school of vocational trade and technical education
Norman P. Mitby, Director
Madison Vocational, Technical
and Adult Schools
211 North Carroll Street
Madison 3, Wisconsin

Board of Vocational and Adult Education
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Frank G. Collester, Vice-President
Robert D. Gilberts
Russell E. Dresser
George Hall
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Mr. Gould E. Morrison, Supervisor,
School of Vocational Trade and Technical Education.

The School of Vocational Trade and Technical Education program is planned to meet the objective of fitting people for useful employment. We are challenged by a world which vitally needs the highest possible achievements of each individual.

It is the aim of the school administration and teaching staff to gear the instruction to the individual needs and desires as well as to the capacity and ability of the student to the end that, upon completion of the curriculums, the student may secure satisfactory employment in the semi-skilled occupations, apprenticeable and other trades, and technical fields.

The School of Vocational Trade and Technical Education is one of the seven divisions of the Madison Vocational and Adult School offering training on a post high school level. The others are School of Business, School of Commercial Arts, School of Marketing, School of Medical Assistants, School of Practical Nursing, and School of Quantity Food Preparation and Service.

Students enrolled in any of these divisions receive instruction from highly qualified instructors. Equipment of the school is the best obtainable. Instruction is under constant supervision, and upon satisfactory completion of the two year technical curriculums in several of the areas, an Associate Degree in Applied Science is granted in accordance with the standards set up by the Wisconsin State Board of Vocational and Adult Education. A diploma is awarded to those completing other one and two year curriculums.

This Catalog outlines briefly the various curriculums available in the School of Vocational Trade and Technical Education.

High school graduates in the greater Madison area are cordially invited to visit the school or write to us for further detailed information.

Norman P. Mitby, Director
The Madison Vocational and Adult Schools are public schools. A registration fee of $2.00 is charged each person who registers, except those under eighteen years of age.

Laboratory fees to cover the cost of supplies used by the student enrolled in the course are charged. Material used for an individual project is paid for by the student. Registration is not complete until all fees are paid.

For many of the courses persons may enroll at any time and receive individualized instruction. They may enroll for part-time, half-time, or full-time attendance. Students who are working may arrange a part-time school program to fit into their work schedule.

In most of the courses there are no specific educational requirements for entrance. Individual differences are met by individual instruction.

This school is approved for training by the Veterans Administration under P.L. 550 and P.L. 894. Further information on veterans' training may be obtained in Room 140.

Students wishing to secure high school credit for work done in the Vocational and Adult School will take this matter up with the Director before enrolling in the courses. Otherwise no high school credit can be granted.

Permanent records of student attendance and achievements are kept in the Registration Office and may be obtained for reference or school admission purposes by the student at any time.

Financial aids are available to students who are in need of them. Blanks to be filled out to apply for financial aids are available in the Registration Office.

The Guidance Office is located in Room 136. This department is at the service of all students who have health, welfare, placement or guidance problems. It offers counseling service to all adults. Aptitude, interest and general information tests are given when indicated as a part of this service. Any young student or adult wishing to avail himself of an opportunity to take these tests may arrange for them at this office. Adults who are retired or about to retire because of age are invited to use the counseling service.

The services of the Placement Office are available to employers in the Madison area in their effort to obtain the best qualified workers for available job opportunities. It will be the purpose of this office to recommend to employers only those who appear to be well qualified. Students in the school may register with the Placement Office for prospective jobs for which they would like to receive consideration.

In accordance with the laws of Wisconsin, non-resident tuition for persons under twenty-one years of age is chargeable to the county in which the student resides. Those desiring to enroll under the benefits of this law are required to obtain the proper blank from the Registration Office and have it signed and returned to the school as evidence of residence.

Persons over twenty-one years of age pay their own tuition ($1.50 per day, 75¢ per half-day) unless the town in which they reside agrees to pay the tuition.

For those who pay their own tuition in advance for each nine week period, tuition may be charged for only actual days of attendance; hence all unused tuition will be refunded to the student if a written request or student receipt is presented to the main office by the close of the school year.

The Guidance Office is located on the first floor in Room 136. Here students can buy the necessary books and supplies from 8:00 a.m. to 11:30 a.m. and 1:00 p.m. to 4:00 p.m.

To be purchased by students and will average between $30.00 and $40.00 per year.

Information regarding registration dates and hours may be obtained by contacting the main office of the Madison Vocational and Adult School.

Ample housing is available in the immediate school area. Sleeping rooms average $7.00 per week per person.
PROGRAM OBJECTIVES

The School of Trade and Technical Education has been planned and organized with the following primary objectives:

1. To provide an education for life work.
2. To provide opportunities for general education as well as in the engineering sciences, so that the student can have a fuller participation in the total life about him.
3. To help the student determine facts and information about himself so that he may be able to elect an occupational area in which he is most apt to succeed.

To obtain the foregoing objectives, two methods of approach are included in this brochure. One method is through training for a skilled occupation which is vocational trade training. The second is the technical institute program which provides a broad scope of coverage in the sciences, related subjects, and academics and includes training for a job area and or strata which lies between the job responsibilities of the skilled workman and the engineer.

AREAS OF TRAINING

THE VOCATIONAL TRADE PROGRAMS ARE:
- Auto Body
- Auto Mechanics
- Cabinetmaking
- Graphic Arts
- Machine Shop
- Sheet Metal
- Welding

THE TECHNICAL INSTITUTE PROGRAMS ARE:
- Automotive Technology
- Electronics Technology
- Civil Technology
- Mechanical Design Technology

PLACEMENT

The Madison Vocational and Adult Schools maintain a placement service to assist students in obtaining part-time employment while in school and full-time employment upon satisfying the requirements for the completion of a trade or technical curriculum.

DIPLOMAS AND DEGREES

Diplomas are granted on the satisfactory completion of one- and two-year full-time terminal trade programs. Associate Degrees in Applied Science are granted for satisfactory completion of two-year full-time Technical Institute programs which have been evaluated and accredited by the State Board of Vocational and Adult Education.
STANDARDS

Staff
All staff members participating in the program have met the qualifying requirements for teachers established by the Wisconsin State Board of Vocational and Adult Education.

Entrance Standards
The standard for entrance in the technical program is a C average or better high school record. Each student is given personal consideration.

Grades
Student must maintain an average grade of C to remain in the program.

Grading System

<table>
<thead>
<tr>
<th>Grade</th>
<th>Numerical Equivalent</th>
<th>Grade Points</th>
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</thead>
<tbody>
<tr>
<td>A Excellent</td>
<td>93 - 100</td>
<td>4</td>
</tr>
<tr>
<td>B Very Good</td>
<td>86 - 92</td>
<td>3</td>
</tr>
<tr>
<td>C Average</td>
<td>78 - 85</td>
<td>2</td>
</tr>
<tr>
<td>D Minimum Passing</td>
<td>70 - 77</td>
<td>1</td>
</tr>
<tr>
<td>U Unsatisfactory</td>
<td>- 69</td>
<td>0</td>
</tr>
</tbody>
</table>

Incomplete (Inc.) is the only conditional grade given and must be removed within one semester. This grade signifies that the student's work was satisfactory but not completed.

Text Books
Post high school and college level instructional material are used throughout the course.

RECOMMENDED PREPARATORY HIGH SCHOOL COURSES FOR ENTRANCE INTO THE VOCATIONAL TRADE AND TECHNICAL PROGRAMS FOR THE TECHNICAL STUDENTS

Modern technology requires mastery of English, mathematics, and science. Accordingly, it is strongly recommended that the four-year high school training curriculum of the prospective technical student include as many courses in these subject areas as possible. The following is a suggested minimum list:

- English—3 years
- Mathematics—2 years, including algebra and geometry
- Science—2 years, one of which should preferably be physics. Chemistry is strongly recommended as the second science.

Industrial Arts or Shop Course—1 year

FOR VOCATIONAL TRADE STUDENTS

The Vocational Trade programs make extensive use of English, mathematics, and science, but place more emphasis upon manual skills. The following is the suggested minimum list of high school courses for the prospective trade preparatory student:

- English—2 years
- General Mathematics—1 year
- Science (preferably General Physics or Physical Science)—1 year

Industrial Arts or Shop Courses

TECHNICAL INSTITUTE PROGRAMS

The technical institute programs of the Madison Vocational and Adult School provide courses to students who have completed high school or who have an equivalent education and have the ability to carry post high school courses successfully. The technical programs offered through the trade and technical division of the Madison Vocational and Adult School are Automotive Technology, Electronics Technology, Civil Technology, and Mechanical Design Technology. These are two-year terminal programs and lead to Associate Degrees in Applied Science.
Auto Mechanics Curriculum

The following are the courses included in the Auto Mechanics two year full time program.

First Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course</th>
<th>First Semester</th>
<th>Periods</th>
<th>Per Week</th>
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</thead>
<tbody>
<tr>
<td>900.1</td>
<td>Automotive Brakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900.9</td>
<td>Wheel Align. &amp; Balancing</td>
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<tr>
<td>1000.7</td>
<td>Technical Mathematics</td>
<td></td>
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</tr>
<tr>
<td>930.1</td>
<td>Basic Drafting I</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>900.2</td>
<td>Automotive Engines</td>
<td></td>
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</tr>
<tr>
<td>970.1</td>
<td>Machine Shop I</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>970.5</td>
<td>Machine Shop II</td>
<td></td>
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<tr>
<td>990.1</td>
<td>Welding I</td>
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<td>900.12</td>
<td>Diesel</td>
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Second Year

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<th>Periods</th>
<th>Per Week</th>
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<tr>
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<td>Electrical Systems</td>
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<tr>
<td>900.8</td>
<td>Tune-up and Carburetion</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>990.5</td>
<td>Welding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900.6</td>
<td>Parts Department Practices</td>
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<td>900.4</td>
<td>Differentials and Rear Axles</td>
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<td>Auto Body I</td>
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<td>101.1</td>
<td>Communications Skills TA</td>
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</table>

Automotive

Automotive service is BIG BUSINESS, a fast growing business. There are more than 60,000,000 cars and trucks on American roads today and every one of them requires repairs or adjustments from time to time. That means employment for more than 500,000 automotive mechanics or automotive technicians. Ten years from now we can estimate the cars and trucks on the highways to be 80,000,000 or more and of course there will have to be a proportionate number of mechanics to care for them. There is a need for at least an additional 40,000 trained technicians each year to fill the vacancies of those retiring and for those new positions created by an increased number of vehicles.

Automatic transmissions and other improvements and changes in car manufacture have made the repair of automobiles more and more complicated with the result that more different kinds of repair specialists are needed so the demand for skilled servicemen will create career opportunities for young men with the ability and training.

When a person makes automotive service his career, his work can bring him many worthwhile rewards and satisfactions. There's the satisfaction of using personal skill with tools and machines to handle a tough job expertly and efficiently. And then, too, there is the satisfaction of learning all about new products and service methods as new developments occur in the automotive industry. The job has variety and it is gratifying to know that one's skill is in wide demand, and that along with security, there are real opportunities for advancement.

OPPORTUNITES IN THE AUTOMOTIVE FIELD

Automotive Mechanic
Specialty Mechanic
Shop Foreman
Employment with Manufacturers of Motor Vehicles
Employment in Automobile Factories
Motor Vehicle Salesman
Technical Teacher
Truck Driver

Auto Body Metal Finishing
Auto Body Painter
Automotive Technician
Jobber Salesman
Service Manager
Sales Manager
Parts Manager
Bus Driver
Auto Body Trimmer
# AUTO BODY CURRICULUM

## First Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course</th>
<th>First Semester</th>
<th>Periods Per Week</th>
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<tbody>
<tr>
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<td>Auto Body</td>
<td></td>
<td>20</td>
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<td>990.1</td>
<td>Welding</td>
<td></td>
<td>5</td>
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<tr>
<td>930.1</td>
<td>Basic Drafting</td>
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</tr>
<tr>
<td>1010.1</td>
<td>Mathematics</td>
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## Second Semester

<table>
<thead>
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<tr>
<td>940.2</td>
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<td>Wheel Align. and Bal.</td>
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<td>935.1</td>
<td>Blue Print Reading</td>
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<tr>
<td>1000.2</td>
<td>Job Relations</td>
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## Second Year

<table>
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<td>300.10</td>
<td>Record Keeping</td>
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<td>1200.1</td>
<td>Applied Science</td>
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<td>940.06</td>
<td>Automotive Service Mgt.</td>
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## Second Semester

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<td>Auto Body Estimating</td>
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<td>Industrial Safety</td>
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<td>101.18</td>
<td>Communication Skills</td>
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<td>Electives</td>
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</table>
CABINETMAKING

The usual method for entering employment in the carpentry or cabinetmaking field in the Madison area is through an apprenticeship. This involves four years of work on the job along with 400 hours of related training in the school of carpentry or cabinetmaking technology and in the sciences. The student who has an aptitude for this kind of work will find it to be very interesting and stimulating as well as a remunerative occupation. Through the ages the building of those things which contribute to comfortable living is done with lasting pride on the part of the builder.

The following two-year cabinetmaking course is designed to serve as pre-apprentice training for entrance into either the carpentry or cabinetmaking field.

Cabinetmaking Curriculum

First Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course</th>
<th>Periods Per Week</th>
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<tbody>
<tr>
<td>950.1</td>
<td>Cabinetmaking</td>
<td>20</td>
</tr>
<tr>
<td>930.1</td>
<td>Basic Drafting</td>
<td>5</td>
</tr>
<tr>
<td>1010.1</td>
<td>Applied Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>950.7</td>
<td>Principles of Woodworking</td>
<td>5</td>
</tr>
<tr>
<td>Second Semester</td>
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<td></td>
</tr>
<tr>
<td>950.2</td>
<td>Cabinetmaking</td>
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<tr>
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<td>Basic Drafting</td>
<td>5</td>
</tr>
<tr>
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<td>Applied Mathematics</td>
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<tr>
<td>930.9</td>
<td>Architectural Drafting</td>
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Second Year

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<td>Cabinet Drafting</td>
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<tr>
<td>950.6</td>
<td>Machine Maintenance</td>
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<td>950.8</td>
<td>Production Cabinetmaking</td>
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<td>Wood Finishing</td>
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<td>950.5</td>
<td>Carpentry Theory</td>
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GRAPHIC ARTS CURRICULUM

First Year

First Semester

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<td>960.3</td>
<td>Composition &amp; Makeup I</td>
<td>12</td>
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<tr>
<td>960.17</td>
<td>Presswork (Letterpress)</td>
<td>6</td>
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<tr>
<td>960.13</td>
<td>Machine Operating Principles</td>
<td>4</td>
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<tr>
<td>210.2</td>
<td>Layout and Design</td>
<td>4</td>
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<tr>
<td>960.8</td>
<td>Graphic Arts Photography I</td>
<td>6</td>
</tr>
<tr>
<td>960.4</td>
<td>Composition &amp; Makeup II</td>
<td>8</td>
</tr>
<tr>
<td>960.18</td>
<td>Presswork (Lithographic)</td>
<td>4</td>
</tr>
<tr>
<td>960.9</td>
<td>Graphic Arts Photography II</td>
<td>8</td>
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<td>100.8</td>
<td>Printers' English</td>
<td>2</td>
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<tr>
<td>1010.5</td>
<td>Printing Mathematics</td>
<td>2</td>
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<tr>
<td>960.21</td>
<td>Production Practices</td>
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Second Semester

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<tbody>
<tr>
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<td>960.5</td>
<td>Composition &amp; Makeup III</td>
<td>8</td>
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<td>Press Technology</td>
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<td>960.2</td>
<td>Chemistry of Lithography</td>
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<td>960.19</td>
<td>Printing Estimating</td>
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<tbody>
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<td>Composition &amp; Makeup IV</td>
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<td>960.16</td>
<td>Press Troubles</td>
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<tr>
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<td>Graphic Arts Photography IV</td>
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<td>Bindery Procedures</td>
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<td>960.14</td>
<td>Physics of Lithography</td>
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Second Year

First Semester

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<td>960.21</td>
<td>Production Practices</td>
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Second Semester

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The program is quite flexible to allow for individual differences and interests. It is not necessary to attend full-time. Specialized courses may be taken by special arrangement in the following areas:


Graphic Arts

A Top Industry

The Graphic Arts today is one of the top industries in the country. Physical plants, ranging from the neighborhood print shop to those employing thousands of workers, produce commercial printing, advertising literature, publications, newspapers, cartons, paper products of all kinds, and almost everything that has printing on paper and other materials. The work is produced by one of several processes such as letterpress, offset lithography, gravure, silk screen, flexography or offset, and other processes.

Allied with the printing industry are such plants as those which make paper, printing ink, printing machinery and supplies, photo-engravings and other types of printing plates, and printing press rollers.

NEED YOUNG PEOPLE

The printing industry especially needs young men and women who have a fairly good knowledge of English grammar, spelling and punctuation, and who like to work with their hands in creative effort, or who like to work with machinery. There is a need for young people who would like to become copywriters, proofreaders, estimators, Linotype operators, compositors, pressmen, camera men, strippers, and layout artists.

Wages and salaries in the printing industry are among the highest in America. One authority states: "According to the United States Bureau of Labor Statistics, the skilled workers in the Graphic Arts industry earn 55% more than unskilled workers. They exceed those in the steel, textile, transportation and food industries by about 12 per cent, and stability of employment is far above average."
### MACHINE SHOP CURRICULUM

#### First Year

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<th>Periods Per Week</th>
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#### Second Year

**Machine Shop**

**Job Opportunities**

- Machine Operator
- Machinist
- Tool and Die Maker
- Mechanical Technician

**Nature of the Work**

Machine shop training enables the student to plan and carry to completion a machined product. He will learn how to work from blueprints and written specifications. He will be taught to select the proper tools and materials for each job and plan the proper sequence of the job operations. His training in shop practices and working properties of such metals as steel, cast iron, aluminum, brass, and what operations machine tools can perform, make it possible for him to turn a block of metal into an intricate precise part. In general, the machinist must learn how to use and care for all of the basic machine tools and use them to work metal to various shapes and tolerances. He will also acquire a broad knowledge in the use of precision measuring equipment so that he can do work to the limits required in his trade.
Sheet Metal

A one year basic course designed to give a young man an opportunity to determine whether he has the interest, aptitude, and ability necessary to succeed in sheet metal work. The contents of the course cover the blueprint reading, and drafting needed for entrance into this type of work.

SHEET METAL CURRICULUM

(One Year Course—Pre-Apprentice)

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## WELDING CURRICULUM

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## Welding

### Opportunities

The occupational opportunities in the metalworking industries are excellent, the higher the degree of skill and training, the better are the opportunities.

Certified and qualified welders are always in demand. Welders certified to do work on large steel buildings and bridges and men certified to do industrial pipe and high pressure welding are in constant demand and can find employment provided they are willing to go where the jobs are.

### Job Opportunities

- Plate and Structural Welding
- Heli Arc Welding
- Industrial Pipe Welding
- Pressure Vessel
- Maintenance Welding
- Shipyard Welding
technical education
AUTOMOTIVE TECHNOLOGY

The Automotive Technology program is designed to prepare students to do quality maintenance work and to be able to diagnose technical difficulties encountered in the operation of motor vehicles. A knowledge of basic scientific principles and technical information is emphasized so that students have an understanding of why difficulties occur. Included within the curriculum besides automotive laboratory and theory are courses in management, business operations, mathematics, science, machine tools and communication skills. Electives within the course requirements allow enough flexibility to cater for special needs of the job objective. Upon successful completion of the course, there are job opportunities to become an auto mechanic, automotive diagnostician, parts department man, experimental mechanic, automotive specialist, automotive inspector, jobber salesman, automotive parts salesman, or service station operator. The requirements for graduation are 66 credits.

AUTOMOTIVE TECHNOLOGY CURRICULUM

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Second Year

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Electives
ELECTRONICS

Fields of Work
Electronic technology deals with the design and application of electron tubes, transistors, transducers, and related solid state devices. The technician may be involved with radio, radar, television or telephony or in the manufacture of electronic systems and components, (such as guided missiles). He will make tests of electric devices using voltmeters, oscilloscopes, signal generators, and other delicate laboratory testing equipment. He must be proficient in the use of hand tools, and be able to solder.

Job Opportunities
Radio and Television Service Technician
Instrumentation Technician
Printed Circuits Technician
Electronic Systems Research Technician
Guidance Systems Research Technician
Electronic Layout Technician
Electronic Computer Technician
### ELECTRONICS TECHNOLOGY CURRICULUM

**First Year**

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**Second Year**

**First Semester**

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CIVIL TECHNOLOGY CURRICULUM

Civil Technology work covers a very broad field. It has considerable placement opportunities with the following organizations: state highway departments, county engineers, county surveyors, city engineers, private surveyors, consulting engineers, private power companies, public utilities, United States Engineering Corps, and construction companies. The greater part of the field work is carried on out-of-doors and field men may be exposed to nearly every kind of weather. Draftsmen are also employed in this field of work. They may be engaged in plotting profiles, plotting or computing cross-sections, yardage over-all and mass diagram. The draftsman may plot maps, highway and railroad alignment or he may do some structural drafting in reinforced concrete, timber or steel. In other instances the job may divide his time between drafting and field work.

The physical requirements of the field worker will include considerable walking in rough and irregular terrain. Those employed strictly as draftsmen will need good eyesight.

Job Opportunities

Opportunities are abundant for interesting, secure, and remunerative careers in the road building and construction industries. As much as $7,000 per year as an engineering aide can be earned.
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MECHANICAL DESIGN TECHNOLOGY
The mechanical design curriculum is basically concerned with manufacturing and its various aspects. It is designed for students who are interested in preparation for work in the development and design of mechanical products or the machines, tools, and equipment used in their fabrication or assembly. The increased use of automation in all industries has raised the demand for trained men in this field, and this demand will continue to increase. The curriculum provides basic training in the application of fundamental principles to machine design, tool design, production planning, heat and power equipment, materials testing, and industrial instruments. The instruction is planned to enable graduates of the course to take positions at the assistants or technician level.

JOB OPPORTUNITIES
Customer Problem Expediter
Draftsman
Detail Designer
Estimator
Production Supervisor
Research Assistant
Quality Control Inspector
Time Study Man
Engineering Salesman
Production Planner
Operation Planner
Test Tool and Serviceman
Blueprint Supervisor
### MECHANICAL DESIGN TECHNOLOGY

**CURRICULUM**

#### First Year

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<tr>
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<tr>
<td>101.2</td>
<td>Communications Skills IB</td>
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<td>1000.10</td>
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<td>930.1</td>
<td>Basic Drafting</td>
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<td>970.14</td>
<td>Selected Machine Shop Operations</td>
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#### Second Semester

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<td>930.4</td>
<td>Technical Drafting I</td>
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<td>920.12</td>
<td>Mechanics</td>
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<tr>
<td>990.5</td>
<td>Welding Processes &amp; Appl.</td>
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### Electives

- 970.8 Basic Foundry Practices — 2
- 930.11 Sheet Metal Drafting — 1
- 1000.5 Industrial Photography — 1
- 910.1 Fundamentals of Electricity — 1
- 1000.6 Optical Tooling — 2
- 300.10 Record Keeping — 2

Laboratory fees approximately $30 per year. Texts and equipment $50.

