Alan L. . . . . General Business, Marketing, Salesmanship
B.S.—Eastern Michigan University
M.A.—Wayne State University

McClatchey, Merrill W. . . . . Speech
B.A.—Wayne State University
M.A.—Columbia University

McClellan, Elwood . . . . . English
B.A.—Michigan State University
M.A.—The University of Michigan

McGill, John B. . . . . Physics
B.S.—Eastern Michigan University

Mealing, Percy . . . . . Mathematics and Physics
B.A.—Talladega College
M.A.—The University of Michigan

Mealing, Robert C. . . . . Mechanical Technology
Journeyman, Industrial Machinist—Machine Repairman
Ford Motor Company Apprenticeship School
B.S.—Wayne State University

Mitchell, W. Bede . . . . . English
A.B.—Wayne State University
M.A.—Wayne State University

Nagel, Rosemarie ..... English
A.B.—The University of Michigan
M.A.—The University of Michigan

Nelson, Robert ..... X-Ray Technology
Alexian Brothers Hospital School of Radiologic Technology
R.T.—The American Registry of Radiologic Technologists

Niehaus, Paul J. ..... Director, Health Sciences
B.A.—Eastern Michigan University
M.S.—The University of Michigan

Peters, Dianne S. ..... English
A.B.—The University of Massachusetts
M.A.—University of Pennsylvania

Pittman, William ..... Director, Buildings and Grounds
University of Wisconsin
Michigan State University

Plummer, Robert H. ..... Director, Social Sciences
B.A.—Wabash College
M.S.—Indiana University
Ed.D.—Indiana University

Pollock, David S. ..... Dean, Student Personnel Services
A.B.—The University of Michigan

Ponitz, David H. ..... President
A.B.—The University of Michigan
M.A.—The University of Michigan
Ed.D.—Harvard University

Radick, Lawrence J. ..... Foreign Languages
B.A.—Michigan State University
M.A.—Michigan State University

Reddick, Bella G. ..... Secretarial Science and General Business
B.A.—St. Augustine's College
M.A.—The University of Michigan

Rees, Gerald M. ..... Physics
B.S.—The University of Michigan
M.S.—The University of Michigan

Reps, Flavia P. ..... History
B.A.—St. Joseph College
M.A.—Georgetown University

Ross, Donald L. . . . . Mathematics
B.S.—Eastern Michigan University
M.A.—The University of Michigan
M.A.T.M.—University of Detroit

Russell, Dean A. . . . . Electricity-Electronics
B.S.—Eastern Michigan University
M.A.—Eastern Michigan University

Schutmaat, Kelly J. . . . . Anthropology
B.S.—The University of Michigan
M.A.T.—Northwestern University
M.A.—Northwestern University

Spencer, James E. . . . . Biology
B.A.—Kalamazoo College
M.S.—The University of Michigan

Thomson, Mehran, Jr. . . . . Director, Exact Sciences
B.A.—Eastern Michigan University
M.B.S.—University of Colorado

Vass, Steven T. . . . . Economics
B.S.—Academy of Military Science
B.S.Ed.—Black Hills State College
M.A.—The University of Michigan

Welch, Bruce H. . . . . Automotive Services
B.S.—Central Michigan University
M.A.—The University of Michigan

Wheeler, Kenneth L. . . . . Electricity-Electronics
F.C.C. Commercial License
B.S.E.E.—Detroit Institute of Technology

Williams, Johnny L. . . . . Electronics
U.S. Navy Retired (1942-1967)—Radio Electronics

Wilson, Evylyn Y. . . . . Secretarial Science
B.S.S.S.—Ohio University
M.S.—Ohio University

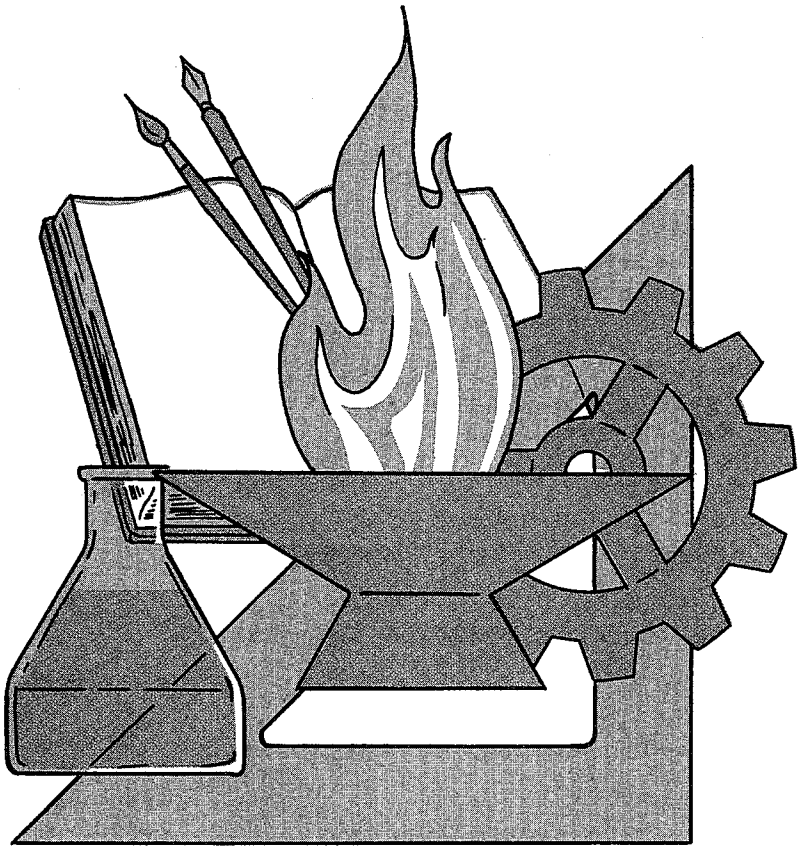
Wolven, Frederick F. . . . . English-Journalism
A.B.—Central Michigan University
M.A.—Central Michigan University