#### Second Year

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<td>970.9</td>
<td>Basic Tool Design</td>
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<tr>
<td>920.13</td>
<td>Strength of Materials</td>
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<td>930.7</td>
<td>Descriptive Geometry</td>
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<tr>
<td>970.15</td>
<td>Principles of Metallurgy</td>
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<td>910.19</td>
<td>Technical Mathematics III</td>
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<tr>
<td>1000.3</td>
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<td>Elements of Machine Design</td>
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<td>Basic Hydraulics</td>
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<td>930.16</td>
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<td>970.16</td>
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<td>Electives</td>
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Laboratory fees approximately $30 per year. Texts and equipment $50.
COURSE DESCRIPTIONS

American Institutions 120.1
This is a study of American social and political institutions as they affect the individual as a citizen and as a worker in business and industry. The student learns to recognize institutions as forces that control human behavior. He also learns the relationship between social and political institutions, economic changes, and the problems that he must face as a member of society. Topics considered are social groups, culture, cultural change, social control, problems of city living, the American system of government, public opinion and propaganda, democracy and its rivals, political parties and elections, government and business, and international relations.

Applied Science 1200.1
Applied Science is basically a physics course in mechanics. Emphasis is given to the practical application of physical phenomena relating to the properties of matter, forces, and motion; also included is a study of heat, light, magnetism and electricity, and electronics. Industrial applications of the physical principles studied are stressed.

Architectural Drafting 930.9
A fundamental course in basic drafting including lettering, geometric constructions, orthographic projection, dimensioning, and freehand sketching, as well as fundamentals required in planning and drawing a small house plan.

Auto Body I 940.1
This is a one semester course of instruction to lay the ground work for the three succeeding units. Welding, both theory and practice, study of auto body construction and metal bumping are stressed.

Auto Body II 940.2
This unit stresses the use of hand tools, metal finishing, soldering, shrinking metal, and alignment.

Auto Body III 940.3
This course covers the use of power tools, the repair of hoods, doors, and trunk lids. Paint, paint products, spray guns, and spray equipment are covered in theory and practice. A unit in damage analyzing is also included.

Auto Body IV 940.4
This course concentrates on major collision repair and covers repair or replacement of roof and quarter panels. A study of shop layout and design, and the basic fundamentals of operating an auto body repair shop.

Auto Body Repair Estimating 940.5
This course is an lecture, demonstration, and discussion basis and covers the problems with which the auto body estimator is confronted.

Auto Body Repair Estimating 940.5
This course is designed to acquaint the student with the problems confronting an Auto Body Repair Mechanic. Emphasis is focused upon theory rather the the development of skills. It is assumed that the students taking this course will eventually be in positions where general knowledge of this subject will be of great benefit.
Automatic Brakes—900.1
A study of the basic fundamentals of brakes, hydraulic principles and atmosphere pressure in relation to brakes. The servicing operations and procedures on all modern types of brakes including power brake systems are covered.

Automotive Engines—900.2
This course an automotive gasoline engine is based on those operations which the "A.A.A. — A.M.A. Committee on Automotive Instruction in Public Schools" have recommended to be taught. The Engine Workbook and Automotive Mechanics text by the course are used as specified in the workbook. This is followed by overhauling engines in and out of cars.

Automotive Service Management—940.06
Understanding the functions, methods, and mechanics of the service manager's position.

Basic Drafting I—930.1
Basic Drafting introduces the student to engineering drawing, its course content, and the required skills and instruments needed to make acceptable drawings.

Basic Drafting II—930.2
This course is a continuation of the prerequisite course, Basic Drafting I, and includes along with review in basic drafting, advanced study in orthographic projection. Additional knowledge will be gained by the student in the common shop-safe production requirements as they apply to the work of the mechanical draftsman. Stress is put on further study in the area of auxiliary views, section, sectionalizing, and development.

Basic Foundry Practice—970.8
A survey course to familiarize the student with the basic foundry practices, methods -metal casting, metals cast, and equipment used.

Basic Hydraulics—970.13
A survey course to acquaint the student with the fundamental principles of hydraulics. The component parts of a hydraulic system, and the application of hydraulics in industrial production.

Basic Industrial Electronics—930.16 (MOD)
An introduction to the vacuum tube, fundamental tube operation, reflection, amplification, oscillation and detection; relays; dc and ac meters, emphasis on the electronic control of mechanical processes.

Basic Tool Design—970.9
The material is presented in such a way that the prospective designer may learn the purpose of TOOLING and how typical problems are solved. Though assignments in design, problems are solved. The student is given an opportunity to adapt his own creative ability and ingenuity to solve practical problems while at the same time developing his drafting skill.

Bindery Procedures—960.1
The bindery is the last process in the production of printed materials. In this course a study is made of the various finishing operations. These operations include inspection, collating, folding, inserting, trimming, punching, round cornering, scoring, perforating, numbering, padding, stitching, and sewing.

Blue Print Reading—935.1
In this course the student uses a textbook designed to give a thorough knowledge in reading "orthographic" prints and working drawings and also introduces the student to shop terminology and machine processes. There are more than 200 blue prints with supplemental material and a series of reference charts.

Cabinet Drafting—930.8
A study of the fundamental principles of design as they apply to cabinet construction, including vertical and horizontal space divisions, the setting of these divisions, and their surface enrichment, as well as their contour and form. Assignments give the student practice in making proper space divisions for original work. The main objective of this course is to help the worker appreciate and execute cabinet and architectural designs with greater feeling and understanding.

Cabinetmaking—950.1
A beginning course intended for anyone who wishes to acquire experience in the use of hand tools and woodworking machines. Students start with fundamental tool processes on simple woodworking projects and proceed to advanced work as they acquire the necessary skills. Fundamental operations on a limited number of machines along with safety rules are taught.

Cabinetmaking—950.2
Training is provided in furniture and casework. The student is required to make, by approved machine methods, the common joints used in good construction. Such joints as the cross lap, rabbit, dovetail, and mortise are cut by machine methods. Representative pieces of furniture, selected according to the student's ability, are built to provide practical application of the operations. The student is encouraged to acquire high standards of workmanship as well as measurable speed in making drawers, hanging doors, cutting inlays, and setting door latches, knobs, hinges, gliders, and others.

Cabinetmaking—950.3
Covers specific information on materials and supplies used by the cabinetmaker and millworker. The method of manufacturing, source of raw materials, standard sizes of the product, units of purchase, and grading systems are studied and discussed. Specific assignments are made on each type of material, and reference texts are supplied wherever possible.

Cabinetmaking—950.4
Covers the application and practice of the principles of cabinetmaking taught in the first three terms. Machine maintenance and repair are stressed. Specialties such as wood turning, router, and shaper operations are included.

Carpentry Theory—950.5
This course is general and is designed for persons needing an understanding of the field. Subject matter is comprehensive and is covered in a theory and discussion basis. Skills are not taught.

Chemistry of Lithography—960.2
This is a basic course in chemistry with special emphasis on those parts of organic and inorganic chemistry that relate to Lithography. It develops the fundamental principles regarding matter, scientific measurements, and applies these principles to their practical applications in printing and lithography.
Civil Engineering Drawing I—920.3
Concerns the application of the theory of projection to structures; structural steel and reinforcement concrete drawing and detailing; shop drawing and checking.

Civil Engineering Drawing II—920.4
Devoted to specialized highway and topographical drawing and design. Plan reading and computations involved in highway work are also emphasized.

Civil Engineering Drawing III—920.5
This course is a continuation of Civil Engineering Drawing II and is devoted to specialized highway topographical drawing and design. Plan reading and computations involved in highway work are also emphasized.

Civil Estimating I—920.10
A specialized course in estimating suited to the needs of the estimating side.

Clutches and Transmissions—900.3
This course teaches the operating principles, repair procedures, and causes of failures of automotive clutches and the operation, maintenance, and diagnostic work and repairs concerning standard transmissions.

Communication Skills IA—101.1
To review the elements in spoken communications and to stimulate the student to continue in improving his hearing and speaking in the field of effective speaking. Conference table type of communication is stressed.

Communication Skills IB—101.2
To teach students to communicate understandably and comfortably, this involves teaching them basic skills in reading, writing, and listening. Our emphasis is on the written report.

Composition I—960.3
A working knowledge of printing terms and practices is developed. Fundamental operations and processes such as typesetting by hand, imposition for phototypo press, handling type forms, proofing and correcting type forms and distribution of type are covered in this course. Linotype keyboarding and operation are started.

Composition and Make-up II—960.4
This course includes the setting and makeup of simple type forms, advanced linotype operation, type identification and classification, and imposition for automatic plate press.

Composition and Make-up III—960.5
The setting and makeup of more difficult type forms, cold type setting, cylinder press lockup of single and multiple type forms, and the setting of reproduction proofs, are covered in this course.

Composition and Make-up IV—960.6
An opportunity is provided to analyze and make up and layout business, commercial, and book forms for production processes.

Construction Laboratory—920.1
This course covers masonry structure plan interpretation in light of forming materials, forming methods, procedures, reinforcing materials, and installation, masonry construction, and structural steel. Deviation allowances are emphasized.

Electricity I—910.5
Electricity I includes a study of the most fundamental and basic concepts in electricity. Included are: structure matter; circuit functions—voltage, resistance, and current flow; conductors and insulators; Ohm's Law; and series, parallel, and series-parallel circuits.

Electricity II—910.6
Electricity II includes a study of inductors and transformers; the generation of A.C. and D.C.; the use of the sine curve; a study of average, effective, and maximum values of A.C.; Ohm's Law in A.C. circuits; inductive and reactive reactions; capacitance and capacitive reactance; resonance; A.C. circuit—filters, coupling, time constants.

Electronics I—910.1
Basic electronics includes an introduction to the theory of vacuum tubes and the Edison Effect; an introduction to the theory of the diode and the triode characteristics; the diode and the triode as an amplifier; the triode and pentode; special tubes; audio amplifiers, voltage and power, radio frequency amplification; modulation and demodulation; radio transmitters, the TRF receiver.

Contracts and Specifications—920.9
This course is designed to give the student background in reading and writing contracts and specifications. This is approached through the use of many examples.

Copy Preparation and Post-up—960.7
Instruction is given in the preparation of copy for ads and brochures. Analysis of space for photo and copy and art work. Laboratory practice in the preparation of layouts for photo-offset lithography.

Descriptive Geometry—930.7
Descriptive Geometry deals with the fundamental principles of orthographic projection, and how to solve for the solution of point, line and plane problems. Its scope is much broader than normally encountered in the preparation of views of objects. In fact, descriptive geometry includes the elementary physics of drawing and extends to the theory of orthographic projection to applications requiring special drawing techniques for their solution.

Diesel I—900.12
The purpose of this course is to give the automotive student an overview and understanding of the comparative values and problems in the related field of Diesel mechanics and operation.

Differentials and Rear Axles—900.4
This course covers the theory, operation, repair, and trouble-shooting on differentials and axles as well as the theory, operation, repair, and trouble-shooting on drive lines, joints, and axle assemblies.

Electrical Systems—900.5
Teaching fundamental electrical and magnetic theory necessary for automotive repair, and to apply this material to the units of the automobile, testing equipment, and diagnostic procedure.

Electronics Drafting I—910.15
The application of mechanical drawing skills to the development of radio and electronic circuits and diagrams.
Electronics II—910.2
Includes an analysis of transmitter operation; the electromagnetic wave; transmitter and receiver antennas; modulation and demodulation, AM and FM; the TRF and superheterodyne radio receiver; a description and study of the procedures of trouble-shooting; a complete review of the ways in which test instruments are used; printed circuits; transistor operation and circuits.

Electronics II—910.3
Basic circuits used in commercial radio systems, transmitters, computers, etc., are found in television receivers, therefore, basic circuit theory, normal and abnormal circuit operation, the operation and proper use of test equipment are taught with the use of TV receivers. In addition, students build and test special circuits using construction boards with more than one hundred specially mounted parts.

Electronics IV—910.4
Remaining sections of TV receivers are studied. Special applications in the use of oscilloscopes, marker and signal generators are presented; High frequency alignment techniques are taught. Color TV principles are presented with set up and test procedures for color receivers. Use of special color test equipment is taught.

Elements of Machine Design—970.5
This course applies the principles learned in Mechanics and Strength of Materials to the design of machine elements.

Fundamentals of Electricity—910.1
This course covers the basic technical theory of electricity, circuits, generation of power, transformation of power, metering, and basic electrical mathematics.

Graphic Arts Photography I—960.8
This course is an introduction to sensitized emulsions, developing films, printing pictures, enlargements, the use of cameras, and the use of other photographic equipment.

Graphic Arts Photography II—960.9
The student is introduced to the process camera and films used for line and halftone reproduction. A study is made of emulsions, optics, and light reflection. Laboratory to negative stripping and presensitized platemaking is covered.

Graphic Arts Photography III—960.10
This course includes a more intensive and technical study of films, screens, and photographic chemistry and physics. Practice in processing halftone and color is provided. Color correction is given in the proper use and applications of the densitometer. The course also includes black and white stripping techniques and platemaking.

Graphic Arts Photography IV—960.11
This course is an introduction into color theory in relation to the making of color separations. Various methods of color separating processes are studied. Color separation topics include: color inks, color register, color correction masks, separation negatives, screen positives, and color proofing.

Highway and Topographical Drawing I—930.3
This course presents the fundamentals of road intersection, computations of earthwork quantities, mass diagrams, maximum and minimum grades, side distance. Principles they apply to highway construction. Drafting, print reading and sketching are presented.
Highway and Topographical Drawing II—930.12
Pre-requisite: Highway and Topographical Drawing I
Provides exercises involving the elements of location; alignments; road and street intersections; rigid and flexible pavements and appurtenances.

Human Relations—540.1
Basic psychology principles are taught so the student may be better equipped to deal with those human relationships confronting him in future vocational and social situations. Stress is placed upon the application of the rules of mental hygiene to home and work situations. Group and personal adjustment problems are studied and discussed.

Hydraulics—920.11
This course is designed to give an understanding of the flow of fluids. The following topics are covered: Pressures; pressure centers; stability of gravity dams; flow in pipes and channels; turbulent flow; formulas and diagrams for pipe flow.

Industrial Electronics I[et]—910.9
A seminar-type course including a detailed study of gaseous tube operation; relays; dc and ac motors; introduction to computer circuitry; advanced study of transistor circuits; servo and synchro operations.

Industrial Electronics I (ET)—910.9
This is a seminar type course and a continuation of Industrial Electronics I. Special advanced individual and group problems in the field of electronics are pursued from inception to completion.

Industrial Photography—1000.5
The course is designed to acquaint the prospective technician with the medium of photography as a means of conveying ideas or clarifying difficult subject matter. An attempt is made to give the student a comprehensive background of the photographic and reproducction processes in order that the individual may utilize them to his advantage in supplementing written matter with effective illustrations.

Industrial Safety I—1000.1
To develop an understanding of basic principles necessary to properly motivate safe working habits in industry.

Job Relations—1000.2
This course covers an over view of relationships the employee has with fellow workers and management, also a study of the financial structure of industry so he may better his own position and responsibility in the organization.

Layout and Design—201.2
The elements and principles of design are studied, analyzed and applied. Practical applications include the study of type faces, type selection and copyfitting. A study is made of conventional and abstract design as it relates to contemporary practice.

Machine Drawing Interpretation—970.13
In this course the student uses a text book designed to give a thorough knowledge in reading "orthographic" prints and working drawings and also introduces the student to shop terminology and machining processes. There are more than fifty blue prints with supplementary material and a series of reference charts.

Machine Maintenance—950.6
An advanced course. The work consists chiefly of sharpening, adjusting, and maintaining such woodworking machinery as drum sanders, planers, shapers, tenoning machines, and band and circular saws.

Machine Operating Principles—960.13
This course is to familiarize the student with the basic operations that can be done on the basic machine tools and such other operations as precision measurement, layout, cutting fluids, heat treatment, and inspection.

Machine Shop I—970.1
Shop orientation, overview of the machine tool trade, common metals, safety of hand and machine tools, hand tool operations and care of tools, machine tool operations (drill, saw, grinder, and lathe basic operations).

Machine Shop II—970.2
More difficult operations on drill, grinder, saw, and lathe; simple operations on shaper, mill, and grinders, the beginning of the completion of a job; and simple heat treating.

Machine Shop III—970.3
Review of 970.1 and 970.2; advanced work on operations of the shaper and milling machines; advanced heat treatment, and medium advanced grinder operation.

Machine Shop IV—970.4
Machine work (organization, set up, estimating, and cost production); advanced indexing, indexing, measuring (inspection), grinding, and milling; and acquaintance with production machines and automation.

Machine Shop Mathematics—1000.3
Intended for Machine Shop students who need a review of the fundamentals of arithmetic before beginning the study of higher mathematics. The work covers the following topics: the fundamental operations of fractions and decimals; percentage, ratio and proportion; powers and roots of numbers; angular measurement; and finding of areas, volumes, and weights of materials by the use of formulas.

Machine Shop Mathematics—1000.4
The computational problems involved in the operation of machine tools and in other machine shop work, are stressed. The following topics are covered: practical computation; speeds and feeds of various machine tools; screw threads; flats, slots, and keyways; tapers; gears and pulley trains: ballistics; simple, differential, and angular indexing; helix milling, and simple trigonometric functions.

Manufacturing Processes and Materials—1000.3
A knowledge of present manufacturing processes is of extreme impotance to technicians engaged in industry. Instruction in this course deals with the technical fundamentals of important manufacturing processes, engineering materials, and the modern machine tools necessary for processing these materials.

Manufacturing Processes and Materials—1000.4
This course is a continuation of 1000.3 with emphasis being placed upon the specific details, particularly in the field products manufactured in the built for consumption industry.
Materials and Field Testing—960.2
Purpose of testing, testing equipment used; specifications. Geology of state; brief statement of geological history; types and distribution of aggregates. Portland cement concrete; concrete mixtures; design of proportions, placing and curing; tests; concrete materials; field testing.

Mechanisms—970.12
This is both a drawing and a theory course. The subjects studied lead themselves to graphical analysis. Both mathematical and graphical methods of solution are used in solving problems.

Optical Tooling—1000.6
Objective: To provide an opportunity for each student to understand the principles of optical instruments; to develop basic skills in the use of optical instruments as they are used in industry.

Parts Department Practice—900.6
The teaching of functions, records, and ordering problems of the small parts room operator.

Physics of Lithography—960.14
This course involves the study of physics as it relates to lithography. This includes the principles of mechanics, heat, light, optics, electricity, and magnetism.

Press Technology—960.15
Press technology is a practical course. Demonstrations and practice are intended to provide the student with experience in making press adjustments such as: bearer pressures, gripper adjustments, pressure adjustments, timing adjustments, and a study of paper distortion, their possible causes and cure.

Press Troubles—960.16
Since presswork involves both chemical and physical changes, many troubles result. This course makes an analysis of all problems culminating in the pressroom. An effort is made to be able to detect the cause of the problems and the adjustments necessary to overcome the trouble.

Presswork, Letterpress—960.17
This is a basic course in presswork with emphasis on the mechanical operation of presses, automatic plates and cylinder presses. Related instruction is provided on ink, rollers, paper, plates, embossing, die cutting, numbering, thermography, paper cutting and flexography.

Presswork, Lithographic—960.18
This course provides the practical instruction on the mechanical operation of various offset presses. A study of feeder operation, conveyors, register systems, ink rollers and damper adjustments, lithographic plate handling, the printing unit and delivery systems on offset presses.

Principles of Metallurgy—970.15
A survey course introducing the student to the field of metallurgy. It includes: the location of ore deposits, the conditions found in the earth, deriving of metals from their ores, refinement and purification, addition or alloying, and the manufacture into various shapes and forms for industry; and, the classification of ferrous and non-ferrous alloys, the testing of metals for mechanical properties, and common metal problems such as fatigue and corrosion.

Principles of Woodwork—950.7
A beginning course for those wishing to acquire experience in the use of cabinetworker's hand tools. A knowledge of tools, their uses, and fundamental tool processes are stressed through simple woodworking projects.

Printer's English—100.8
This course is designed to develop the English skills necessary for a compositor to do his job well. Covered in this class are such basic English practices as spelling, punctuation, proof reading and marking, syllogization, and printing terminology. Printing style manuals are reviewed.

Printing Mathematics—1010.5
This course covers the kind of mathematical problems that confront a printer. The course content includes: multiplication, division, addition, figuring sizes of type, cost of composition, stock estimation for cutting and cost, and copyfitting.

Production Cabinetmaking—950.8
Methods used in cabinetmaking shops for quantity production. The setting up of the common woodworking machines for quantity work and study of jigs and devices to assist in machining, gluing, and finishing wood products.

Production Planning and Procedures—960.20
Planning, scheduling, and control of a printing job in a plant may be a simple process in small plants and very complex in large plants. The course involves the needs for control of production, budget control of sales, production financing, job analysis of processes and materials, production routing, scheduling, inspection and statistical quality control applications.

Production Practices—960.21
For three semester students are provided laboratory experiences in processing production jobs for the school. This allows the student time to acquire a related amount of skill in various production courses. The final project is to design and produce a two-color, sixteen-page brochure. Each student must complete all operations involved in the production of this brochure.

Record Keeping—200.10
Gives the technical student a working knowledge of accounting, its forms, procedures, and methods as they may apply to a small business.

Research Problems—970.6
This is a seminar designed to provide an opportunity for each student to test his ability to apply the scientific method to the solution of a design problem to express himself in technical reporting (written, orally, and graphically); to acquaint him with sources of information; and to understand and appreciate the methods of industrial engineering.

Salesmanship—200.1
Selling fundamentals; study of the customer; applied selling techniques; sales presentation; making the sales story convincing; helping the customer to buy; building for greater sales volume; building permanent business.

Selected Machine Shop Operations—970.14
This course is to familiarize the student with the basic operations that can be done on the basic machine tools and such other operations as precision measurement, layout cutting fluids, heat treatment, and inspection.
Seminar-970.16
This is a section which provides opportunities for advanced study, both group and individual, in the processes and recording of project development from inception to completion.

Sheet Metal-980.1
The objectives sought in Sheet Metal pre-apprentice training for the first semester are the development of manipulative skills, the instilling of good work habits in the care and use of tools and equipment, and instruction in the safety precautions necessary in the trade. The first 18 weeks will include fundamental operations and processes, including 16 blueprints of useful projects. Basic blueprint reading, sheet metal mathematics, drafting, and sheet metal pattern layout.

Sheet Metal-980.2
The second 18 weeks of sheet metal pre-apprentice training will include advanced work in the same subjects, operations, and processes as covered in the first semester. Students who show satisfactory progress will be given aptitude tests and recommended for apprenticeship.

Sheet Metal Drafting-930.11
This course covers parallel line, radial line, and triangulation pattern development and short cut methods of layout.

Shop Mathematics I-1000.6
A course dealing with mathematical calculations that must commonly be made by sheet metal workers. It includes common and decimal fractions, linear and angular measures, area and volume measures, and formulas. Facility is developed in the use of such common measuring tools as the steel rule, the micrometer, the protractor, and the dividers.

Shop Mathematics II-1000.7
A course dealing with mathematical calculations that must commonly be made by sheet metal workers. It includes common and decimal fractions, linear and angular measures.

Shop Sketching-970.7
In freehand sketching the student learns to measure, sketch and dimension projects that are taken from practical situations and transformed to drawing paper. The sketches are both orthographic and pictorial.

Mathematics (Applied) 1010.1
This is a course in applied shop mathematics which includes a review of decimals, fractions, simple computations, measurement, and applied shop problems.

Mathematics (Applied) 1010.2
This course is a continuation of 1010.1 and covers practical algebra, geometrical constructions, work and power, speed ratios of pulleys and gears, and practical problems which a journeyman welder may be called upon to solve.

Mechanics-920.12
This course is an introduction to the field of mechanics. The following topics are covered: Result and equilibrant forces; moments; stresses; concurrent-concurrent forces; static and kinetic friction.
Mechanics and strength of materials is the science dealing with the effects of forces — first, those that are upon a body tending to change its shape and its position, and, second, the forces or stresses which are set up in solids to resist the impact of outside forces. In mechanics it is statics and dynamics, and in strength of materials it is stress and strain.

This course covers a thorough analysis of the fundamental concepts of mechanics as applied to machine parts, structures, beams and columns as well as developing an understanding of testing techniques and to acquaint the student with the strength of various materials and the method of testing.

This course is designed to introduce the student to the analysis of steel structures and includes trusses, beams, and columns.

This course is designed to introduce the prospective engineers' side the fundamental principles of surveying. The methods of measuring distances are discussed along with the corrections which should be applied to correct for errors. This is followed by a study of the transit and level. Along with this, the principles of stadia, bearings and other angles are taught.

(Theory, Supervised Field Work and Field Surveying Problems on Student's Own Time)

Prerequisite: Surveying I
Additional experience in field practice is provided by working in teams, surveying controlled, topographical surveying, setting lines and grades, route surveying. The student is assigned problems in field work which he works out in his own time. Field trips to various construction jobs are included.

This course includes the computation of horizontal curves, earthwork and an abundance of field problems on actual construction sites.

This course covers a basic outline of the laws governing land surveying.

Technical Drafting I challenges the student to use the skills he acquired in basic drawing and increase his potential to engage in more advanced drafting work. The scope of the work ranges from practice in lettering and laying out geometric constructions, pictorial drawing, freehand sketching, orthographic projection, auxiliary views, sections and intersections and developments.

Technical Drafting II is another step forward in the study and application of the techniques of mechanical drawing.

This is the final course of the series. Its purpose is to introduce the student to a variety of subjects which will tend to give him a more complete rounding-out in the general aspects of his training.

Technical Mathematics II begins where Technical Mathematics I leaves off. Mathematical technology. The material includes basic arithmetic and algebraic operations, complex numbers, simple equations, logarithms, slide rule and trigonometric functions.

A continuation of Technical Mathematics I. The material includes trigonometric functions of angles of any magnitude, graphs of trigonometric equations and identities, trigonometric functions of two angles, law of sines, law of cosines, law of tangents.

The material covered in Technical Mathematics II includes graphical representation, straight line equations, conic sections, properties of plane and solid geometric figures and progressions.

This course is an introduction to calculus and includes differentiation of first and second order equations and integration of first and second order equations.

The courses in technical mathematics deal with those topics of mathematics that are needed by technical workers in the fields of electrical, mechanical, and structural technology. Problems in applied mathematics are dealt with: arithmetic principles, percentage, common and decimal fractions, weights and measures, ratio and proportion, powers and roots. Geometric and algebraic functions pertaining to automotive industries are studied.

Technical Mathematics III begins where Technical Mathematics I leaves off. Mathematical concepts from the fields of algebra, geometry, trigonometry, analytical geometry, and calculus are all used to quantify and make more meaningful the concepts of electronics.

The courses in technical mathematics deal with those topics of mathematics that are needed by technical workers in the fields of electrical, mechanical, and structural technology. The material in Technical Mathematics III includes basic rule sets, basic arithmetic and algebraic operations, complex numbers, simple equations, formula manipulation, simultaneous equations, determinants, quadratic equations, equations involving radical, proportion and variation, logarithms, exponential equations, radii, magnitude, and trigonometric functions.

The material covered in Technical Mathematics IV covers trigonometric solution of right triangles, trigonometric slide-rule operations, plane vectors and components, trigonometric functions of angles of any magnitude, graphs of the trigonometric functions, trigonometric equations and identities, trigonometric functions of two angles, law of sines, law of cosines, law of tangents, trigonometric half-angle formulas, graphical representation, straight-line equations, conic sections, properties of plane and solid geometric figures, and progressions.

A review of the arithmetic principles including measurements. The trigonometric functions and slide rule are also introduced.
Technical Mathematics II 910.18
A review of algebra is given before advanced work in algebra is attempted. Logarithms with some practical applications is taught.

Technical Mathematics III 910.19
Some analytical geometry is introduced and its relation to algebraic equations is taught. The solution of oblique triangles using trigonometry is employed.

Technical Mathematics IV 910.20
Calculus is introduced and its power in the solution of algebraic and trigonometric equations is taught.

Technical Science I 1200.2
Technical Science I is basically a physics course in mechanics. Emphasis is given to the practical application of physical phenomena relating to the properties of matter, forces, and motion.

Technical Science II 1200.3
Technical Science II is basically a physics course including the study of heat, light, magnetism and electricity, electronics, and nuclearics. Industrial applications of the physical principles studied are stressed.

Technical Sketching 930.7
In freehand sketching the student learns to measure, sketch and dimension projects that are taken from practical situations and transferred to drawing paper. The sketches are both orthographic and pictorial.

Television Laboratory and Theory I 910.3
An overall picture of the complete television system is presented. The television receiver is studied in block diagrams. Each block (or section) of the receiver is studied in detail for theory of operation; normal operation; effect of defective parts on operation; and service procedures. The circuits studied are constructed on specially built circuit boards. Normal operation and abnormal operation measurements arc made using many different kinds of test equipment. Trouble shooting procedures for each section are taught on commerical receivers. Experimental data must be recorded and analyzed.

Television Laboratory and Theory II 910.4
A continuation of TV I. In addition to service procedures for the remaining sections of the TV receiver, the use of special test equipment is taught, alignment procedures and antenna installation. Upon completion of the study of the remaining sections of the television receiver, instruction is given in special home servicing techniques, use of advanced test equipment and test methods.

Tune-up and Carburation 900.8
This course teaches the basic operating principles of automotive carburation and fuel systems, and applying these principles to diagnostic work, using analyzing and testing equipment.
Welding I—990.1
Basic Processes of Welding
A. In the basic process of electric arc welding, the course covers the machines and accessories, selection and study of electrodes, welding joints and beads, also the acquiring of the manipulative skills in welding mild steel in the Flat and Horizontal position.
B. In the basic process of oxy-acetylene welding and cutting, the course covers the torches and accessories, gases and their manufacture, flames, as well as the acquiring of the manipulative skill in welding mild steel in the Flat, Horizontal and Vertical positions.

Welding II—990.2
A. In the process of electric arc welding, the course covers welding joints and beads, welding metallurgy, specimen testing, also the manipulative skills in welding mild steel in the Vertical and Overhead positions and tests for performance proficiency on structural steel.
B. In the process of oxy-acetylene welding, the course covers the related information and manipulative skills for welding stainless steel, bronze welding, gray cast iron welding and aluminum welding.

Welding III—990.3
A. Under the process of electric arc welding, this course covers all manual procedures for tungsten inert gas welding and the manipulative skill in the welding of pipe sections.
B. Under the process of oxy-acetylene welding, the course covers the manipulative skill for welding of pipe and上千 tubing.

Welding IV—990.4
Under the process of electric arc welding, the course covers the related and manipulative skills in the welding of cast iron, alloy steels, the carbon arc and hard surfacing.
This section under the process of electric arc welding will cover the semi-automatic and automatic arc welding processes, the study of welding procedures, and weld positions.

Welding Processes and Applications—990.5
This course is designed to familiarize the student with welding processes and their application in the fabrication of machine parts. This course also covers discussion on the testing and qualifying of material and welding operators.

Wheel Alignment and Balancing—900.9
This course covers the principles of wheel alignment, axle and frame straightening, wheel balancing and wheel, hub and drum straightening. The trouble shooting, inspection, correction and road testing of a vehicle.

Wood Finishing—950.9
Practice is given in furniture finishing. The course includes the preparation of new and old wood surfaces for finishing or refinishing, and the application of wood bleaches, different kinds of stains, wood fillers, shellacs, flat and gloss varnish, lacquers, and other modern wood finishes.
MADISON VOCATIONAL, TECHNICAL AND ADULT SCHOOLS
1966-1968

BULLETIN OF COURSES FOR THE ADULT DIVISION

Day and Evening Apprenticeship Community Service

Norman P. Mitby, Director
Madison Vocational, Technical and Adult Schools
211 N. Carroll Street Madison, Wisconsin 53703
Phone: (Area code 608) 255-4541
Madison Board of Vocational and Adult Education
Marvin E. Bricksen, President
Russell E. Dresser, Vice President
Robert D. Gilberts, Secretary
George Hall
Owen R. Slauson

The Board reserves the right to make necessary changes without further notice.

This catalog describes the courses offered to students of the Adult School, the Adult High School, and the Apprentice School.

A catalog describing full-time programs leading to a diploma or an associate in applied science degree, as well as college parallel programs, is available upon request.
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SCHOOL CALENDAR

Day School:

In the school year 1966-67, day school will start August 31 and end June 2. There will be an eleven day recess at Christmas and a six day recess at Easter. The semesters are nineteen weeks in length. The second semester begins January 24.

Evening School:

In the school year 1966-67, evening school will start October 3 and end March 13. Evening school closes for the Christmas holidays, December 19, and re-opens January 9. The semesters are ten weeks in length. The second semester begins January 9.

The school calendar for 1967-68 will be published as an insert.

TIMETABLE OF CLASSES

Shortly before the start of each semester, a timetable of classes and schedule of fees is published. This is furnished upon request. The timetable should be consulted to be sure which subjects are being offered at any given time. All of the subjects described in this catalog will not necessarily be taught each school year.

HISTORY

For over half a century, the Madison Vocational, Technical and Adult Schools—many schools working as one—have served the Madison community.

The school was started in 1912 as the School of Industrial Education, in response to a 1911 state law providing for the establishment of "continuation schools" where young people who left school to go to work could continue their education.

In 1917, a new law changed the name of the school to the School of Vocational Education. This followed the passage of the Smith-Hughes Act which provided support for vocational education. The school developed home economics, commercial, academic and industrial curriculums to fulfill its expanded purpose and growing community needs.

In 1937 came the third name change. In recognition of the need for adult education, the school became the Madison Vocational and Adult School.

In 1961, the school was renamed to more correctly label its functions: The Madison Vocational, Technical and Adult Schools. Five associate degrees were offered, including degrees in Automotive Technology, Civil Technology, Electronics Technology, Mechanical Design Technology, and Business Administration - Accounting. In addition, programs in Practical Nursing, Medical Assisting, and Commercial Art were offered. The Job Threshold program helped prepare mentally handicapped young people for employment commensurate with their abilities, and the Madison Plan, offering technical and business training to high school students, was fulfilling another need.

On July 31, 1965, the State Legislature passed Bill 501A which is now Chapter 292 of the Laws of 1965. This law provides that all areas in
the state shall be in vocational, technical and adult education districts by 1970 in accordance with State Board and Coordinating Committee for Higher Education plans. It also provides that the new districts shall be administered by a board consisting of seven members: two employees, two employers, and two additional members, and a school administrator from within the district. It further provides that cities having a population of 150,000 or more may offer liberal arts collegiate transfer programs.

To date neither the State Board of Vocational, Technical and Adult Education nor the Coordinating Committee for Higher Education has determined what the state plan will be in terms of local areas. It is predicted, however, that the Madison area will be a minimum of five counties and perhaps more.

The implication of the new law is that by 1970 the Madison Vocational, Technical and Adult Schools will no longer be a school of the City of Madison. Another implication is that the school's enrollment will increase tremendously. The enabling legislation of offering collegiate transfer programs allows the Madison Vocational, Technical and Adult Schools to develop into a comprehensive community college.

In the spring of 1966, the school was accepted by the North Central Association of Colleges and Secondary Schools as a candidate for membership as a community college.

COMMUNITY COLLEGE

The program of the community college should be varied and comprehensive. While curriculum development and services will depend upon the interests to be served, the Madison Vocational, Technical and Adult Schools believes that the following programs should be viewed as the proper offerings of the comprehensive community college:

1. Vocational, technical, and semi-professional programs.
2. General education for all full-time students.
3. Continuing or adult education, including related training for apprentices.
4. Programs parallel to those taken in the freshmen and sophomore years in arts and sciences at four-year institutions.
5. Community service programs.
6. Services for testing, guidance, and counseling.

By 1964 the Madison Vocational, Technical and Adult Schools was already a community college with the exception of not having collegiate transfer programs. In 1965-66 several new programs in a college parallel program were developed. A major advantage of accreditation as a community college is that students will no longer have great difficulty in securing transfer of credits earned in the Madison Vocational, Technical and Adult Schools. Those students who complete certain programs and find that they wish further education may seek partial or complete transfer of credits for the courses they have studied in the Madison Vocational, Technical and Adult Schools.

The development of the comprehensive community college will help the school further meet the needs of the community as these needs have been made known and shall help to further fulfill the needs of local business, industry, and government for manpower that is better educated and trained to meet increasing technological change.

PHILOSOPHY

The faculty and administration of the Madison Vocational, Technical and Adult Schools have adopted this statement as their philosophy:

We believe that there should be educational opportunities that meet the needs of the people of our community. The objective of all of our vocational, technical and general education is to prepare people for useful employment and a more satisfying life. This objective can be summed up in four statements:

1. To help people to prepare for or to advance on a job.
2. To help people develop a disciplined intellectual competence and an awareness of our varied culture.
3. To help people prepare for new jobs when necessary in our ever-changing industrial and business world.
4. To help people live more fully the life their jobs support and to prepare them to take responsible action as citizens as part of that life.

Because our youth will have to be re-trained and re-educated a minimum of three times during their lifetime in order to cope with the acceleration of technology in our society, they will need continuing education which meets the needs of business and industry in our community and which prepares them to participate in the civic and cultural activities of our community as they move into new spheres of vocational and social competence.

The anticipation of more leisure time requires us to consider carefully our balance between occupational education and general education. Societal and cultural citizenship have long been a concern of ours. This concern must now be more realistically balanced with our concern for education for employment. The school must maintain a healthy balance between the specialized education of the craftsman and technician, and the general education of the citizen.

Underlying all of our objectives is the concept that the student, with his individual abilities and talents, is the cornerstone of our school. The school must continue to develop curricula which help him to define his needs, which meet these needs, and which prepare him to live successfully in the changing society of today and tomorrow.

ORGANIZATION

The Madison Vocational, Technical and Adult Schools is under the direct supervision of the Madison Board of Vocational and Adult Education.

This board is appointed by the Board of Education of the City of Madison in accordance with state law. The board is composed of five members: two representative employees, two employers and the superin-
AVAILABLE CATALOGS

Adult Catalog
This catalog covers the courses offered by the Adult Division, together with a description of the Apprenticeship Program and special community services.

Full-Time Programs
A separate catalog describes full-time one and two year programs of the General Studies, Technical Studies, and Vocational Studies divisions, leading to diplomas or associate degrees. These programs include specialties within the areas of college parallel, business, marketing, vocational, and technical areas, as well as graphic arts, bar-bering, and commercial art. In addition, it lists two special programs which may be arranged on a full-time or a part-time basis: (1) a review program for students who need further study before entering a vocational, technical, or college parallel program; and (2) a mixed program which will be planned to meet the individual needs of the student whose previous work has been uneven or who is undecided about his curriculum objectives.

Summer Session
A summer session bulletin is available which covers the offerings of the six-week summer session, as well as special spring and fall classes in field botany and bird study.

GENERAL INFORMATION
Adult enrollment at the Madison Vocational, Technical and Adult Schools has grown rapidly. In the 1960-1961 school year, 8,600 adult students were enrolled part-time. Of these, 2,600 attended day classes and 5,900 attended in the evening. There were also 866 full-time students.

By 1964-1965, adult part-time students numbered 12,800, of whom 3,300 attended in the daytime and 9,500 in the evening. 1,260 full-time students were also enrolled.

The year 1955-1956 found approximately 13,700 adult part-time students enrolled, 5,000 in day school, and 10,000 in evening school.

BUILDINGS
The adult classes of the Madison Vocational, Technical and Adult Schools are held in three buildings owned by the school. Classes are also held at centers in various neighborhoods throughout the city, usually in public schools.

The main building, at 211 North Carroll Street, in downtown Madison, includes classrooms, laboratories, shops, lecture halls, the library, student lounge and other items listed under the heading, "Facilities."
television. The same equipment enables large classes to view teaching demonstrations at close range.

School Store

The book store is located on the first floor in room 142. Students pay fees and may buy necessary books and supplies here. The store is open from 8 a.m. to 4 p.m., Monday through Friday, and from 8:30 a.m. to 3:30 p.m. Monday through Thursday. There will be no refunds for purchased books or supplies.

Parking

The school's main building is located at the center of Madison, where the city bus lines converge. Students are encouraged to leave their cars at home, since parking is a problem in the heart of the city. However, there are several city parking lots within a few blocks of the school for those who must drive. City parking areas include: Johnson, Carroll and Dayton Streets (across from the school and frequently completely filled); Johnson, Broom and Mifflin Streets (2½ blocks from school); Dayton, Broom and Mifflin Streets (2½ blocks from school); Webster, Mifflin and Butler streets (2½ blocks from school); Fairchild and Main Streets (4 blocks from school). Private parking is available at Wisconsin Avenue, Carroll and Dayton Streets (across from the school).

Telephone

Public telephone booths are located on the first floor at the Johnson Street and Carroll Street entrances, and on the fourth floor near room 445.

Elevators

Self-operated elevators are located near the Dayton Street and Carroll Street entrances.

REGISTRATION

Admission Policy

Enrollment in part-time day and evening courses is limited to those over 18 years of age and to those under 18 years of age who are high school graduates.

Time of Entering Classes

Classes in which the instruction is organized on an individual basis may be entered at any time during the semester if a vacancy exists. Group instruction classes must be entered at the start of the class.

Social Security Number

Data Processing of student records requires that every student have a Social Security number for registration.

If you do not already have a Social Security number, you may obtain one at the Social Security Office, 2825 University Avenue (8:30 a.m. to 4:30 p.m., Mondays through Fridays), or telephone 256-4441, extension 4781, and ask for a Social Security number application blank to be mailed to you.

Registeration Schedule

The registration office, Room 135, is open for registration on the following schedule:

Day School: Monday through Friday, 9:00 a.m. to 11:00 a.m., 1:00 p.m. to 3:00 p.m., except when day school is not in session.

Evening School: Monday through Thursday, 6:30 p.m. to 7:30 p.m., except when evening school is not in session.

Allow approximately one-half hour before the scheduled class time for registration.

Special Registration

Mail Registration: In both day and evening school, an advance mail registration is held about one month before the beginning of classes in the Full semester. Newspaper advertisements listing available courses are published in the Monday edition of both Madison newspapers.

Advance In-Person Registration: Prior to the beginning of each semester, there is an advance in-person registration for both day and evening school. Available class openings are published in local newspaper advertisements.

In all cases of special registration, there will be no refunds or changes of program until after classes commence.

class Schedule

Day School

Class periods are 50 minutes in length. Day classes are scheduled by period number between 7:30 a.m. and 5:37 p.m., as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>7:30 to 8:26 a.m.</td>
</tr>
<tr>
<td>2</td>
<td>8:30 to 9:20 a.m.</td>
</tr>
<tr>
<td>3</td>
<td>9:24 to 10:14 a.m.</td>
</tr>
<tr>
<td>Break</td>
<td>10:14 to 10:29 a.m.</td>
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<tr>
<td>4</td>
<td>10:29 to 11:19 a.m.</td>
</tr>
<tr>
<td>5</td>
<td>11:23 a.m. to 12:13 p.m.</td>
</tr>
<tr>
<td>6</td>
<td>12:17 to 1:07 p.m.</td>
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<tr>
<td>7</td>
<td>1:11 to 2:01 p.m.</td>
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<tr>
<td>8</td>
<td>2:05 to 2:55 p.m.</td>
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<tr>
<td>9</td>
<td>2:59 to 3:49 p.m.</td>
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<tr>
<td>10</td>
<td>3:53 to 4:43 p.m.</td>
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<tr>
<td>11</td>
<td>4:47 to 5:37 p.m.</td>
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<tr>
<td>12</td>
<td>5:41 to 6:31 p.m.</td>
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<tr>
<td>13</td>
<td>6:35 to 7:25 p.m.</td>
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<tr>
<td>14</td>
<td>7:29 to 8:20 p.m.</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>8:24 to 9:14 p.m.</td>
</tr>
</tbody>
</table>

In addition, classes for full-time post-high school programs may be continued in evening school as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>6:00 to 6:50 p.m.</td>
</tr>
<tr>
<td>13</td>
<td>7:00 to 7:50 p.m.</td>
</tr>
<tr>
<td>14</td>
<td>8:00 to 8:50 p.m.</td>
</tr>
</tbody>
</table>

Evening School

Classes are held between 6:00 p.m. and 9:30 p.m., and vary in length.
FEES

Registration Fee

A student registers once a school year for day school, once a school year for evening school, and once a school year for summer school. For each there is a $2.00 registration fee.

Class Fees

There are three types of fees applied to courses:

1. Material Fee: A material fee is charged in those courses where the student utilizes materials such as mimeographed or other consumable supplies.
2. Laboratory Fee: A laboratory fee is charged in those courses where machines, tools, or shop equipment is used.
3. Course Fee: A course fee may be charged in particular courses to help defray the cost of instruction.

The amount of these fees is listed after each course.

Change of Program Fee

There shall be a $1.00 fee for each change of program initiated by a student after the second week of the semester in day or evening school.