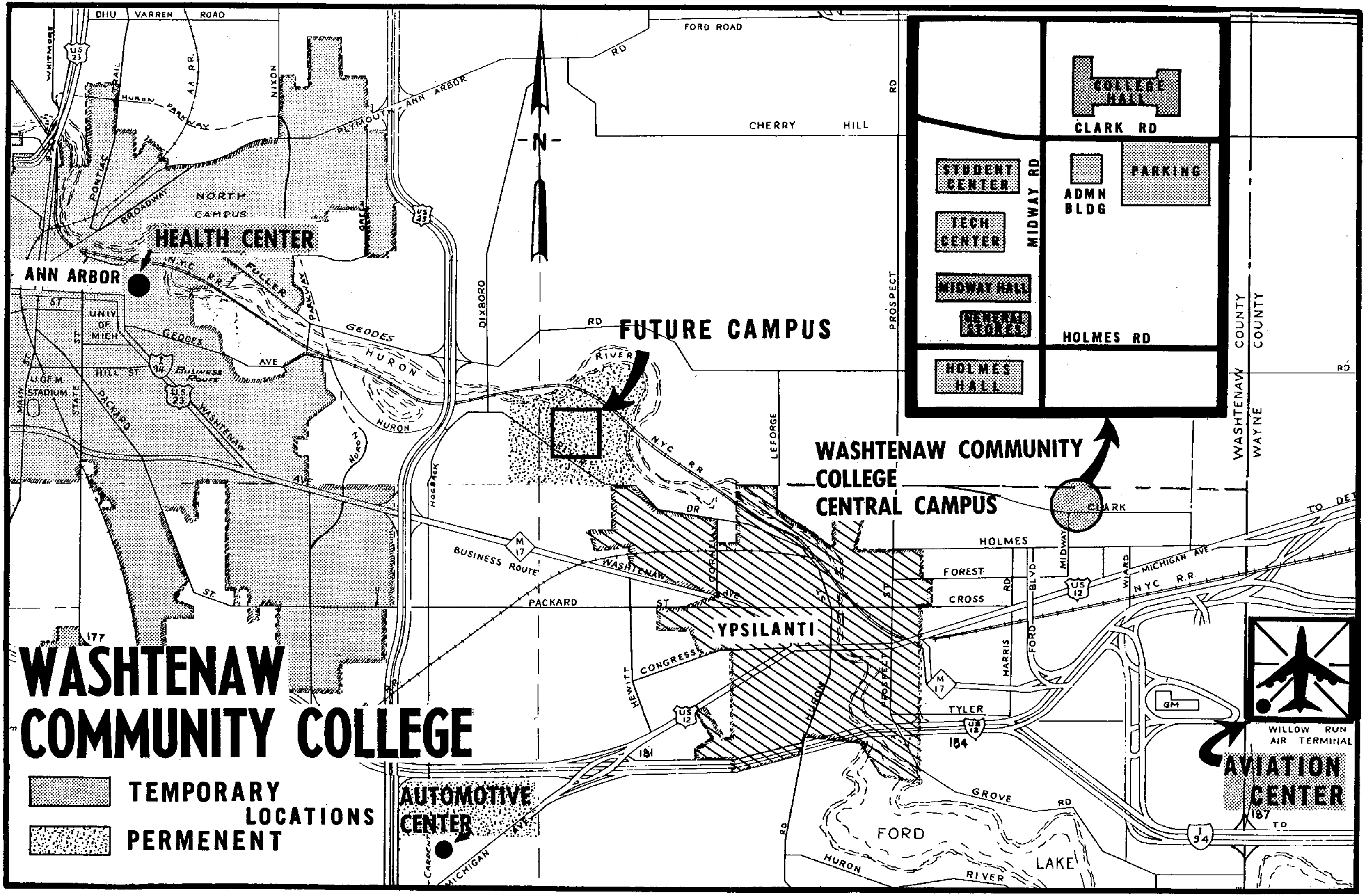
Wooden, John P. . . . . Dean, General Studies
B.S.—Winona State College
M.A.—New Mexico State University

Woolley, Douglas R. ..... Registrar
B.A.—Michigan State University

Young, Harold C. ..... Director, Learning Materials Center
A.B.—Boston University
A.M.L.S.—The University of Michigan
M.B.A.—The University of Michigan

(To Be Appointed) ..... Executive Assistant

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