Non-Resident Tuition Fee

City of Madison residents — None.

All part-time program courses in day, evening, and summer school shall have a non-resident tuition charge of 50¢ per period or hour of instruction. This fee is paid in advance for the length of the course.

Special Provisions

1. Wisconsin residents under 21 years of age who do not reside in a Wisconsin Vocational, Technical and Adult School district may have this tuition paid by the county of residence. Forms for this purpose may be obtained at the Madison Vocational, Technical and Adult Schools, 211 North Carroll Street, Madison, Wisconsin, Room 136.
2. Wisconsin residents under 21 years of age who are legal residents of a Wisconsin Vocational, Technical and Adult School district may have this tuition paid by that Board, provided that the student notify such Board and provided that it does not offer a similar course as that which the student wishes to pursue. Forms for this purpose may be obtained at the Madison, Vocational, Technical and Adult Schools, 211 North Carroll Street, Madison, Wisconsin, Room 136.
3. All non-residents over 21 years of age pay their own tuition at the rate of 50¢ per period or hour of instruction.

In all cases, the individual student is responsible for proving his residency status. Individual residency questions are to be referred to the Registration Office.

Registration is not complete nor may a student attend class until all fees are paid.

REFUNDS

The general policy relating to the continuance of part-time day or evening school classes requires an attendance of ten. When the school dis-continues the class, the registration fee (if the student is enrolled in only one class) and the unused material fee shall be refunded upon the request of the student. All refunds must be requested prior to July 1 for the preceding school year.

If a student withdraws from class of his own accord, the registration fee is not refundable but refunds of laboratory, material and course fees shall be as follows:

**Day School**

First week: 100% if all supplies that have been issued are returned to the departmental supervisor.
Second week: 75% of tuition paid will be refunded
Third week: 50% of tuition paid will be refunded
Fourth week: 25% of tuition paid will be refunded
Fifth week: None

**Evening School**

First week: 100% if all supplies that have been issued are returned to the departmental supervisor.
Second week: 50% of tuition paid will be refunded
Third week: 25% of tuition paid will be refunded
Fourth week: None

**Non-Resident Tuition Refund**

Non-resident tuition is paid in advance for the length of the course. If a student withdraws before the end of the course, the amount of the refund will be as follows:

*Per cent of the course completed at withdrawal*

1-20 75% of tuition paid will be refunded
21-40 50% of tuition paid will be refunded
41-60 25% of tuition paid will be refunded
After 60 No tuition will be refunded

There will be no refund of less than $3.00. There will be no non-resident tuition fee refunds for student absences.

*The official withdrawal date is established as one week after the last class attended.*

RECORDS, CREDIT, GRADES

Records

Students wishing grades should obtain them from the instructor at the completion of the course. Permanent records of students' attendance and achievement are on file in the Registration Office and may be obtained for job advancement or other purposes. The first transcript is furnished without charge; additional transcriptions are $1 each.

Credit

Students wishing to obtain high school credit for courses taken at the Madison Vocational, Technical and Adult Schools must consult with the supervisor of General Education prior to enrolling in the course. Otherwise, no high school credit will be granted.
Grades

Grades for non-credit students and courses are based on the following schedule:

S — Satisfactory
U — Unsatisfactory
WS — Withdrawn; doing satisfactory work
W — Withdrawn too soon to measure progress

Grades for credit students and courses are based on the following schedule:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Numerical</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior</td>
<td>93 - 100</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Above Average</td>
<td>85 - 92</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>77 - 84</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Below Average</td>
<td>70 - 76</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failing</td>
<td>Below 70</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>Withdrawn</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REGULATIONS

Safety

The school gives continuing consideration to safety, including conditions in the halls, elevators, stairways, shops, laboratories, and classrooms. Students must follow established safety practices and must not operate equipment until instructed in safe operational procedures.

Attendance

Attendance is the responsibility of the individual student. To gain the most from instruction, it is important that the student be on time and attend regularly. A student will be withdrawn from class after three consecutive unexplained absences, and when a class meets daily, after five consecutive unexplained absences. When a student has been withdrawn from class, he may be re-instated by reporting to the registration office.

Waiting Lists

Space limitations and budgetary restrictions limit the number of classes that can be maintained in any given field. It is sometimes necessary to assign applicants to waiting lists. Applicants on such waiting lists will be assigned to class as vacancies occur.

Should an insufficient number of registrations be received for any course listed in this catalog, the school administration reserves the right to withdraw the offering.

Courses not listed may be organized if a sufficient number of persons register for such classes.

Textbooks and Materials

The instructor will inform the class of textbooks or materials that are required. Each student will purchase whatever is required.

Lockers

The scarcity of lockers and locker space has made it necessary to give priority to full-time day school students. A limited number, however, are available from the departmental supervisors for part-time students taking certain courses which require transporting large amounts of material.

Lost and Found

Inquiries concerning lost and found articles should be made at the switchboard in the Registration Office, Room 136. The office is open for this purpose from 8:00 a.m. to 5:00 p.m., Monday through Friday, and from 6:30 p.m. to 8:30 p.m., Monday through Thursday when evening school is in session.

Solicitations

No solicitations for funds from students by other students or by any organized group, whether for gifts for individuals or faculty members, or for charitable or other purposes is permitted without the express permission of the director.

Smoking

Smoking is permitted in Scallen Hall on the first floor and in the faculty dining room in the basement.

STUDENT SERVICES

A major aim of the Madison Vocational, Technical and Adult Schools is to assist students in making maximum progress toward suitable and satisfying educational, vocational, personal, and social goals. To facilitate the accomplishment of this aim is the purpose of Student Services.

These services include counseling, testing, some co-curricular activities, part-time employment, research, and help with placement.

Counseling and Testing Services

Students and prospective students are always welcome to consult with a counselor in the guidance office. Counseling and testing services are offered by appointment during day school hours only, but any student who feels the need for immediate help may usually be seen without an appointment during the day.

The services of the guidance department may include vocational guidance, career information, assistance with academic and study problems, specialized testing and personal counseling. Students who desire it are given the opportunity to work with a counselor in a confidential relationship in which they can explore their aspirations, aptitudes, interests, and any special problems they may have.

The teachers and supervisors in each area of the school are available to help students with problems relating to school work and with immediate personal problems.

Health Service

Student emergency health service will be provided by making contact with the Registration Office, Room 136. Every injury, however slight, must be reported to the instructor. The school makes every effort to provide emergency First Aid.
Placement

The services of the Placement Office, Room 447, are available to students and to employers in the Madison area. It will be the purpose of this office to recommend to employers only those applicants who appear to be well qualified. Students in the school may register with the Placement Office if they wish to be considered for employment, either part-time while attending school or full-time after completion of their course work.

Veterans Training

This school is approved by the Veterans Administration for training of qualified veterans, G.I. Bill recipients, and sons and daughters of deceased and disabled veterans. Further information may be obtained in the director's office or from the local Veterans Administration office.

No financial assistance other than veteran's aid is available for part-time adult students or for out-of-state students. These students should be prepared to finance their entire expenses.

Financial aids for full-time students are described in the catalog of full-time programs.

Foreign Students

No financial assistance is available for foreign students. These students must be prepared to finance their entire expenses.

Manpower Development and Training

In cooperation with the Wisconsin State Employment Service and the Wisconsin State Board of Vocational, Technical and Adult Education, the school provides training under the Manpower Development and Training Act of 1962 for unemployed and underemployed persons.

Detailed information may be obtained at the Wisconsin State Employment Service, 206 North Broom Street, Madison, Wisconsin 53703.

GENERAL EDUCATION

Academic

English
Foreign Language
History
Mathematics
Natural Sciences
Reading
Social Science
Speech
Adult High School
Driver Education

Art

Fine Arts
Crafts

Music

Instrumental
Vocal
Keyboard
Theory
Appreciation

In its educational program, General Education provides the traditional academic subjects which people study for a specific purpose or for pleasure.

These courses range from basic education to high school courses or high school review, to courses of cultural or topical interest. The goal of the School of General Education is to provide a spectrum of courses which will help adults to begin, continue, or expand their general knowledge of the world around them.

Most evening school courses in General Education are for helping adults explore specific interests. Many of them, however, may also be taken for high school credit or to fulfill other educational or job related requirements. Anyone who desires credit for these courses must inform the supervisor of general education before enrolling so arrangements may be made to take the course at the appropriate level.
Academic

English
Foreign Language
History
Mathematics
Natural Science
Reading
Social Science
Speech
Adult High School
Driver Education
ENGLISH

801-409 COMPOSITION
Basic forms and types of expository writing are studied. Students write samples of various forms. Suggestions and criticisms are made in class.
Day School: 90 Periods

801-421 CREATIVEm WRITING
A writing course for persons wishing to express their thoughts and feelings in novels, plays, poems, and short stories. Members bring their manuscripts to class as a basis for discussion and for help in individual writing problems.
Materials Fee: $1.00 Evening School: 40 Hours

801-401 ENGLISH I FOR THE FOREIGN BORN
This course is planned primarily for foreign-born residents who wish to speak, read, and write everyday English. Fundamental language skills are taught. Grammar and structure are presented in a simplified manner with emphasis on constant practice through exercises and drills and conversation.
Day School: 90 Periods
Evening School: 80 Hours

801-402 ENGLISH II FOR THE FOREIGN BORN
A course for foreign born persons with some English background who wish to increase their vocabulary and knowledge of English grammar. Drills will be in oral reading, English idioms, spelling, and punctuation.
Day School: 90 Periods
Evening School: 80 Hours

801-403 ENGLISH III FOR THE FOREIGN BORN
For persons who speak some English but who need to improve their knowledge of the language to qualify for advanced training or to improve their professional competence.
Day School: 90 Periods

801-404 ENGLISH IV FOR THE FOREIGN BORN
The emphasis is upon grammar and writing. Conversation is studied for increased competence in oral use of the language.
Day School: 90 Periods

801-411 ENGLISH FUNDAMENTALS
This is an elementary course in applied grammar. Emphasis is on spelling, vocabulary building, punctuation, capitalization, dictionary study, use of parts of speech, and the building of good sentences. Language difficulties of each student are handled individually.
Materials Fee $1.00 Evening School 80 Hours

801-412 ENGLISH REVIEW
This is an advanced English course. It presents a review of sentence construction principles, punctuation, capitalization, paragraphing, spelling, and vocabulary building.
Materials Fee $1.00 Evening School: 80 Hours

801-422 FEATURE AND ARTICLE WRITING
Writing for the feature sections of newspapers and for magazines is practiced in this course. The mechanics of writing for publication are taught and specific markets are considered.
Evening School: 40 Hours

801-425 GREAT LITERATURE
This course is designed for persons desiring to read and interpret great classics of the ages from ancient Greece to modern America.
Evening School: 40 Hours

801-428 MODERN DRAMA
The group reads a modern play together each week and discusses it. About nine plays are covered ranging from O'Neill to Pinter. The plays studied in this course change from year to year. The goal of the course is to learn the direction of modern drama as an art through study of contemporary drama of America and Europe.
Evening School: 20 Hours

801-430 NINETEENTH CENTURY NOVEL
The great age of the novel is explored through reading the novels of such authors as Austen, Dostoevsky, Dickens, Hugo, Etc.
Evening School: 40 Hours

801-437 READING NOVELS
Current and classic novels are chosen with the class. The emphasis of the course is upon analysing and discussing the novels for interpretive purposes. Its aim is pleasure in reading novels.
Day School: 18 Periods

801-434 SHAKESPEARE
Each year a different series of plays are read, ten each year. The plays are studied as drama and as notable expressions of men's feelings, attitudes, and ideas.
Evening School: 40 Hours

801-439 UNDERSTANDING POETRY
This course provides an understanding of technical elements used in poetry. Students read a wide variety of poetry to gain an appreciation of it as a form of literature and to find pleasure in it.
Evening School: 40 Hours

801-440 WORDS: INCREASING YOUR VOCABULARY
Lists of words from topical reading are used to increase the student's vocabulary. The principles of etymology are studied.
Materials Fee: $1.00 Evening School: 40 Hours
GENERAL EDUCATION

LANGUAGES

802-405 BASIC CONVERSATIONAL FRENCH
This course is conducted totally through conversation. Emphasis is on those explanations that a traveler will primarily use. There is also oral practice in simple conversation.
Materials Fee: $2.50
Evening School: 40 Hours

802-401 FRENCH I
This course aims to enable the student to speak and write simple, natural French from the beginning. The conversational method is used.
Evening School: 40 Hours

802-402 FRENCH II
This course is a continuation of French I.
Evening School: 40 Hours

802-403 FRENCH III
For persons who have an elementary knowledge of French or who have taken French I and II. French literature and culture are studied.
Evening School: 40 Hours

802-404 FRENCH IV
This course is a continuation of French III.
Evening School: 40 Hours

802-411 GERMAN I
The student is taught to speak and to write in simple, natural German. Idiomatic conversation is stressed.
Evening School: 40 Hours

802-412 GERMAN II
This course is a continuation of German I.
Evening School: 40 Hours

802-413 GERMAN III
Second year German stresses reading more widely in German literature. Pronunciation and conversation are continuously practiced to expand the speaking facility learned in German I and II.
Evening School: 40 Hours

802-414 GERMAN IV
The fourth semester of German continues the study of speaking and reading German with practice in writing in German.
Evening School: 40 Hours

802-400 BASIC CONVERSATIONAL SPANISH
Spanish conversation is begun and practiced. The vocabulary stressed concerns the needs of the traveler. The speaking of the language is continuously stressed so all students can learn or review an ability to converse in basic Spanish.
Materials Fee: $2.00
Evening School: 40 Hours

802-401 SPANISH I
A class in conversational Spanish with practice in pronunciation, comprehension of the spoken language and conversational drill. Grammatical structure of the Spanish language is given adequate consideration.
Evening School: 40 Hours

802-402 SPANISH II
This course is a continuation of Spanish I.
Evening School: 40 Hours

802-403 SPANISH III
This course is for those who have had Spanish I and II or their equivalent. It continues the conversational approach, adding some literature and special activities which involve a learning of some Spanish culture.
Evening School: 40 Hours

802-404 SPANISH IV
This course is a continuation of Spanish III.
Evening School: 40 Hours

HISTORY

803-401 READINGS IN U. S. HISTORY
Students discuss readings concerning major concepts of democracy in America. The development of American democracy is explored.
Evening School: 40 Hours

803-411 RUSSIAN HISTORY
The study of Russia begins with the growth of Czarist Russia. The revolution and communism are seen as developmental events which lead to a study of Russia of today.
Evening School: 40 Hours

803-411 STUDYING SOUTHEAST ASIA
The lands and the peoples of Southeast Asia are studied in order to learn some history of an area in which we are involved. An attempt is made to learn about these places and people who have become important in our lives. The ideological conflicts over Southeastern Asia are reviewed to achieve a bipartisan perspective.
Evening School: 20 Hours
804-411 ALGEBRA I
This course includes using and interpreting algebra symbols, fundamental operations, evaluating expressions, and using exponents. Other skills taught include: solving equations and word problems, drawing and reading graphs, and factoring. One-half a high school credit may be obtained.
Materials Fee: $1.00  Evening School: 80 Hours

804-412 ALGEBRA II
A brief review of Algebra I is followed by advanced work in quadratics and factoring. The course also includes: radicals, exponents, logarithms, complex numbers, functions, systems of equations, linear functions, trigonometric functions, and progression and series. One-half a high school credit may be obtained. Prerequisite: Algebra I
Materials Fee: $1.00  Evening School: 80 Hours

804-402 GENERAL MATHEMATICS I
Mathematics skills beginning with arithmetic are learned or reviewed. The material studied covers percentages, decimals, ratio and proportion, and the fundamentals of algebra and geometry.
Materials Fee: $1.00  Evening School: 80 Hours

804-401 GEOMETRY I
This course consists of concepts and inference patterns from logic, as well as the concepts of set theory statements, postulates, and theorems. One-half a high school credit may be obtained.
Materials Fee: $1.00  Evening School: 80 Hours

804-402 GEOMETRY II
This course covers areas of plane figures and volumes of solid figures; parallelograms, prisms, circles, cylinders; slope and lines and loci problems; graphs and coordinate systems; introduction to trigonometric functions; and a construction with compass and straight edge. Excerpts as possible, these units will utilize practical applications in study. One-half a high school credit may be obtained.
Materials Fee: $1.00  Evening School: 80 Hours

804-412 TRADE MATHEMATICS
This course is in the Mathematics Workshop class. Each student reviews basic mathematics skills and then studies the mathematics skills necessary in a given trade.
Materials Fee: $1.00  Evening School: 80 Hours

204-433 TRIGONOMETRY
This is a study of basic trigonometric functions, solutions of right and oblique triangles, fundamental trigonometric identities, the use of logarithms, and complex number notations. One-half a high school credit may be obtained.
Materials Fee: $1.00  Evening School: 80 Hours

204-430 UNDERSTANDING MODERN MATHEMATICS
This course is designed to help parents understand the modern mathematics their children are studying.
Evening School: 80 Hours

305-408 FIELD BIRD STUDY
Students will visit as many Madison and area bird habitats as possible during the height of the nesting season to determine what plant communities support the 90 types of native Wisconsin birds. Course procedures will be practiced.
Materials Fee: $5.00  Evening School: 10½ Hours

305-407 FIELD BOTANY
The course offers lectures and discussions to help persons increase their awareness, understanding, and appreciation of plants and the land.
It includes an introduction to plant structure and to plant communities; classification of wild plants by family characteristics and ecology; and how to make a plant collection for further study.
Materials Fee: $5.00  Evening School: 10½ Hours

305-409 READING THE LANDSCAPE
Lectures, discussions, and visual aids help the students increase their awareness, understanding, and appreciation of plants, animals, and the land. Spring field trips will be conducted.
Materials Fee: $4.00  Evening School: 10 Hours

305-402 DEVELOPMENTAL READING
Practice is given in improving comprehension and speed in reading. The methods learned lead to independence and continued improvement.
Day School: 20 Periods  Evening School: 80 Hours

305-405 READING WITH YOUR CHILDREN
Mothers will discuss with an expert librarian the books and poems most liked by and considered best for children. Mothers will learn techniques of reading to children.
Evening School: 80 Hours
SOCIAL STUDIES

809-401 CITIZENSHIP
This course includes basic information about and studies of the constitution, governmental organization, citizen’s obligations, and voting procedures. Outlines of United States history, state and local governments are studied.

Evening School: 80 Hours

809-428 COMPARATIVE RELIGIONS
Christianity, Judaism, and various eastern religions are studied to learn some of their basic concepts. Some divisions of similarity in Christianity are discussed.

Evening School: 20 Hours

809-426 CURRENTS IN PHILOSOPHY
Through lecture and reading definitions of current philosophies are learned. Discussion of writings leads to thinking in philosophical modes. Existentialism, Zen, positivism, nihilism are defined and discussed.

Evening School: 20 Hours

809-424 INTRODUCTION TO MODERN AMERICAN ECONOMY
The condition of our contemporary economy is studied through topical reading, and its causative factors are explored. Dominant theories of modern economic development are studied.

Evening School: 20 Hours

809-427 POLITICAL ISSUES
Always topical, the content of this course mirrors the current political situation. For example, civil rights, equal representation, right to work laws, and other such issues are read about and discussed. An attempt is made to seek a bipartisan view and to see the issues in perspective.

Evening School: 20 Hours

809-425 PREPARING FOR RETIREMENT
A seven session course for men and women who have either retired or are planning retirement. Experienced personnel will discuss topics which will be of interest to all senior citizens. Some items covered are: Housing (public and private), financing retirement (social security, investments, pensions) legal aspects of retirement (wills, taxes), health, creative use of leisure, part-time employment.

Evening School: 14 Hours

SPEECH

810-402 PARLIAMENTARY PROCEDURE
In this course, Robert Rules of Order are studied, beginning with the simple procedures of running a meeting. The complicated procedure of bill passing and the maneuverings that are possible in such parliamentary activities will also be practiced. The class will be run as a series of simulated situations. (This course may also be offered in day school.)

Evening School: 20 Hours

810-442 PUBLIC SPEAKING
What to say and how to say it for specific situations is studied and practiced. Formal and informal speech situations are analyzed. Parliamentary procedure and the methods of successfully holding a meeting are learned.

Evening School: 40 Hours

810-441 YOUR SPEECH
This course consists of two units. The first emphasizes breathing, poise, tone placement, vocal technique through relaxation and articulation; the second consists of preparing and delivering speeches suitable for committee meetings, conferences, clubs, or similar groups.

Evening School: 40 Hours
ADULT HIGH SCHOOL

801-711 ENGLISH FUNDAMENTALS
The basic structure of the English language is studied with emphasis on functional and relational elements. Spelling and vocabulary are stressed as are writing. Developmental reading is incorporated as is organization and writing of essays and reports. This is a one-semester course for which high school credit may be earned.
Materials Fee: $2.00
Day School: 90 Periods

801-712 ENGLISH GRAMMAR
An advanced English grammar course giving a thorough review of the principles of sentence construction, punctuation, capitalization, paragraphing, spelling, and vocabulary building. Dictionary study and the correct grammatical use of parts of speech will also be included. Grammar usage is consistently practiced through writing.
Materials Fee: $2.00
Day School: 90 Periods

801-709 LITERATURE AND COMPOSITION I
Literature is studied to explore taste in reading, to give a student an appreciation of good writing, and to help him in expressing himself in writing. One-half a high school credit may be obtained.
Materials Fee: $2.00
Day School: 90 Periods

801-710 LITERATURE AND COMPOSITION II
The second semester is a continuation of Literature and Composition I. One-half a high school credit may be obtained.
Materials Fee: $2.00
Day School: 90 Periods

804-701 GENERAL MATHEMATICS I
Beginning with a review of the fundamentals of arithmetic, this course moves on to beginning algebra. The materials used are those which make mathematics realistic to an average adult or high school student. One-half a high school credit may be obtained.
Materials Fee: $2.00
Day School: 180 Periods

804-702 GENERAL MATHEMATICS II
This is a continuation of General Mathematics I.
Materials Fee: $2.00
Day School: 90 Periods

804-721 GEOMETRY I
The course is a study of lines, planes, angles, and set theory, properties of triangles and tests of congruency, application of algebra to geometric figures, procedures applicable to the proofs of theorems, and similar geometric figures. One-half a high school credit may be obtained.
Materials Fee: $2.00
Day School: 90 Periods
GEOMETRY II

In the second semester coordinate systems with graphs of geometric figures are studied. Other topics covered are polygons, parallelograms, prisms, circles, and cylinders; areas of prisms and volumes of solids figures; vector notation and the introduction to trigonometric figures. One-half a high school credit may be obtained.

Materials Fee: $2.00

Day School: 90 Periods

TRIGONOMETRY

The elements covered in this course are: familiarization with trigonometric functions and the use of trigonometric tables, the solution of right and oblique triangles utilizing the sine and cosine laws, familiarization with trigonometric identities, and the use of logarithms in the solution of problems. One-half a high school credit may be obtained.

Materials Fee: $2.00

Day School: 90 Periods

Driver Education

This is a ten week course consisting of classroom instruction and behind-the-wheel driving. The classroom instruction is held in the evening. The behind-the-wheel driving is held during the day.

Classroom instruction may be taken without the behind-the-wheel training. The behind-the-wheel training however, may not be taken without the student having had the classroom instruction at the Madison Vocational, Technical and Adult Schools or at another school offering a comparable course.

The total cost of the course, including classroom instruction, behind-the-wheel training, and the registration fee is $35 for Madison residents and $47 for non-residents.

TRIGONOMETRY

This is a twenty hour course which includes lectures, demonstrations, and discussions. The class meets for ten sessions on Tuesday and Thursday evenings from 7 to 9 p.m. and is open to license as well as beginning drivers 18 years of age or older. It includes a study of the "Wisconsin Manual for Motorists," state traffic laws, local ordinances, driver and pedestrian responsibilities, correct driving practices, the art of driving, and psychological tests and testing. Instruction is supplemented with visual aids, films, and resource personnel.

Students who successfully pass the written test given by the State Motor Vehicle Department License Examiners, and are eligible to take the behind-the-wheel training in the school's dual control car.

The 1966-67 classes begin on the following dates: August 30, 1966; November 1, 1966; January 17, 1967; and March 23, 1967. Materials Fee: $1.00

Evening School: 90 Hours

Tuition: $12.00 (Non-Residents)

TRIGONOMETRY

This is a twenty hour course consisting of eight fifty-minute lessons in either a standard or an automatic transmission dual control car, and eight fifty-minute observation periods in the car. Only persons who have successfully completed the twenty hour classroom course are eligible to take behind-the-wheel instruction.

Behind-the-wheel instruction may be scheduled between 8 a.m. and 2:45 p.m. and 5 to 6:45 p.m. Monday through Friday, or from 6 a.m. to 4:45 p.m. on Saturdays.

Note: One two-hour period is to be selected for driving one day per week for eight weeks.


Lab Fee: $2.00

Day School: 18 Hours

Tuition: $4.00

TRAFFIC SAFETY

Traffic safety is held in cooperation with the traffic and juvenile courts of the immediate area. Students are ordered to attend this course by the juvenile and traffic judges if it is their decision that the individual can be helped in becoming a better and safe driver. The course consists of correct driving practices, driver attitudes, legal responsibilities of driving, law enforcement, and a final examination based on the traffic safety film and visual aids throughout the course.

Fee: $4.00

Evening School: 10 Hours

TRAFFIC SAFETY

This is a ten week course consisting of classroom instruction designed to provide maximum association to on-the-job instruction and behavior of company personnel while driving company vehicles or their personal automobiles.

The classroom instruction is taught five days a week for two weeks between the hours of 5 to 6 p.m. or 7 to 8 p.m.

Course content involves the study of: correct driving practices; motor vehicle accidents; defensive driving perception; pedestrian accidents; driving laws and regulations; vehicle maintenance; and care of motor vehicles.

Materials Fee: $2.00
an and bicycle accidents; alcohol and drugs; psychological make-up of drivers; review of the “Wisconsin Manual for Motorists”; good public relations through courteous driving.

Instruction is supplemented with audio-visual material to provide maximum learning and utilization of time.

The 1966-67 classes begin on the following dates: October 3, 1966; December 12, 1966; February 20, 1967; and April 24, 1967.

Materials Fee: $3.00

Day School: 10 Hours
Evening School: 10 Hours

Art

Fine Arts
Antiques
Free Hand Drawing
Interior Decoration
Lettering and Show Card Writing
Oil Painting
Painting
Portrait Painting
Watercolor

Crafts
Art Metal and Enameling
Braided Rugs
Ceramic Sculpture
Chair Caming
General Crafts
How to Frame and Mat Pictures
Jewelry
Lapidary (Stone Cutting)
Rosemaling
Pottery

We believe that ART is essential to the completeness of everyday life and that opportunities for individual expression and personal satisfaction can be found in the creative arts.

To this end, we offer the listings in this catalog. Through these educational experiences, the adult art student can use the tools, materials and media of the arts to pursue his interests and to develop his ability while working to become an accomplished craftsman and artist.
GENERAL EDUCATION

FINE ARTS

202-450 ANTIQUES (Collecting and Identifying)
Historical background of present day antiques. Lectures and discussion on antique furniture, china, glassware, textiles, metal accessories, restorations in Wisconsin and use of antiques in homes of today.
Course Fee: $4.00  Evening School: 20 Hours

201-404 FREE HAND DRAWING (An Approach to Art)
A course designed for beginning art students dealing with the techniques of various drawing media, rendering of form, perspective, shading and composition. Still life, the figure, and landscape are included.
Lab Fee: $6.00  Day School: 34 Periods  Evening School: 40 Hours

306-415 INTERIOR DECORATION
The course covers the aesthetic as well as the practical aspects of Interior Decoration. Subjects for the first part include: selection and arrangement of furniture, brief history of furniture, selection of color schemes, floor coverings, table equipment and decorations, as well as the masculine influence in the home.
The second part includes window treatment, kitchens, color principles and application, applied design, selection and placement of lights, analysis and selection of pictures, and treatment and arrangement of minor accessories. Group project work in the classroom precedes home visits and discussion work.
In addition to the lecture and discussion material, field trips are taken.
Lab Fee: $8.00  Day School: 48 Periods  Evening School: 40 Hours

201-410 LETTERING AND SHOW CARD WRITING
Fundamental alphabets. Practical training in lettering adaptable to commercial uses. An ideal course for the retailer who would like to make his own show cards. Techniques include pen and ink and brush lettering. Show card layouts and color theory.
Materials Fee: $3.00  Evening School: 40 Hours

202-441 OIL PAINTING I (Fundamentals of)
As an introduction to painting, the course covers a quick review of perspective drawing, the tools of the painter's craft and the theory of color. The first half of the course stresses representational painting, expression of third dimensional form in space through still-life or outdoor painting accompanied by a continuous stress on design. The second half of the semester stresses a more imaginative and interpretive presentation.
Prerequisite: Free Hand Drawing or its equivalent.
Lab Fee: $3.00  Day School: 60 Periods  Evening School: 40 Hours

202-445 OIL PAINTING II (Studio Painting)
A continuation of basic painting techniques, preparation of grounds, the palette, under painting, study of form, composition and color. Greater emphasis is placed on the "personal statement" in terms of the individual student.
Prerequisite: One year beyond high school of painting experience.
Lab Fee: $3.00  Day School: 60 Periods  Evening School: 40 Hours

202-446 PAINTING (Advanced)
For the student with previous painting experience who desires further instruction and stimulation of creative abilities, leading to improved picture concept and composition. Discussion emphasis is on new art directions, critiques of individual works as well as local shows. A variety of mediums is demonstrated and discussed. Framing and exhibiting are encouraged. Students enrolled are expected to paint outside of class laboratory time.
Lab Fee: $3.00  Day School: 60 Periods

202-448 PAINTING THE FIGURE
An advanced oil painting course for those who wish to extend or amplify the scope of their painting experience. Instruction includes basic head and figure construction, palette control and composting the figure. It is assumed the student has already mastered the techniques of oil painting and the course prerequistes should be considered as a minimum.
Prerequisite: Two years of oil painting experience.
Lab Fee: $6.00  Day School: 60 Periods  Evening School: 40 Hours

202-444 PORTRAIT PAINTING
Study of the head in light and shade; the anatomy, structure of solidity; gesture, expression, design element and composition. Mediums: pencil, charcoal, conté crayon, watercolor and oil. Students pay for materials used.
Prerequisite: Previous drawing and painting experience.
Lab Fee: $5.00  Day School: 60 Periods  Evening School: 40 Hours

202-439 WATERCOLOR I (Introduction to)
An introduction to the materials and problems of picture making. The adult who has never taken or done anything in art may find this course an excellent place to begin. Instructional units cover artist's tools and their use, color theory and application, introduction to perspective, composition and sketching. A variety of watercolor technique is demonstrated.
Lab Fee: $3.00  Day School: 60 Periods
202-410 WATERCOLOR II
For the adult who has some art background in sketching and working in media and would like to have stimulation and instruction for growth in water-based mediums. Group discussions will be held on problems the student raises as well as art appreciation or looking at contemporary watercolors. Group criticism every third meeting. Outside painting is encouraged and a group show will be hung.
Lab Fee: $3.00  Day School: 51 Periods
Evening School: 40 Hours

CRAFTS

202-450 ART METAL AND ENAMELING
Design processes and techniques as applied to copper, brass, and aluminum. Project chosen for execution will give students the fundamental processes as to behavior of non-ferrous metals, piercing, soldering, etching, oxidizing and finishing. In addition bows and similar projects can be enamelled. Students pay for materials used.
Lab Fee: $3.00  Evening School: 40 Hours
For Day Class see Jewelry I

304-481 BRAIDED RUGS
Size, shape, color, and design arrangement are stressed. Processes include braiding with three strands, splicing, padding, and lacing. Discarded materials recommended. Students furnish own materials.
Lab Fee: $1.00  Evening School: 40 Hours

202-491 CERAMIC SCULPTURE
An introduction course in clay sculpture, dealing with basic problems of designing, carving, building, decorating, and firing. Bas-relief and sculpture in the round will be stressed within 15-inch height limits.
Lab Fee: $3.00  Day School: 50 Periods

304-482 CHAIR CANING
Instruction in replacing cane chair seats, either hand woven or machine cane; also artificial rush and flat split weaving of chair seats. Students furnish own chairs and pay for material used.
Lab Fee: $3.00  Day School: 50 Periods
Evening School: 40 Hours

306-408 GENERAL CRAFTS
Leather Craft (tooling and carving), rosemaling (painted decoration on woodenware), block printing, textile printing (stencil and silkscreen method), liquid plastics (laminating and molding), and other current crafts as the demand arises.
Lab Fee: $3.00  Day School: 50 Periods
Evening School: 40 Hours

202-447 HOW TO FRAME AND MAT PICTURES
The importance of choosing the proper mat or frame for a picture can hardly be overemphasized. This class will help you put the right frame or mat on your pictures.

The class will be part lecture and demonstration, and part student participation. Class members will be encouraged to gain experience by working out as many actual framing problems under the supervision of the instructor as time permits. The class will include use of color, texture, mat board, and inexpensive substitutes; the construction of simple frames and even the reconstruction of old frames.
Lab Fee: $3.00  Day School: 38 Periods
Evening School: 40 Hours

202-458 JEWELRY I (Beginning)
For the beginner, basic instruction in designing and the fabrication of jewelry. The core of the course will be flat work in copper, brass, silver, and casting. Some of the various processes covered are piercing, repousse, chasing, casting, enameling, stone cutting (lapidary), and bezel setting.
Lab Fee: $3.00  Day School: 51 Periods

202-471 JEWELRY
Flat work in copper, brass, and silver. Various processes include sawing, filing, soldering, piercing, repousse, chasing, casting, stone setting and finishing. Students pay for materials used. For the layman.
Lab Fee: $3.00  Evening School: 40 Hours

202-454 JEWELRY II (Advanced)
An advanced course for the student with previous experience with basic processes who desires to develop depth in design and craftsmanship. Instruction in casting of silver and gold, fabrication in a variety of materials such as: copper, brass, silver, wood (ebony), and plastics. The making of settings for faceted stones.
Lab Fee: $3.00  Day School: 50 Periods

202-477 LAPIDARY (Stone Cutting)
Recognition and classification of semi-precious stones. The processes on the lapidary machine include sawing, grinding, sanding and polishing stones suitable for costume jewelry. Students pay for materials used. For day classes see course no. 202-453, Jewelry I.
Lab Fee: $3.00  Evening School: 40 Hours
GENERAL EDUCATION

202-490 POTTERY
A basic course that prepares the student for work at the potter’s wheel. Designing and building forms by the coil and slab methods will be followed by throwing on the wheel. Glaze preparation and application, both high and low fire, stacking and firing kilns are all introduced. Students pay for materials used.
Lab Fee: $4.00  Day School: 60 Periods
          Evening School: 60 Hours

203-493 POTTERY (Advanced)
A course with advanced problems in wheel work and hand building. Clay and glaze formulation is covered, as well as kiln use and other studio problems. Time will be given to the historic achievements in pottery and aesthetic values involved.
Prerequisite: One year of previous training.
Lab Fee: $4.00  Evening School: 60 Hours

203-494 POTTERY (Advanced Problems in)
A combination of studio work and discussion groups will investigate facets of pottery such as primitive Indian pit fired pottery, English medieval earthenware and slipware, Japanese raku, and high fire vapor glazing. Visits will be made to Museums to view actual historic and contemporary examples and to industrial clay and hand production studio situations.
Lab Fee: $4.00  Day School: 60 Periods

306-488 ROSEMALING
Rosemalning, the Norwegian folk art of decorative painting on woodenware. Instruction in brush handling, application and mixing of color, planning and painting the design. The technique having been learned, it can be applied to other than Norwegian designs and on bases other than wood.
Course Fee: $8.00  Evening School: 40 Hours

Music

Instrumental
Madison Symphony Orchestra
Madison Community Orchestra
Municipal Band
Chamber Music
Flute
Guitar
Violin

Vocal
Madison Civic Chorus
Civic Opera Workshop
Glee Club
Sight Reading for Singers
Voice Class

Keyboard
Piano
Organ
Piano or Organ Ensemble

Theory
Piano Harmony
Organ Harmony

Appreciation
Learn to Listen
Music Appreciation
Modern Dance

In a world of increasing leisure time, music fills a need for people more than ever before.

The courses listed are practical in content and go from the simplest of manual skills to the more complicated area of theory and its application. The goal is to provide the student the means to unlock a new realm of sound.

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GENERAL EDUCATION

INSTRUMENTAL

805-443 MADISON SYMPHONY ORCHESTRA
Standard symphonic repertoire; ten concerts per season. Made up of adults who must qualify.
Evening School: 58 Hours

805-444 MADISON COMMUNITY ORCHESTRA
A training orchestra for reading and rehearsing of standard orchestral repertoire. One public appearance yearly. Made up of adults who must qualify.
Evening School: 52 Hours

805-445 MUNICIPAL BAND
Standard concert band repertoire. Composed of adults who must qualify.
Evening School: 54 Hours

805-447 CHAMBER MUSIC
Standard chamber music repertoire of quartets, trios, and sonatas. Instrumentalists who play strings, woodwinds, or piano are accepted. The class is composed of adults who must qualify.
Evening School: 60 Hours

805-448 FLUTE ENSEMBLE
For adults with some experience on the flute.
Course Fee: $10 per year
Evening School: 20 Hours

805-449 GUITAR I
Fundamental of guitar playing, reading, chording, etc.
Course Fee: $10 per year
Evening School: 20 Hours

805-450 GUITAR II
A continuation of Guitar I.
Course Fee: $10 per year
Evening School: 20 Hours

805-451 VIOLIN CLASS
Fundamentals of violin playing for adult beginners.
Course Fee: $10 per year
Evening School: 60 Hours

VOCAL

805-441 MADISON CIVIC CHORUS
Standard oratorio and cantata repertoire in several concerts with the Madison Symphony Orchestra. Composed of adults who must qualify.
Evening School: 56 Hours

805-442 CIVIC OPERA WORKSHOP
Standard opera repertoire. Composed of adults who must qualify.
Evening School: 54 Hours

805-441 GLEE CLUB
Day School: 38 Periods

KEYBOARD

805-430 PIANO I
A fundamental course, dealing with the basic skills in reading and using the two staves, note values, and rhythms. Designed for adults with no previous piano experience. Easy solos and exercises geared to adult tastes.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 50 Hours

805-432 PIANO II
Designed as a follow-up to Piano I or for adults having had some piano at a previous time. A review of the fundamentals, some scale and chord study, continuing with solos and studies to suit the individual. Smooth, rhythmic playing with expression is the goal of this course.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 20 Hours

805-433 PIANO III
A course designed to meet the needs of adults who have had lessons some time previously and wish to regain their skill and reading ability. Some scale and chord study and solos and exercises to suit the individual are included.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 20 Hours

805-434 PIANO IV
This course is meant to meet the needs of adults who have had lessons some time previously and wish to regain skill and reading ability. Some scale and chord study and solos and exercises to suit the individual are included.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods

GENERAL EDUCATION
### GENERAL EDUCATION

**805-435 PIANO IV**  
Musical masterpieces and exercises to suit the individual.  
Course Fee: $1 per lesson, payable for the length of the course  
Evening School: 20 Hours

**805-420 ORGAN**  
For adults with no knowledge of the instrument or reading music. Study of the fundamentals includes work with the pedals. The registrations for the various instruments and makes of organs are studied. Easy solos, geared to adult taste.  
Course Fee: $1 per lesson, payable for the length of the course  
Day School: 19 Periods  
Evening School: 20 Hours

**805-434 PIANO OR ORGAN ENSEMBLE**  
Includes work for two pianos or piano and organ. Improves rhythms and reading ability. For adults with some proficiency on either piano or organ.  
Course Fee: $10 per semester  
Day School: 38 Periods

**805-435 PIANO HARMONY I**  
For adults interested in popular music. Some knowledge of piano and reading ability is necessary. The ability to make an original accompaniment for a melody plus chord name is stressed. Work in breaks and fill-ins is included.  
Course Fee: $1 per lesson, payable for the length of the course  
Day School: 19 Periods  
Evening School: 20 Hours

**805-431 PIANO HARMONY II**  
The more unusual chord forms are learned. More elaborate breaks, fill-ins and endings are used. Transposing from one key to several others is included.  
Course Fee: $1 per lesson, payable for the length of the course  
Day School: 19 Periods

**805-421 ORGAN HARMONY I**  
For adults with some knowledge of the organ. Chord analysis and transferring piano music and hymns to the organ. Useful to church organists and to those interested in popular music.  
Course Fee: $1 per lesson, payable for the length of the course  
Day School: 19 Periods  
Evening School: 20 Hours

**805-422 ORGAN HARMONY II**  
Primarily for those interested in popular music. Rhythms and pedal work are stressed. Breaks, fill-ins, modulation and transposing are studied.  
Course Fee: $1 per lesson, payable for the length of the course  
Day School: 19 Periods

### APPRECIATION

**805-418 LEARN TO LISTEN**  
Designed for adults with little knowledge of music. Includes learning the musical terms, building of scales, possibilities of various instruments, musical forms and listening to recorded examples of various styles: Baroque, classic, etc., including the music of today.  
Course Fee: $10 per semester  
Day School: 38 Periods

**805-419 MUSIC APPRECIATION**  
A series of lectures on music and the related arts which are intended to guide the serious listener to a better understanding of the art of music.  
Course Fee: $10 per year  
Evening School: 40 Hours

### MODERN DANCE

**805-417 MODERN DANCE**  
Modern dance class for adults. Previous experience is not necessary. This class is not social or ball-room dancing.  
Course Fee: $10 per year  
Evening School: 20 Hours
GENERAL EDUCATION

805-428 PIANO IV
Musical masterpieces and exercises to suit the individual.
Course Fee: $1 per lesson, payable for the length of the course
Evening School: 20 Hours

805-429 ORGAN
For adults with no knowledge of the instrument or reading music. Study of the fundamentals includes work with the pedals.
The registrations for the various instruments and makes of organs are studied. Easy solos, geared to adult taste.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 20 Hours

805-430 PIANO OR ORGAN ENSEMBLE
Includes work for two pianos or piano and organ. Improves rhythms and reading ability. For adults with some proficiency on either piano or organ.
Course Fee: $10 per semester
Day School: 19 Periods

THEORY

805-435 PIANO HARMONY I
For adults interested in popular music. Some knowledge of piano and reading ability is necessary. The ability to make an original accompaniment for a melody plus chord names is stressed. Work in breaks and fill-ins is included.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 20 Hours

805-431 PIANO HARMONY II
The more unusual chord forms are learned. More elaborate breaks, fill-ins and endings are used. Transposing from one key to several others is included.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 20 Hours

805-421 ORGAN HARMONY I
For adults with some knowledge of the organ. Chord analysis and transferring piano music and hymns to the organ. Useful to church organists and to those interested in popular music.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods
Evening School: 20 Hours

805-422 ORGAN HARMONY II
Primarily for those interested in popular music. Rhythms and pedal work are stressed. Breaks, fill-ins, modulation and transposing are studied.
Course Fee: $1 per lesson, payable for the length of the course
Day School: 19 Periods

APPRECIATION

805-418 LEARN TO LISTEN
Designed for adults with little knowledge of music. Includes learning the musical terms, building of scales, possibilities of various instruments, musical forms and listening to recorded examples of various styles: Baroque, classic, etc., including the music of today.
Course Fee: $10 per semester
Day School: 19 Periods

805-419 MUSIC APPRECIATION
A series of lectures on music and the related arts which are intended to guide the serious listener to a better understanding of the art of music.
Course Fee: $10 per year
Evening School: 40 Hours

MODERN DANCE

805-417 MODERN DANCE
Modern dance class for adults. Previous experience is not necessary. This class is not social or ball-room dancing.
Course Fee: $10 per year
Evening School: 40 Hours
BUSINESS

Accounting
Applied Bookkeeping
Sole Proprietorship
Partnerships
Corporation
Intermediate and Advanced Problems
Cost
Governmental
Income Tax
American Institute of Banking
Accounting
Bank Operation
Economics
Financial Statements
Trusts
Money and Banking
Mortgages
Negotiable Instruments

Business Machines
Key-Drive
Comptometer and Burroughs
Automatic Electric Calculators
Friden, Marchant, Monroe
Adding - Listing Machines
Ten-key
Full Key
Printing Calculators

Machine Bookkeeping
Burroughs Semiomatic, Monroe, National
Cash Register

Related Business
Letter Writing
Civil Service Review
Law
Office Procedures
Office Supervision
Records Management

Secretarial
Shorthand
Beginning, Intermediate, Advanced, Review
Stenography
Stenocraft ABC Shorthand

Typewriting
Transcribing Machines

Data Processing
IBM Key Punch
IBM Verifier
Teleprinting Machines
Control Panel Wiring
Computer Concepts
Programming
The Business department provides a variety of courses for adult students desiring to prepare for employment, for promotional opportunities, to retrain for new occupations, or to upgrade their skills.

Business courses stress the following areas of training

1. Accounting and Bookkeeping
2. Business Machines
3. Related Business — General Clerical
4. Secretarial and Stenography
5. Data Processing

Course descriptions should be carefully studied and evaluated in terms of interests, aptitudes, previous training and objectives. School counselors will assist in making a decision, if necessary.

ACCOUNTING

101-411 ACCOUNTING I
Sole Proprietorship — A study of the fundamental bookkeeping equation as it relates to double entry bookkeeping. Topics covered include basic accounting records, end-of-cycle procedures, special journals and ledgers, and a brief study of payroll accounting.
Materials Fee: $1.00
Evening School: 60 Hours

101-412 ACCOUNTING II
Partnerships — Emphasis is placed on partnership accounting with special study in the areas of cash control, negotiable instruments, asset valuation, departmental accounting, sales and property taxes, and year-end procedures. Prerequisite: Accounting 411 or its equivalent.
Materials Fee: $1.00
Evening School: 60 Hours

101-416 ACCOUNTING III
Corporations — Consideration is given for accounting in the industrial or manufacturing type of enterprise. Such topics as corporation bonds and investments, process cost and job order cost accounting, financial statement analysis, budgeting and internal reporting, and branch operations are studied. Prerequisite: Accounting 413
Materials Fee: $1.00
Evening School: 60 Hours

101-418 ACCOUNTING IV
Intermediate Problems — An extensive study is made of the various accounting statements and how they relate to financial decisions. Each account classification is studied in detail. Prerequisite: Accounting 416
Materials Fee: $1.00
Evening School: 60 Hours

101-425 ACCOUNTING VI
Cost — An examination of materials, labor and factory overhead as it relates to job order and process cost accounting systems is made. Additional emphasis is placed on the use of standard cost accounting. Prerequisite: Accounting 415
Materials Fee: $1.00
Evening School: 60 Hours

101-427 ADVANCED ACCOUNTING PROBLEMS
For junior accountants interested in additional study on preparation and interpretation of forms and reports used in accounting. Prerequisite: Accounting 418
Materials Fee: $1.00
Evening School: 60 Hours
BUSINESS EDUCATION

101-438 GOVERNMENTAL ACCOUNTING
The use of "Funds" and its relation to governmental accounting and the place that a budget as a control device plays in a governmental accounting system.
Prerequisite: Accounting 116
Materials Fee: $1.00
Evening School: 30 Hours

101-436 GENERAL ACCOUNTING
For students who have had the theory of double entry bookkeeping and accounting. It accommodates the adult refresher student or the student, who, because of conflicts, cannot be scheduled in other accounting classes. The course is taught on an individual basis. Sole proprietorships, partnerships, and corporation-manufacturing accounting are studied.
Materials Fee: $1.00
Day School: 67 Periods

101-410 APPLIED BOOKKEEPING
The double entry system of bookkeeping is studied with corresponding journals, ledgers, and business statements. Especially designed for owners and operators of small businesses. Problems peculiar to these businesses will be discussed and the interpretation of various statements and records will be included as a guide to better business management. No prior training in bookkeeping required.
Materials Fee: $1.00
Evening School: 60 Hours

101-433 ELEMENTARY BOOKKEEPING
The fundamental principles of double entry bookkeeping necessary in the complete bookkeeping cycle: journals, ledgers, financial statements, adjusting and closing entries, post-closing trial balance. Adults desiring a knowledge of bookkeeping, but not interested in the more detailed accounting courses, will find this meets their needs adequately.
Materials Fee: $1.00
Day School: 57 Periods

101-423 INCOME TAX ACCOUNTING
A survey of the various current income tax laws as they relate to individuals as well as business enterprises will be made. The course involves the completion of actual income tax forms for both federal and state returns.
Prerequisite: Accounting 101-416
Materials Fee: $1.00
Evening School: 30 Hours

101-422 INCOME TAX CLINIC
A short course consisting of lectures and discussions on individuals in general and state income tax returns. It is designed for persons mainly interested in their own returns. Such subjects as forms, gross income, deductions, changes in the law, calculation of the tax, rent income, depreciations, and tax savings are covered.
Evening School: 8 Hours

These are specialized courses designed for banking personnel and are part of the Certification Program of the American Institute of Banking. However, employment in a bank is not a prerequisite.

101-404 AIB ACCOUNTING I
Presents the basic principles of accounting from the standpoint of the business manager. It is concerned with the keeping of business records. The accounting function of summarization, with special emphasis placed on the need for presenting accounting facts in the form that best serve management needs. Ample problem material parallels the text discussion.
Evening School: 42 Hours

101-406 AIB ANALYZING FINANCIAL STATEMENTS
A primary function of banking is the extension of credit. This course has been designed to give the student a thorough understanding of financial statements and their interpretation. Details of the balance sheet and the profit and loss statement are discussed from a credit standpoint, and the student is taught the significance and value of ratios, trends, proportions, and internal and external comparisons. The text also deals with the analysis of working capital, receivables and inventories, interim trial balances, consolidated statements, budgets, and projections.
Evening School: 42 Hours

101-406 AIB ECONOMICS
Economics approaches the subject from the problem standpoint. Among the subjects discussed are the human and natural resources of the economy; the impact of science and technology; the iron and steel, coal, and oil industries; farm problems; manufacturing industries; railroads; public utilities; building and construction work; and price practices and policies. Also considered are the problems of labor and the consumer, recent monetary developments, the causes and suggested controls of the business cycle, and the more significant economic trends that have developed in recent years.
Evening School: 42 Hours

101-407 AIB HOME MORTGAGE LENDING
After introducing the student to home mortgage lending, the text proceeds to distinguish between the primary and the secondary mortgage markets. Practical consideration of home mortgage lending activities: the loan application procedure; the inspection and appraisal of real estate; the determination of the borrower’s credit standing and his ability to comply with terms of the mortgage; the closing of mortgage loans; the servicing of loans and the handling of delinquent loans.
Evening School: 42 Hours
101-405 AIB MONEY AND BANKING
Money and Banking starts with a survey of financial institutions and then covers the nature and use of money, the nature of and development of the monetary system, monetary standards, and the development of the monetary system in operation. From this course, the banker becomes better informed on the economics of money and banking.

Evening School: 48 Hours

101-414 AIB NEGOTIABLE INSTRUMENTS
A banker should be familiar with essential provisions of the Union Negotiable Instruments Law. The law of negotiability covers checks, promissory notes, bills of lading, stock certificates, bonds, certificates of deposit, trade acceptances, bank acceptances, and warehouse receipts. Negotiable instruments are also discussed. Sections of the Uniform Bills of Lading Act, the Uniform Stock Transfer Act, and the Uniform Warehouse Receipts Act that concern the banker are included.

Evening School: 48 Hours

101-408 AIB PRINCIPLES OF BANK OPERATIONS
A study of the principles and functions of commercial banking. It stresses the why of banking functions and explains the principles involved for both small and large banks. Emphasis is placed on the banking process and the principles underlying bank operations.

Evening School: 42 Hours

101-439 AIB TRUSTS
A clear and complete picture of the services rendered by corporations engaged in trust business. For the personnel of trust departments in commercial banks and trust companies as a part of their formal trust education. The main functions of the trust institution are classified and related that students will understand the distinction between agencies and trusts.

Evening School: 42 Hours

BUSINESS MACHINES

103-411 COMPTOMETER AND BURROUGHS I
A general introductory course which includes instruction on the basic four operations of addition, subtraction, multiplication, and division. Reverse, cross hand, interleaved, left to right, accumulation of products, and the use of the fixed decimal point are studied in the expansion of the multiplication process. Drill on speed and accuracy of operation will be included for the review student.

Materials Fee: $3.00

Evening School: 40 Hours

103-412 COMPTOMETER AND BURROUGHS II
A short review is stressed with an opportunity to develop speed and accuracy in operation. Percentage of increase and decrease, chain discounts, prorating, reciprocals, and the figuring of payroll are included. Student may be ready for job placement at the end of this course.

Prerequisite: 103-411 — Comptometer and Burroughs I

Materials Fee: $3.00

Evening School: 40 Hours

103-401 GENERAL MACHINE CALCULATION
For the student desiring skill on the key-driven calculators (Comptometer and Burroughs) and the automatic electric calculators (Friden, Marchant, and Monroe). Work is also given on the ten- and full-keyboard adding and printing calculator machines. All basic operations are included; addition, subtraction, multiplication, division, and division. Practice projects include work on payroll, invoicing, bank reconciliation, deposit lists, discounts, interest, and other practical office calculations. Key punch and machine bookkeeping with the corresponding lecture in each class can be taken as a part of this course, as well as Comptometer and Burroughs I or II.

Materials Fee: $3.00

Day School: 57 Periods

103-420 MACHINE CALCULATION
Automatic Electric Calculators — Friden, Marchant, Monroe. The student learns the basic operations on the rotary, electric calculator. Accumulation, negative multiplication, percentage, discounts, reciprocals, distribution, proration, and invoicing are a part of the course. Practical applications as used in business and industry are stressed. Training is also given on ten- and full-keyboard adding machines and on ten-key printing calculators.

Materials Fee: $3.00

Evening School: 40 Hours

103-418 MACHINE BOOKKEEPING
Use of posting machines in processing accounts receivable, accounts payable, and payroll exercises gives the student the necessary background for employment in this field of machine operation.

Prerequisite: Typewriting and a knowledge of elementary bookkeeping principles.

Materials Fee: $3.00

Evening School: 40 Hours

103-433 MACHINE BOOKKEEPING LECTURE
This course prepares the student for actual operation of various types of bookkeeping machines. Instruction is given on the parts of the machines, different systems in use, operating techniques and various business forms. By taking this course the student can devote more time to actual machine operation.

Day School: 9 Periods

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RELATED BUSINESS

105-403 BUSINESS ARITHMETIC
The course is especially intended to serve the needs of people in business. Cashiers, clerks, general office workers, students preparing for civil service examinations, accounting and business machines students, and persons not strong in arithmetic will find this course well adapted to their needs. An intensive review of fundamentals, percentage, practical short methods, bank discounts, trade and cash discounts, profit and loss, and payrolls will be included in the course.

Evening School: 30 Hours

105-409 BUSINESS COMMUNICATION TECHNIQUES
This course is designed as an aid to effective business communications primarily directed toward those who are called upon to speak extemporaneously to sales groups, service clubs, and other organizations. The purpose is to help get the message across. The course will include composing an effective speech, the need for effective introductions, microphone techniques, voice projection, enunciation, and how to win an audience.

Evening School: 10 Hours

105-411 BUSINESS CORRESPONDENCE
Developing the skill of writing effective business and human relations letters is the basic purpose of the course. It includes a review of the mechanical make-up of a letter and the composition of the standard types of business letters, order letters, acknowledgements, inquiry, credit, and collection letters, adjustments, letters of application, and data sheets. The following human relations letters are stressed: invitations, letters of introduction, making reservations, and letters of condolence and sympathy.

Evening School: 20 Hours

105-407 BUSINESS ENGLISH
A review and application of the basic principles of grammar, sentence structure, parts of speech, and punctuation. Emphasis is placed on vocabulary, dictation, spelling, and dictionary use.

Evening School: 40 Hours

105-401 BUSINESS LAW
This course acquaints the student with general principles of law followed in business and trains him to apply these principles to typical business situations. The text material is supplemented with selected cases which demonstrate the application of legal principles to concrete cases.

Evening School: 40 Hours

105-441 CIVIL SERVICE REVIEW
An extensive review of rules of grammar, spelling and arithmetic; preparing students desiring to take civil service tests. Typewriting, shorthand, and accounting are not included in this course.

Day School: 57 Periods

105-440 CIVIL SERVICE REVIEW
This course is for persons desiring to take city, state, and federal civil service examinations for office and clerical positions. Review is given in grammar, spelling, arithmetic, with preliminary practice in various types of tests; matching, true-false, completion, and multiple choice. Typewriting, shorthand, and accounting are not a part of this course.

Evening School: 20 Hours

105-438 CURRENT ECONOMIC PROBLEMS
Discussion centers on current problems of varying economic conditions pertaining to problems of inflation, unemployment, world trade, resources for production, money and credit.

Evening School: 40 Hours

105-412 EFFECTIVE LETTER WRITING
For those people in business who write many letters and interoffice communications. The business letter is approached from the standpoint of the psychology of letter writing in simple letter situations such as ordering goods or accepting orders to the more difficult situations such as refusing credit to a customer or adjusting a difficult situation.

Evening School: 6 Hours

105-435 NURSING HOME ADMINISTRATION
Developed through the cooperation of the Wisconsin State Board of Health for nursing home operators and administrators. Functions of administration, accounting records and controls, administrative duties, federal and state taxes, human relations, supervision, evaluation and training, legal obligation of the administrator, and the varied services of nursing homes are topics covered. Credit is given toward certification by the American College of Nursing Home Administrators for attending the complete series of six institutes.

Course Fee: $15.00

Day School: 18 Periods

105-437 OFFICE PROCEDURES
This is a course for junior executives and mid-management employees who wish to review general office procedures and techniques. Topics include: dictating, telephoning, filing, and letter forms.

Evening School: 10 Hours
105-439 OFFICE SUPERVISORY DEVELOPMENT
Emphasis will be centered on the practical application of theories and techniques in solving personnel problems. The role of the supervisor in the organizational structure, the supervisor's tools and techniques, communications, and counseling techniques are studied. Persons supervising employees now or who will be in the future will profit from this course.
Evening School: 20 Hours

105-421 PERSONNEL PSYCHOLOGY
A continuation of Supervisory Development stressing the psychological approach in dealing with personnel problems arising in business and industry. Students may enter this course without having taken the Office Supervisory Development course.
Evening School: 20 Hours

105-416 RECORDS MANAGEMENT
Day School: 57 Periods

105-418 RECORDS MANAGEMENT
Basic systems of filing correspondence (alphabetic, numeric, geographic, subject), and non-correspondence filing (card, visible records, and special records) are introduced. The filing cycle — inspecting, indexing, coding, sorting, and storing — is an important phase of this course.
Evening School: 30 Hours

SECRETARIAL

106-405 SHORTHAND I
The basic principles of Gregg shorthand are studied. Development of skill in reading, writing, and taking dictation at various speeds. For students with no experience.
Materials Fee: $3.00
Day School: 25 Periods
Evening School: 40 Hours

106-414 SHORTHAND II
For students who have completed the theory of shorthand in previous evening sessions or who have had shorthand in high school. A review with supplementary reading, dictation, and transcription will be given. The dictation range is between 40 to 80 words per minute. Students will receive dictation live and by use of pre-recorded tapes.
Prerequisites: Beginning shorthand and typewriting.
Materials Fee: $3.00
Evening School: 40 Hours

106-408 SHORTHAND REVIEW AND DICTATION
A refresher course for persons who have completed shorthand theory and who wish a general review of shorthand principles. Students should have had work in transcription. No transcription will be done in class. Students may later transfer to stenography classes upon satisfactory completion of this course. Dictation will be given at varied speeds from 40 to 80 words per minute.
Prerequisite: 106-405 Shorthand I
Materials Fee: $2.00
Evening School: 20 Hours

106-406 SHORTHAND REVIEW AND DICTATION
A review of shorthand theory, speed building, mailable transcriptions, and 5-minute speed takes ranging from 50 to 120 or higher are included in this course. Teacher dictation is provided along with use of the multiple channel tape lab. This course is designed to accommodate Simplified and Diamond Jubilee shorthand systems.
Prerequisite: 106-405 Shorthand I
Materials Fee: $2.00
Day School: 57 Periods

106-416 STENOGRAPHY
An advanced course stressing the development of shorthand skills by dictation at higher rates of speed. Emphasis is placed on transcription for mailable copy, office procedures and practices. Dictation speed ranges from 80 to 140 words per minute through use of live dictation and multiple channel tape laboratory.
Prerequisite: 106-414 Shorthand II
Materials Fee: $8.00
Evening School: 40 Hours

106-470 STENOSCRIPT ABC SHORTHAND
The easy way to learn a shorthand system — written with the "abc's." No symbols to learn. You can reach a speed of 80 to 100 words per minute in one term. Accepted by Civil Service.
Materials Fee: $1.00
Evening School: 40 Hours

106-484 TYPEWRITING I
Basic skills and techniques in touch typewriting. Students will progress through letter writing and tabulated materials. For students with no experience.
Lab Fee: $3.00
Day School: 96 Periods
Evening School: 90 Hours

106-482 TYPEWRITING I
Complete knowledge and mastery of touch typewriting. Covers basically the materials in course number 106-484, but not so extensively.
Lab Fee: $8.00
Evening School: 40 Hours
BUSINESS EDUCATION

106-448 TYPEWRITING II
Students develop typewriting power, speed, and accuracy through use of good techniques in typing from problem and from sustained writing copy. Problems include: letter arrangement, special types of business letters, planning and typing tables, tabulations, rough drafts, and simple business forms.
Prerequisite: Typewriting I or its equivalent
Lab Fee: $2.00
Evening School: 40 Hours

106-446 TYPEWRITING III
The course is designed to provide the typist with problems comparable to actual office situations. Letter styles, invoices, statements, rough drafts, tabulations, and report writing are featured. Timed writings are an important part of the work. Students may work on copy to be duplicated by the mimeograph stencil or spirit duplicating process. Work on transferring machines will also be included.
Prerequisite: 106-446 Typewriting II
Lab Fee: $2.00
Evening School: 40 Hours

106-440 GENERAL TYPEWRITING
Designed to accommodate the adult refresher student in regaining speed and accuracy lost through insufficient use of previously learned typewriting skills. Letter writing, tabulations, and timed writings are included in the instruction. Students with less than one semester of previous instruction should consider registering in Typewriting I.
Lab Fee: $8.00
Day School: 57 Periods

106-441 PERSONAL USE TYPEWRITING
Basically intended for students who cannot take typewriting during the regular school year. Students become proficient in typewriting themes, letters, class notes, reports, and outlines. It is not designed for vocational use.
Lab Fee: $8.00
Day School: 60 Periods

106-444 POLICE TYPEWRITING
Specifically designed for the typewriting of daily reports as required by all police officers of the City. Proper methods and techniques of keyboard operations with stress on accurate composition at the typewriter.
Lab Fee: $8.00
Day School: 50 Periods

106-465 SECRETARIAL PROCEDURES
Provides a comprehensive treatment of secretarial duties as performed in business offices. Discussion of office problems to develop initiative, resourcefulness and independent action. Includes telephone techniques, handling mail, receptionist duties, financial records, letter-writing, itineraries, and job application.
Evening School: 20 Hours

DATA PROCESSING

107-405 INTRODUCTION TO PUNCHED CARD ACCOUNTING
For persons with no previous knowledge of data processing equipment whose work requires familiarity with the machine accounting department. It is also for persons who want to take more advanced courses. This course covers: card principles and design, unit record methods, coding and procedure development and operating principles of card punches, sorters and interpreters, reproducers, collators, and tabulating machines. Students will work on machines and learn control panel wiring for the IBM 402.
Materials Fee: $5.00
Evening School: 30 Hours

107-407 DATA PROCESSING FOR TEACHERS
An introduction to the fundamental concepts and operating principles of data processing. Provides an opportunity for teachers to acquire sufficient background and terminology as needed in their teaching assignment and provides the basis for continued study.
Evening School: 15 Hours

107-408 TABULATING MACHINE OPERATION I
An intensified course in machine accounting, providing training in control panel wiring and machine operations for the 408 tabulating machine. Practical machine problems as well as instruction in theory are included in this course.
Materials Fee: $5.00
Evening School: 30 Hours

107-409 TABULATING MACHINE OPERATION II
This course increases and broadens the student's knowledge of machine accounting. Specific instruction is provided for the 408 and 409 tabulating machines, with advanced work on control panel wiring.
Prerequisite: 107-408 or basic accounting machine wiring experience.
Materials Fee: $5.00
Evening School: 30 Hours

107-411 KEY PUNCH
Instruction is given on the touch system of operation for both numeric and alphabetic key punching and the card verifying machine. The punching of program cards is an integral part of the course. Various business applications are studied including payroll exercises and sales analysis.
Prerequisite: Typewriting speed of 35 words per minute.
Materials Fee: $5.00
Day School: 27 Periods
Evening School: 20 Hours
107-412 KEY PUNCH LECTURE
An introduction to the data processing field emphasizing equipment used in preparing the punched card for production. Key punch and verifying machines are studied in detail as well as learning to prepare the master card in programming various applications.
Day School: 3 Periods
Evening School: 10 Hours

107-413 COMPUTER CONCEPTS
This course covers a brief history of computers, a general description of how computers operate, an abbreviated study of programming with some practical exercises, and an extensive investigation of various applications typical to business and industrial uses of computers. The utility and economic advantage of a computer in these areas will be discussed.
Evening School: 20 Hours

107-414 INTRODUCTION TO IBM SYSTEM 360
The course is designed to supplement manufacturer’s courses and to introduce the basic features of the IBM System 360 series. It will cover storage and addressing logic, the various instruction sets, fixed point, floating point and decimal operations, and examine the various auxiliary equipment attachments. Also to be reviewed are functions and logic of operating system and real-time operations. Detailed programming techniques will be presented at a future date.
Prerequisite: Experienced computer personnel only.
Evening School: 20 Hours

107-419 BASIC ASSEMBLY LANGUAGE — IBM S/360
This course is designed to provide basic assembly language programming techniques used for the IBM System/360. It will cover the instruction sets and programming for arithmetic, logic and data handling in the problem state and examples of communicating with the operating system for I/O and special operating system features.
Materials Fee: $1.00
Evening School: 40 Hours

107-420 BASIC COMPUTER PROGRAMMING, IBM 1620
This is a basic course in programming an electronic computer with the IBM 1620 available for class use. Practical problems are used to afford the student an opportunity to apply programming techniques. Such subjects as machine components, data flow, instruction format, operation codes, timing, and checking will be studied.
Materials Fee: $5.00
Evening School: 40 Hours

107-421 COMPUTER FUNCTIONS AND OPERATIONS FOR ENGINEERS
This course is designed to give a short overview of the computer concepts, equipment used in processing data, arrangement of data for equipment operation and the utilization of the 1620 computer for engineering problems workshop.
Materials Fee: $5.00
Evening School: 40 Hours

107-424 INTERMEDIATE COMPUTER PROGRAMMING
This course covers advanced techniques with 1400 series IBM Computers. It develops sufficient skill to use COBOL with the 1401 computer. An introductory study of systems programming including library and utility program use. Development of skills with larger systems and more complex programs. Discussion and comparison of the 1400’s with other computers and an analysis of other programming systems in use with the 1400 computer.
Prerequisite: 107-428 or programming experience.
Materials Fee: $5.00
Evening School: 40 Hours

107-426 REPORT PROGRAM GENERATOR
This course is designed to present the features of the System/360 report program generator language. Application problems will be illustrated to give actual practice in coding. Model 30 features will be included as well as regular 360 language.
Materials Fee: $1.00
Evening School: 40 Hours

107-428 BASIC COMPUTER PROGRAMMING, IBM 1401
A study of basic requirements necessary in programming the 1401. Practical problems in programming methods and varied applications are covered as they apply to the 1401.
Prerequisite: 107-413 or its equivalent.
Materials Fee: $5.00
Evening School: 40 Hours

107-430 COMPUTER SYSTEMS DESIGN
Discussion will center around: (a) basic techniques used in evaluation of systems; (b) various techniques and limitations of computer hardware-software systems; (c) procedures used in applying computers to information processing systems.
Prerequisite: 107-413 or programming experience.
Evening School: 30 Hours

107-435 COBOL PROGRAMMING
Cobol Programming System — COBOL, or “Common Business-Oriented Language” is a procedure-oriented language which has many important features for use in business. The course will attempt to present the advantages of Cobol, view its weaknesses and point out areas of application and utility. It will be pre-
BUSINESS EDUCATION

sented as a focal point of communication between managerial personnel and technical programmers. Practice problems and demonstrations will cover practical aspects of its use.

Prerequisite: A knowledge of programming.

Materials Fee: $2.00  
Evening School: 20 Hours

107-437 FORTRAN I PROGRAMMING

This course is specifically intended for persons desiring to use a computer for solution of problems in science and engineering. Knowledge of the Fortran language will enable the student to use a computer in many other areas as well, without learning machine operation details. Many examples are used to illustrate the effective use of Fortran, but neither extensive mathematical background nor prior experience in specific fields is presumed.

Prerequisite: Knowledge of algebra.

Materials Fee: $2.00  
Evening School: 20 Hours

107-438 FORTRAN II PROGRAMMING

Students gain experience in FORTRAN programming for either business or scientific problems. The student will have the opportunity to write programs for the IBM 1620, 1410, and 360 and also use some packaged programs presently available for the three machines. Examples will be provided to show many of the varied practical uses of FORTRAN.

Prerequisite: FORTRAN I programming or equivalent.

Materials Fee: $2.00  
Evening School: 20 Hours

107-439 PERT

The CPM — critical path method of project control — involves planning, scheduling, and monitoring. PERT probability estimates are discussed and varied computer techniques studied and compared.

Materials Fee: $2.00  
Evening School: 20 Hours

MARKETING

General Marketing

Field Training Programs

Insurance

Credit Union Leadership Program

Hotel and Motel Association Certification

International Consumer Credit Certification

Transportation and Traffic Management Certification

Marketing is a dynamic, broad, diversified and constantly changing field with unlimited opportunities. Individuals with the necessary educational background and training can find jobs in fields of marketing at the retail, wholesale, or industrial level. The population explosion coupled with pursuits to increase the efficient flow of goods or services pertaining to marketing and distribution identify many areas of needed training. These areas of needed training are for the consumer who profits from understanding the marketing function and for career-minded personnel wishing to benefit themselves and improve their contribution to society.

Instruction includes specialized subjects as well as specific fields requiring advanced training. Adults pursuing general marketing information, exploratory marketing information, or seeking specialized training should investigate these courses.

A close liaison is maintained with local, state, and national marketing groups leading to certification or special recognition in many areas.
GENERAL MARKETING

104-481 ADVANCED INVESTMENTS
Advanced Investments—Broker, dealer, stock exchange operations and regulations; state and national regulations; new and secondary offerings; common stock versus fixed income securities; growth stock situations; corporations; capital structure; management; options; statement analysis; "puts, calls, straddles"; mutual funds; and investment advisory services.
Materials Fee: $1.00
Evening School: 20 Hours

104-480 BASIC INVESTMENTS
Why stocks and bonds? Types of securities, your investment program and objectives, sources of information about investments, various methods and practices of investing, methods of selecting an investment, mutual funds.
Materials Fee: $1.00
Evening School: 20 Hours

104-455 CONTACT SELLING
Developing a sales personality; developing the sales story; finding prospects; methods of handling sales resistance (Objections); how to get the order; how to manage your time; how to get, build, and keep customers; handling competition effectively; how to live and work with other salesmen, with superiors, with customers; how to build a reputation.
Materials Fee: $1.00
Evening School: 20 Hours

104-454 CREATIVE SALES DEVELOPMENT
The student is acquainted with various types of "idea building" techniques as applied to sales. Topics include: developing a creative mind, brainstorming, imagery, problem-solving, and emotional blocks to creativity. A majority of the time is spent on individual and group activities to assist the student in developing his own creative sales ideas.
Materials Fee: $1.00
Evening School: 20 Hours

104-474 EFFECTIVE GIFT WRAPPING
Basic techniques for business personnel on package wrapping and bow tying.
Materials Fee: $3.00
Evening School: 10 Hours

104-456 EFFECTIVE SALES PRESENTATION
Assists the student to develop practical ways of building speech confidence, particularly as applied to the sales field. Includes planning, writing, presenting material; group analysis and persuasion techniques; classroom demonstrations plus guest speakers.
Materials Fee: $1.00
Evening School: 20 Hours

104-449 FASHION MERCHANDISING TECHNIQUES
This course covers background, evolution, economic status, and importance of the fashion industry. Emphasis is placed on the nature of fashion products, purchase motivation, merchandise promotion, and current practices in the merchandising of fashion products.
Materials Fee: $1.00
Evening School: 20 Hours

104-448 INDUSTRIAL AND INSTITUTIONAL SALES
An introduction to basic qualifications required for effectively communicating with industrial and institutional business operations. Topics covered include personality, financial return, customer satisfaction, buying motives, presentation techniques, inventory controls.
Materials Fee: $1.00
Evening School: 20 Hours

104-444 MERCHANDISE DISPLAY
Basic window and interior display techniques; two sessions on display theory, four sessions on displaying of hard lines, four sessions on displaying of soft lines.
Materials Fee: $1.00
Evening School: 20 Hours

105-470 REAL ESTATE
This course consists of problems of the real estate business; ways of getting customers, selling methods, operational questions, basis for commissions, residential appraisal, legal aspects, mortgages and titles, real estate licenses, and preparation for examination.
Materials Fee: $1.00
Evening School: 20 Hours

105-474 REAL ESTATE APPRAISAL
This course is offered for people who are actively engaged in real estate, for investors, and for interested home owners. Course includes basic theories of residential appraisal, general background, the marketing approach, the income approach, the cost approach, and correlation of values.
Materials Fee: $1.00
Evening School: 20 Hours

104-450 RETAIL STORE ADVERTISING
Topics include the importance of advertising, advertising budgets and plans, writing effective ad layouts, relative values of various media, coordinating advertising with other methods of sales promotion.
Materials Fee: $1.00
Evening School: 20 Hours

104-444 SALES MANAGEMENT
Product planning, investigations of the market, sales organizations, sales programs and campaigns, management of sales and service personnel including selection, training, and supervision.
Materials Fee: $1.00
Evening School: 20 Hours
104-443  SALES TRAINING — Holiday Extras
Basic selling techniques for persons desiring, or presently employed, in sales on a part-time basis. Persons taking the course will help qualify themselves for employment during Christmas and other holidays.
Materials Fee: $1.00
Day School: 12 Periods
Evening School: 12 Hours

104-401  STORE SALESMANSHIP
Stressing selling fundamentals applied to selling techniques, the seller’s personality, presenting a planned sales story, helping the customer buy, building for greater sales volume, special media for selling, building permanent business.
Materials Fee: $1.00
Evening School: 20 Hours

104-448  SUPERVISORY TRAINING I
Classroom lecture and discussion survey of basic supervisory skills and problems. Topics covered will be: individual differences, responsibility of supervisors, human relations, and problems in communications.
Materials Fee: $1.00
Evening School: 20 Hours

104-449  SUPERVISORY TRAINING II
This course is a continuation of Supervisory Training I. Special training techniques such as role-playing, problem solving, and the critical-incident techniques will be employed.
Materials Fee: $1.00
Evening School: 20 Hours

303-478  WAITRESS SALES TRAINING
Knowing about the industry, personnel development, types of menus, characteristics of foods; equipment and its care; observation in a restaurant; work of the table saleperson; receiving the guest and taking the order; giving and assembling orders; serving the customer breakfast, luncheon and dinner; serving beverages, entrees, desserts, and common foods; children’s service; clearing; serving before and after dinner drinks.
Lab Fee: $1.00
Evening School: 20 Hours

FIELD TRAINING PROGRAM
This training program has been developed for business organizations to assist those people engaged in management, sales, and service operations. Courses range from 6-12 hours in length and provide flexibility for personalized instruction based on individual needs and experiences. Equipment, outlines, instruction sheets, and supplies will be furnished by the school. Classes are offered during the calendar school year.

104-404  CHECKER-CASHIER TRAINING
This course is designed to develop the necessary skills for efficient cash register operation, plus instruction in customer relations and sales techniques. Content includes personality development, register operation, handling complaints, salesmanship, and customer techniques.
Lab Fee: $1.00
Day School: 20 Periods
Evening School: 20 Hours

104-458  DAIRY ROUTE SELLING
Dairy Route selling is a course developed by the Milk Institute. This course is designed to develop new skills in selling and customer relations.
Materials Fee: $1.00
Day School: 6-12 Periods
Evening School: 6-12 Hours

104-459  EFFECTIVE PUBLIC RELATIONS
Public relations affect every phase of our retailing, wholesaling, and service businesses. This course is presented with the idea that one of the greatest needs in our field of distribution is need for improved relations with the public.
Day School: 6-12 Periods
Evening School: 6-12 Hours

104-452  RETAIL MEAT MERCHANDISING
This program is designed for people who handle meats. Practical and authoritative information is covered in every phase of the meat operation. The general objective will be to increase profits, improve efficiency, and improve services received by the consumer. This course includes a workshop situation covering actual cutting tests and the figuring of percentages.
Materials Fee: $1.00
Day School: 20 Periods
Evening School: 20 Hours

104-400  SALES AND MARKETING EXTENSION PROGRAM
Many groups request classes which are personalized to fit their own training requirements. Since content of these classes may deviate from established course descriptions, identification of this course is general to include any part or parts of areas in marketing and distribution.
Materials Fee: $1.00
Day School: 6-12 Periods
Evening School: 6-12 Hours
MAKING EDUCATION

104-437 SALES CLINIC I
This sales clinic is designed for initial training of new salespeople or as a "refresher" to provide techniques of selling through sound customer relations.
Materials Fee: $1.00
Day School: 6-12 Periods
Evening School: 6-12 Hours

104-436 SELLING BANKING SERVICES
Selling banking services assists group members to prepare for the increasing opportunities to serve and sell, the development of an effective sales personality, and the improvement of customer relations.
Materials Fee: $1.00
Day School: 6-12 Periods
Evening School: 6-12 Hours

104-435 SUPERVISORY TRAINING
Because of the ever-increasing need for improved supervision, this course is offered to give instruction in techniques and principles of supervising employees.
Materials Fee: $1.00
Day School: 6-12 Periods
Evening School: 6-12 Hours

INSURANCE

Instruction under the sponsorship of the Insurance Institute of America currently covers group study courses which lead to an awarded certificate of General Insurance. Instruction leads to self-improvement providing a background for continuing educational opportunities in property-liability insurance and directly related fields. II A programs attempt to blend development of skills and technical proficiency with broad concepts and the understanding of insurance principles. Successful completion of three examinations leads to a certificate of General Insurance.

104-431 II A, PART A, GENERAL PRINCIPLES OF INSURANCE
Risk and hazard laws of probability, insurable hazard situations, subrogation insurable interest, co-insurance, proximate cause, negligence, deductibles, valued policies.
Materials Fee: $1.00
Day School: 24 Periods
Evening School: 24 Hours

104-432 II A, PART B, FIRE, MARINE AND ALLIED LINES INSURANCE
Fire, extended coverage, additional extended coverage, packaged policies, time elements insurance, inland marine, ocean marine, loss adjustment.
Materials Fee: $1.00
Day School: 24 Periods
Evening School: 24 Hours

104-433 II A, PART C, CASUALTY INSURANCE AND SURGERY BONDING
Auto insurance, liability, burglary, glass, health and accident, fidelity and surety bonds, workmen's compensation.
Materials Fee: $1.00
Day School: 24 Periods
Evening School: 24 Hours

CHARTERED PROPERTY AND CASUALTY UNDERWRITERS CERTIFICATION

Instruction under the sponsorship of the American Institute of Property and Liability Underwriters, Inc., currently offers group study courses which lead to CPCU designation. Instruction provides the background to write five separate comprehensive examinations designed to examine a broad range of knowledge. This program provides advanced educational study for those individuals in the property and liability insurance industry.

104-436 CPCU, PART I, INSURANCE PRINCIPLES, PRACTICES AND FUNCTIONS
Laws of probability, risk management, survey of policy forms, and building construction.
Materials Fee: $1.00
Day School: 66 Periods
Evening School: 66 Hours

104-437 CPCU, PART II, ANALYSIS OF INSURANCE FUNCTIONS
Loss prevention, loss adjustment, insurance surveys, industrial accident prevention.
Materials Fee: $1.00
Day School: 66 Periods
Evening School: 66 Hours

104-438 CPCU, PART III, ECONOMICS, GOVERNMENT, AND BUSINESS
Materials Fee: $1.00
Day School: 66 Periods
Evening School: 66 Hours

104-439 CPCU, PART IV, INSURANCE AND BUSINESS LAW
Commercial law, insurance law, torts, negotiable instruments, property law.
Materials Fee: $1.00
Day School: 66 Periods
Evening School: 66 Hours

104-440 CPCU, PART V, MANAGEMENT, ACCOUNTING, AND FINANCE
Family finance, accounting, business management.
Materials Fee: $1.00
Day School: 66 Periods
Evening School: 66 Hours
## Marketing Education

### Chartered Life Underwriters Certification

Instruction under the sponsorship of The American College of Life Underwriters currently covers group study courses which lead to CLU designation. This educational program provides advanced professional study for those employed in life and health insurance occupations. Candidates include: field underwriters, field management personnel, home office positions, teachers of insurance, insurance regulating personnel, insurance buyers, and employees of life or health insurance institutional organizations.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Materials Fee</th>
<th>School Duration</th>
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<tbody>
<tr>
<td>104-151</td>
<td>CLU, I, Fundamentals of Life and Health Insurance</td>
<td>$1.00</td>
<td>Day School: 108 Periods</td>
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<tr>
<td>104-152</td>
<td>CLU, II, Group Insurance, Health Insurance and Pensions</td>
<td>$1.00</td>
<td>Day School: 108 Periods</td>
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<tr>
<td>104-153</td>
<td>CLU, III, Law, Trusts, and Taxation</td>
<td>$1.00</td>
<td>Day School: 108 Periods</td>
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<tr>
<td>104-154</td>
<td>CLU, IV, Finance and Economics</td>
<td>$1.00</td>
<td>Day School: 108 Periods</td>
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<tr>
<td>104-155</td>
<td>CLU, V, Business Insurance and Estate Planning</td>
<td>$1.00</td>
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### Credit Union Leadership Certificate Program

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<tbody>
<tr>
<td>104-156</td>
<td>Credit Union Leadership Certificate Program</td>
<td>$1.00</td>
<td>Evening School: 60 Hours</td>
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### Hotel and Motel Association Certification

#### Hotel and Motel Resort Association Certification

Instruction, under the sponsorship of the Educational Institute Program for Hotel and Motel Association, currently offers group study courses which lead to graduate diploma certification granted by the Association. This diploma is awarded to each student who successfully completes nine designated courses, six required and three elective. Diploma certification is designed to encourage the completion of courses, designed specifically to meet training needs of the hotel and motel industry.

Courses normally require 24 hours of instruction, composed of twelve two-hour sessions over a period of 12 weeks.

**Examinations:** A final examination is given following each course. Examinations are mailed for grading to the Educational Institute of the American Hotel and Motel Association, Kellogg Center, Michigan State University, East Lansing, Michigan. Their minimum passing grade for any examination is seventy per cent (70%).

**Fees and Tuition:** A course fee of $15 per course, payable to the Educational Institute upon registration, is collected by the Madison Vocational, Technical and Adult Schools. This fee covers the cost for texts, manuals, real examination service and issuance of the Certificate of Achievement.

The institute may conduct suitable investigations and reserves the right to reject an applicant at any time.

**Curriculum:** Required Courses (six)

- Hotel-Motel Accounting
- Hotel-Motel Food and Beverage Controls
- Hotel-Motel Front Office Procedures
- Hotel-Motel Law
- Hotel-Motel Maintenance and Engineering
- Hotel-Motel Supervisory Housekeeping

**Electives (three from the following group):**

- Hotel-Motel Food and Beverage Management and Service
- Hotel-Motel Food and Beverage Purchasing
- Hotel-Motel Human Relations
- Hotel-Motel Sales Promotion
- Your Hotel-Motel and Its Economy
- Creating Sales Awareness

#### Hotel and Motel Association Certification

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<tr>
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<th>School Duration</th>
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<tr>
<td>104-157</td>
<td>Hotel-Motel Accounting</td>
<td>$15.00</td>
<td>Evening School: 24 Hours</td>
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MARKETING EDUCATION

104-483 HOTEL-MOTEL FOOD AND BEVERAGE CONTROLS
Hotel-Motel Food and Beverage Controls deals closely with each step in the controls of production of food and beverage merchandise, with special emphasis on calculating food costs, establishing standards, and production planning.
Materials Fee: $15.00  Evening School: 24 Hours

104-481 HOTEL-MOTEL FRONT OFFICE PROCEDURE
Hotel-Motel Front Office Procedure emphasizes the crucial human and public relations responsibilities of the front office operation. The necessary principles of management, routines, and accounting are thoroughly covered.
Materials Fee: $15.00  Evening School: 24 Hours

104-486 HOTEL-MOTEL LAW
A technical subject presented in non-technical language, this course is directed to all housekeepers and their executive personnel. Those who make, or interpret, managerial decisions will find safe, sound rules to assist them in avoiding lawsuits and legal pitfalls.
Carries 20 hours of credit toward the National Executive Housekeepers Association Professional Certification.
Materials Fee: $15.00  Evening School: 24 Hours

104-487 HOTEL-MOTEL MAINTENANCE AND ENGINEERING
Maintenance and Engineering provides the essential information for maintenance, repair, and remodeling of equipment. Special attention is given to electronics, air conditioning, plumbing, heating, electricity, and acoustics to establish preventive maintenance routine and to make the necessary operation decisions.
Materials Fee: $15.00  Evening School: 24 Hours

104-488 HOTEL-MOTEL SUPERVISORY HOUSEKEEPING
This course deals with the broad scope of the housekeeper's position and stresses employee training, record keeping, and executive responsibilities.
Carries 20 hours credit toward the National Executive Housekeepers Association Professional Certification.
Materials Fee: $15.00  Evening School: 24 Hours

104-410 CREATING SALES AWARENESS
Probably no one is more conscious of the need for employee selling than the hotel-motel manager. This new course is designed to make every employee from top management down conscious of his one job— to sell satisfaction.
Materials Fee: $15.00  Evening School: 24 Hours

104-410 HOTEL-MOTEL FOOD AND BEVERAGE MANAGEMENT AND SERVICE
This course covers all subjects from menu planning, forecasting and sales analysis to production, budgeting, and equipment. It is based on the experience of a leading authority. It was written to provide a concluding sequel to "Food and Beverage Controls" and "Food and Beverage Purchasing.
Materials Fee: $15.00  Evening School: 24 Hours

104-414 HOTEL-MOTEL FOOD AND BEVERAGE PURCHASING
The entire range of foods purchased by quantity buyers is covered in this course. It summarizes knowledge and principles that have taken buyers years to learn by experience and stresses the importance of specifications and how to write them.
Materials Fee: $15.00  Evening School: 24 Hours

104-415 HOTEL-MOTEL HUMAN RELATIONS
Presents case studies drawn from real life to illustrate principles of business psychology and the many ways in which employees and guests react to each other. Improved employee cooperation and guest relations are stressed throughout.
Materials Fee: $15.00  Evening School: 24 Hours

104-419 YOUR HOTEL-MOTEL AND ITS ECONOMY
An introduction to the hotel-motel business, its departments, the industry's responsibilities, and its opportunities for creative employment. Carries 20 hours credit toward the National Executive Housekeepers Association Professional Certification.
Materials Fee: $15.00  Evening School: 24 Hours

104-418 HOTEL-MOTEL SALES PROMOTION
This course has been designed for hotel-motel personnel engaged in sales promotion and for department heads and other key executive personnel. Special emphasis is given to: organization and functioning of a hotel sales department, sales tools and selling techniques available for securing and servicing, markets available for prospecting and soliciting, media advertising, direct mail, publicity, and public relations, and the importance of "sales-minded service.
Materials Fee: $15.00  Evening School: 24 Hours
INTERNATIONAL CONSUMER CREDIT CERTIFICATION

Instruction, under the sponsorship of the International Consumer Credit Institute, a division of the International Consumer Credit Association, currently offers group study courses leading to three certificates: Credit Counselor (CC), Associate Credit Executive (ACE), and Certified Consumer Credit Executive (CCCC). This program is provided to raise professional standards and practices to improve credit conditions for business, financial, and service organizations which extend credit to the consumer. Applicants for certification are evaluated on experience, education, association activities, and community leadership by the trustees of the Consumer Credit Institute.

Credit Counselor Program (CC): A basic program covering credit principles which is designed for the beginning student, employee with limited credit experience, and credit employees who are preparing for advancement. To qualify you must complete the following courses or their equivalent:

Customer Relations
Credit Personnel Communications
Principles of Consumer Credit & Collections

Associate Credit Executive (ACE): This stage deals with the supervision function of the consumer credit industry. To qualify you must have completed three years of satisfactory service in consumer credit, have engaged in association activities, demonstrated leadership in community activities, and completed the following courses or their equivalent:

Advanced Credit and Collections
Business Law
Principles of Accounting

Certified Consumer Credit Executive (CCCC): The final stage deals principally with management functions. To qualify you must have completed five years of satisfactory consumer credit work, participated in association leadership capacities, demonstrated leadership in community activities, and completed the following courses or their equivalent:

Office Personnel and Management
Fundamentals of Retailing
Elective Subjects

104-441 CREDIT PERSONNEL COMMUNICATIONS
The class gives a functional presentation of the effective use of psychological principles involving both oral and written communications. Content of the class is oriented toward the effective communication of ideas relating to customer interviewing, counseling, and telephone techniques. Special emphasis will be given to perceptive discussion leading and listening techniques. Ways of writing effective collection, promotion, and follow-up letters will be described.
Materials Fee: $1.00  Evening School: 60 Hours

104-444 CUSTOMER RELATIONS
Customer Relations is designed for the person employed in the credit department of a retail store, or credit agency. The course provides a functional presentation of the principles of customer relations techniques as applied to customer relations situations and problems. The course also allows for individual self appraisal and motivation for additional study in areas of growth needs.
Materials Fee: $1.00  Evening School: 60 Hours

104-400 PRINCIPLES OF CONSUMER CREDIT AND COLLECTIONS
A study of principles and methods of credit administration in the merchandising and retail field. It includes sources of information, credit policy and control, legal remedies, and collection techniques.
Materials Fee: $1.00  Evening School: 60 Hours

104-408 ADVANCED CREDIT AND COLLECTIONS
An advanced course in consumer credit and collections emphasizing the economic background and importance of consumer credit in our economy, as well as the application of credit principles. This course gives credit toward advanced programs sponsored by the International Consumer Credit Association.
Materials Fee: $1.00  Day School: 30 Periods  Evening School: 60 Hours
MARKETING EDUCATION

TRANSPORTATION AND TRAFFIC MANAGEMENT CERTIFICATION

Specialized training is much in demand due to the complex system of the state and federal regulations of the multi-million dollar traffic industry. Thousands of firms use transportation services. For this reason, instruction co-sponsored by the Madison Transportation Club is offered which will lead to certification in transportation and traffic management. Certification will be through the College of Advanced Traffic located in Chicago, Illinois.

Men and women interested in the field of traffic and transportation are encouraged to take advantage of this training opportunity which will prepare them for advancement to positions of authority and responsibility.

104-470 TRANSPORTATION AND TRAFFIC MANAGEMENT I

Designed for the junior traffic man or someone preparing to enter the traffic field. Content covers the technical background and knowledge fundamental to traffic management. Emphasis includes railroad classification, motor carrier classification, commodity rates, freight classification rules, routing, documents, checking, freight claims and express rates.

Materials Fee: $25.00
Evening School: 76 Hours

104-471 TRANSPORTATION AND TRAFFIC MANAGEMENT II

Content covers advanced aspects of traffic practice. Includes a broader application of fundamental principles covered in Transportation and Traffic Management I. Emphasis includes tariff construction, tariff rules, freight forwarder rates, switching, routing, demurrage, piggy-back rates, embargoes, terms of sales, and palletizing.

Materials Fee: $25.00
Evening School: 76 Hours

104-472 TRANSPORTATION AND TRAFFIC MANAGEMENT III

This course is designed for the experienced traffic man or one preparing for advancement. Instruction covers principles which provide a basis for understanding traffic law. Emphasis includes water carrier rates, export-import, lighterage, combination rates, Section IV ICC Act, transit privileges, warehousing, distribution, rate structure, adjustments, and tariff interpretation.

Materials Fee: $25.00
Evening School: 76 Hours

104-473 TRANSPORTATION AND TRAFFIC MANAGEMENT IV

A study of interstate transportation law as it applies to the traffic manager's job. Emphasis is placed on high level performance and includes regulatory controls, interstate commerce act, jurisdiction, damages, remedies, liability, time limitations, private vs. air transportation, and rules of ICC practice.

Materials Fee: $25.00
Evening School: 76 Hours

HOME ECONOMICS

Clothing and Textiles

Clothing Construction, consumer information
Clothing Selection
Decorative Stitches
Fur Remodeling
Knitting
Millinery

Foods and Nutrition

Meal Planning and Preparation
Specialty Courses
Food Service Supervisor

Home Furnishings

Draperies
Designing for Permanent Beauty
Floral Design
Holiday Decorations for Your Home
Silkflowers
Upholstery

Management

Home Management for the Handicapped
Success in Managing Your Money

Personal Development, Family Life Education

Childbirth and Infant Care
Family Life — Clothing for our Family
Family Living
Guiding Our Children
Home Furnishing
Home Management
Meal Planning and Preparation

Guiding Your Child
Living With Adolescents
Looking at Marriage
Personality and Poise
The Pre-School Child
Preventive Law — for Men and Women
The goals of Home Economics include educational for personal, home, and family living; developing specific homemaking-related skills which can lead to employment, and preparing students for a specific job.

The courses help students assess and develop attitudes and values and set realistic goals relative to their personal and family living. Instruction helps improve skills needed in today's society. Staff members continually survey the needs and desires of students in their busy and complex roles and develop classroom instruction accordingly. New courses and new programs are planned to help solve newly identified problems.

CLOTHING AND TEXTILES

301-400 CLOTHING I - Firsts in Clothing Construction
The first course in clothing construction includes the selection and preparation of fabric for garment perfection, the selection and alteration of patterns, and the selection and use of basic equipment. Basic construction techniques taught include pattern layout, cutting and marking; staystitching, understitching and seam finishing; inserting zipper, applying faced neckline, inserting sleeve, applying waistband, lining skirts; inconspicuous hemming and good pressing techniques. A wool skirt and a dress of cotton or a blend are made in this course. Materials and patterns should not be purchased until after attending the first class.

Lab Fee: $2.00
Day School: 54 Periods
Evening School: 50 Hours

301-401 CLOTHING II - Casual Clothes
Techniques and subject matter of this course are planned to follow Clothing I or its equivalent. Selection and preparation of cotton, rayon, polyester, or wool fabric is given. The new construction processes include making and applying collars and cuffs, buttonholes, plackets, and pockets; zipper insertions, backing a skirt, attaching a waistline seam; fitting and making slacks and shorts; matching and cutting plaids and designer fabrics. Garments made in this course include casual dresses, robes, skirts, tailored blouses, shorts, and slacks. Patterns and fabrics should not be purchased until after attending the first class.

Lab Fee: $2.00
Day School: 54 Periods
Evening School: 50 Hours

301-406 CLOTHING III - Dresses for All Occasions
Latest information and construction techniques for fabrics selected, such as knits, bonded, pile, and sheers are included. Specific techniques given are backing and lining dresses, tailored buttonholes, set-in pockets, replacement of darts, making all types of collars, sleeves, and plackets, and an unlined jacket. Buying and care of knits, bonded fabrics, new rayons, acetates, polyesters, and wool are discussed. One and two piece jackets and dinner dresses may be made in this class. Patterns and fabrics should not be purchased until after attending the first class.

Lab Fee: $2.00
Day School: 54 Periods
Evening School: 50 Hours
CLOTHING IV — That Made to Order Look

A course for students with an advanced knowledge of clothing construction. Emphasis will be placed on proper fit. Student may make a main garment from the pattern to check alterations. Fabric selection and preparation of any fiber, knitted, woven, or felted, and selection of buttonings, linings, and interfacings will be studied. New construction processes include techniques required for new fabric construction such as stretch, laminating, and bonded, and fabrics such as velvets, chiffons, fake fur, and permanent press. Layout and cutting of designer fabrics, and construction of ensembles, dressmaker jackets and coats, and linings will be done.

Lab Fee: $2.00
Day School: 51 Periods
Evening School: 50 Hours

CLOTHING V — Tailoring Techniques

The use of many techniques which tailors use in making a man’s suit are applied to the construction of women’s tailored garments. Emphasis is given to fabric selection for the garment and the selection and application of interfacings, interlinings, and linings. Particular attention is focused on the moulding and handling of the fabric. Garments to be made are suits and coats. This course is for the advanced student who has successfully completed Clothing IV.

Lab Fee: $2.00
Day School: 51 Periods
Evening School: 60 Hours

CLOTHING VI — Tailoring Techniques (Advanced)

Instruction will include constructing suits and coats. A thorough review of Clothing V will be given. Greater emphasis will be placed on such details as pocket types and construction details. Latest information on fabrics and on construction techniques for these fabrics will be studied. In the evening program, this study may be followed by instruction in tailoring using unfinished techniques.

Prerequisites: Clothing V.
Lab Fee: $2.00
Day School: 51 Periods
Evening School: 60 Hours

CLOTHING VII — Workshop

This course is planned for students who have completed several construction courses and need instruction for the solution of specific problems, or for those who need a refresher course. Study will include techniques used with new or difficult fabrics, construction processes which may present problems to the student, fusing, and make-over processes. Any type of garment with the exception of coats and suits may be made.

Lab Fee: $2.00
Day School: 51 Periods

CLOTHING VIII — New Models From Old

Evaluation of garment to be remade is the first consideration. Preparation of garment for class work and selection of design or pattern to be used is a necessary part of this course. Combination of new material with old is considered.

Lab Fee: $1.00
Day School: 50 Periods

CLOTHING X — Children's Clothing

This course consists of a study of special problems in the selection and construction of children's garments. Selection of suitable patterns and fabrics for all types of garments will be considered, with emphasis on new textiles with wash and wear characteristics. Special attention will be given to tailored buttonholes, pockets, collars, and all gussets. Decorative trims, such as smocking, applique, and fagoting are taught. A wide variety of garments may be made, from play clothes to dresses.

Lab Fee: $0.00
Day School: 60 Periods
Evening School: 60 Hours

CLOTHING XI — Children's Costs and Snowuits

The beginning or advanced student will gain information on the construction of snow suits or coats for their children. The course will include a study of patterns and fabric selection, interfacings and linings, and special techniques appropriate for children's garments. Needed tailoring procedures will be studied.

Lab Fee: $1.00
Evening School: 50 Hours

CLOTHING XIII — Clothing Selection

A clothing course designed to help the contemporary woman choose the best in fashion for herself and her family. Consideration will be given to the effective use of line, design, and color to achieve becoming dress for all occasions. It will include the development of an awareness of quality, labels, and their meaning, and shopping techniques. Considerations will be given to putting together a woman develop her taste and personal style in selecting clothes and accessories.

Materials Fee: $1.00
Evening School: 20 Hours

CLOTHING XIV — Special Tailoring Problems

This course includes work on individual tailoring problems. Changes and improvements in tailoring techniques and methods of handling new fabrics and designs will be covered. Students will be encouraged to contribute any new experience in tailoring techniques. Prerequisite: Clothing VI.

Lab Fee: $1.00
Evening School: 15 Hours
301-427 CLOTHING XVII - Modified Tailoring Techniques
This course will help the student construct coats and suits easily and at a minimum of time. The unfaced suit techniques will be taught in the first session. Modified tailoring techniques used in making a suit or coat with a minimum amount of hand work will be taught the second semester. Instruction will include a study of new fabrics, interlinings, and construction accessories. Fabrics and patterns for construction of the unfaced suit should not be purchased until after attending the first class. Prerequisite: Clothing IV.
Lab Fee: $1.00  Day School: 20 Periods

301-428 CLOTHING XVIII - Design By Cutting To Fit
This course will include an evaluation of the personal need for a better understanding of dress design and figure types. Emphasis will be given to methods of adjusting a commercial pattern to make it "fit" for comfort and style. This course will also provide opportunities to develop self-confidence in applying basic principles of fitting to a dress pattern before the garment is cut from fabric. Prerequisite: Clothing XV or equivalent.
Lab Fee: $1.00  Day School: 20 Periods

301-485 CLOTHING XIX - Simplified Dress Pattern Design
This advanced course will concentrate on simple designing from basic patterns, as designing necklines, collars, seam locations, dart control, sleeves, and, decorative details. Design details appropriate to the individual figure will be emphasized. Prerequisite: Clothing XV.
Lab Fee: $1.00  Day School: 20 Periods

305-100 DECORATIVE STITCHES (Crochet, Crewel, and Needlepoint Embroidery)
Instruction will include crochet stitches, the varied yarns and patterns currently available, crewel embroidery, and the design of designs and needlepoint embroidery. Students will crochet scarfs, suits or coats, add embroidery detail to knit or crocheted garments, afghans, and various projects made with crewel stitches.
Course Fee: $1.00  Day School: 20 Periods  Evening School: 20 Hours

305-160 KNITTING I
Basic knitting stitches and processes, pattern interpretation, understanding and selecting yarns will be studied. Suitable articles to be made are: muffins, scarfs, hoods and hats, and simple sweaters. The care of knitted garments and blocking fundamentals will be demonstrated.
Materials to be brought to the first class session are 1 pair 10" No. 5, 6, or 8 needles and a small ball worsted weight yarn in a bright color.
Course Fee: $2.00  Day School: 25 Periods

305-161 FUR REMODELING I
An advanced course in fur remodeling for persons who have had Fur Remodeling I for two semesters. All types of furs may be made, including scarfs and stoles. Drafting of patterns is included.
Lab Fee: $2.00  Day School: 54 Periods  Evening School: 50 Hours

305-162 KNITTING II
The beginning student will learn equipment selection; basic knitting stitches and processes; basic pattern stitches such as stockinette, garter ribbing; moss, cable; pattern interpretation; yarn study, perfecting gauge; and joining a seam. Projects include scarfs, cuddle moss, hoods and hats, mittens and sweaters. Discussion will include care of knitted garments and blocking fundamentals.
Materials to be brought to the first class session are 1 pair 10" No. 6 or 8 needles, and a small ball worsted weight yarn in a bright color.
Course Fee: $2.00  Day School: 54 Periods

305-163 KNITTING III
Basic knitting stitches and processes, pattern interpretation, understanding and selecting yarns will be studied. Suitable articles to be made are: mittens, scarfs, hoods and hats, and simple sweaters. The care of knitted garments and blocking fundamentals will be demonstrated.
Materials to be brought to the first class session are 1 pair 10" No. 6 or 8 needles and a small ball worsted weight yarn in a bright color.
Course Fee: $1.00  Evening School: 20 Hours

305-164 KNITTING IV
For the student who has a basic knowledge, or has completed a beginning course; instruction will guide the student in simple pattern alteration to allow for proportions; yarn evaluation and selection; joining a garment, blocking techniques; multiple color knitting; circular needle knitting; finishing details as buttons, buttonholes, trim, collars, and pockets; set-in sleeves; and laundering principles. Student projects will include sweaters of all types, scarfs, afghans, 4-needle mittens, gloves, and socks. Students will bring to the first class meeting needles, yarn, and measuring equipment such as tape measure or ruler.
Course Fee: $2.00  Day School: 54 Periods
MEALS PLANNING

KNITTING II

Instruction will include simple pattern alteration to allow for proportions; multiple color knitting; finishing details such as button and buttonholes; knit and crocheted trims, bands; use of various needles; techniques for set-in sleeves, collars, pockets; and the blocking and care of knitted garments. Student projects will include sweaters of all types, shawls, afghans, 4-needle mit­
tons, or socks.

Students will bring to the first class needles, yarn, and measuring equipment such as tape measure or ruler.

Course Fee: $1.90

Evening School: 39 Hours

KNITTING III

This course is designed for the experienced student. Instruction will include advanced pattern interpretation and development, design and details adapted from current fashion trends, and complex knitting processes. Emphasis will be placed on "Knit to Fit," including determining correct body measurements and adjusting patterns to fit the individual. Projects will include skirts, dresses, coats, ski sweaters, and lace-patterned garments.

Course Fee: $2.90

Day School: 51 Periods

MILLINERY I

This course, for the beginner, includes the fundamental principles and techniques basic to the design and construction of hats. It will include the covering of frames with fabrics of various types. Students will be taught how to make their own frames. Feats and straw will also be blocked. Spring hats of straw braid, straw cloth, millinery, organdy, and flowers and petals are created. Throughout the course, correct hats for the individual face, figure, personality, and wardrobe needs are stressed.

Course Fee: $8.00

Evening School: 49 Hours

MILLINERY II

More advanced techniques will be taught in covering frames with the various materials, as well as blocking felt and straw, mak­ing fur hats, and bridal millinery. Creative expression of origi­nality and individually will be encouraged. Hats to complete the costume and fit into one's wardrobe plan will be studied. This course is planned for students who have completed Millinery I.

Course Fee: $2.20

Day School: 54 Periods

Evening School: 59 Hours

FOODS AND NUTRITION

FOODS I — Planning and Preparation of Family Meals

This course provides the student with the modern concepts of family meal planning and preparation. The meals will include the newest techniques for quick breads, meats, vegetables, salads, casserole dishes, sandwiches, and simple desserts geared toward streamlined cooking methods and time-saving use of appliances. Cooking to retain vitamins and minerals is featured. Food buying is included. An excellent course for business persons who wish to develop a working knowledge of family meal planning and preparation.

Lab Fee: $6.00

Evening School: 50 Hours

FOODS II — Meals in Minutes

The challenge of meal preparation and service for today's home­maker, who assumes a dual role in society, can be met by a study of careful planning, and the management of time, energy, equip­ment, and the food dollar. The course will include selecting foods for economy of time as well as price and quality, buying nutritional value, time saving preparation methods, use and care of appliances, and serving attractively. Comparisons of convenience foods, partially-prepared foods, and home-prepared foods will be studied.

Lab Fee: $4.50

Day School: 56 Periods

FOODS III — Meals in Minutes

The challenge of meal preparation for the busy homemaker can be met by a study of meal planning, selecting foods for economy of time as well as price and quality, buying nutritional value, time saving preparation methods, making appliances work for you, care of appliances, and serving attractively. The course will include comparisons of convenience foods, partially-prepared foods, and home-prepared foods.

Lab Fee: $5.00

Evening School: 50 Hours
HOME ECONOMICS EDUCATION

303-429 FOODS III - Meats and Poultry
A major portion of the food dollar is spent on meats. A study of the identification, selection, and preparation of meats will help the homemaker make the most of the meat dollar. Beef, veal, lamb, and pork will be studied. Attractive service will be presented. Garnishes, accompaniments, and vegetables will be included.
Lab Fee: $5.00
Day School: 36 Periods

303-421 FOODS III - Meats, Poultry, and Seafoods
This course is designed to help you make the most of your meat dollar in selection, storage, and preparation of meats, poultry, and seafoods. A study will include beef, veal, lamb, and pork. Attractive service will be presented. Garnishes, accompaniments, and vegetables will be prepared.
Lab Fee: $7.50
Evening School: 50 Hours

303-409 FOODS IV - Foods For The Foreign Born
The study and laboratory activities will include meal planning using American as well as native foods, buying practices, food handling practices, use of equipment, and developing skills in food preparation and service. Students will be given opportunity to help develop course content which will best meet their needs.
Lab Fee: $8.00
Day School: 60 Periods

303-419 FOODS V - Food For Your Family
Meal planning and food preparation will consider individual and family nutritional and physical needs. Comparisons of convenience foods and time saving preparation methods will be studied. The student will gain helpful knowledge and understand the importance of proper nutrition, using the food dollar, equipment selection and use, and planning efficient kitchen storage and work space.
Lab Fee: $4.00
Day School: 52 Periods

303-410 FOODS VI - Breads, Cakes, and Pastries
This course is planned to give the homemaker a general knowledge of all baking. It relates to materials, techniques and standards in the baking of quick breads, cakes, and cookies during the first 10 weeks; yeast breads and pastry during the second 10 weeks.
Christmas cookies and fruit cakes are studied prior to the holiday season. Streamlined methods are taught and compared to mixed and conventional methods. These lessons are helpful to beginners, as well as the experienced homemaker who wishes to improve and modernize her baking techniques.
Lab Fee: $5.00
Evening School: 50 Hours
308-442 FOODS X — Bread the Easy Way (Quick and Yeast)
The principles and procedures of yeast and quick breads and rolls, including dinner and yeast rolls, coffee cakes, bread variations in both standard and time-saving methods. Designed to present basic techniques and proceed to more advanced problems and breads for special occasions.
Lab Fee: $2.00  Day School: 18 Periods

308-447 FOODS X — Harvest Meals
The six week unit, to be taught on a family meal basis, will emphasize the use of the abundant fall foods on our market. Instruction will include meal planning, food preparation, management, nutrition, food accompaniments, and gracious serving.
Lab Fee: $1.50  Day School: 18 Periods

308-446 FOODS X — Text, Receptions, Group Entertaining
Emphasis is placed on the development of confidence and security in the "Art of Hostessing" for group affairs, through study, practice, and practical application. New ideas will be explored in quantity recipes and food purchase, storage, and preparation. Table setting, decoration, and accessories will be studied.
Lab Fee: $2.00  Day School: 18 Periods

308-443 FOODS X — Meals for the Holidays
Designed to present new and interesting ideas in holiday fare, including meats, sides, casseroles, pastries, and desserts. Attention will be given to planning and preparing ahead and to table service for entertaining family and guests.
Lab Fee: $2.00  Day School: 18 Periods

308-444 FOODS X — Casseroles and Salads
Interesting and nutritional casseroles and salads will be developed, together with ideas for desirable accompaniments. Appealing combination to serve different purposes in the menu will be stressed. Consideration will be given to the selection and care of acceptable ingredients and to equipment for the preparation and serving of these foods.
Lab Fee: $2.00  Day School: 18 Periods

308-445 FOODS X — Summertime Meals for Carefree Living
Emphasis will be on foods to be prepared and served indoors as well as outdoors in a planned, relaxed manner. Study will include menu planning, making appliances (electric skillet, grill, saucepan, pressure pan) work for you, utilizing foods in season, efficient use of the freezer, time management, and serving attractively. A warm weather buffet meal will conclude the course.
Lab Fee: $2.00  Day School: 18 Periods
HOME ECONOMICS EDUCATION

306-451 FLORAL DESIGN II
This course will emphasize the art of individual and original floral designing in the traditional manner. The elegance of early American arrangements keeps alive our heritage and is involving in content, color, and texture. Practice in these forms is offered as well as the selection and use of containers in the American Home. Prerequisite: Floral Design I.
Course Fee: $5.00
Day School: 52 Periods

306-452 FLORAL DESIGN III
In response to the growing enthusiasm for advanced practice in the art of arranging flowers, this course will stress the contemporary type of design. The modern technique of free form arrangements combines flowers and foliage with driftwood, rocks, shells, and figurines. A study of the psychology of color will highlight the course. Prerequisite: Floral Design I.
Course Fee: $5.00
Day School: 53 Periods

306-454 FLORAL DESIGN IV
The new found freedom in floral designing has found its place as a constant stimulus of arrangement. This course is planned for the advanced student. It will offer a working procedure in present day arranging and individualized development of interpretative and creative design, and techniques in floral arts and crafts. Prerequisite: Floral Design II and III.
Course Fee: $5.90
Day School: 30 Periods

306-458 HOLIDAY DECORATIONS FOR YOUR HOME
This six-week course will help the class member plan decorations for the holiday season to add sparkle and a festive effect to the entire home, indoors and outdoors. Lectures, demonstrations, and days will feature evergreens, dried materials, fresh flowers, and various types of holiday art objects. Many techniques of designing to make decorations distinctive and meaningful for such a celebrated season of the year will be studied. The course will include three lecture-demonstration sessions and three student activity periods. These periods will be scheduled at the first general session.
Course Fee: $8.00
Day School: 18 Periods

306-417 SLIPCOVERS
Instruction includes a study of slipcovers and their advantages and disadvantages. Suggestions are given on color schemes, choice of fabrics, estimation of yardage, planning of design and weave of materials, techniques of cutting, fitting, planning, and stitching. Emphasis on retaining cushions in need of repair before slipcovering is also included. All projects are completed under supervision.
Course Fee: $8.00
Day School: 46 Periods
Evening School: 20 Hours

440-410 UPHOLSTERY I (Beginners)
This introductory course includes instruction in the use of tools and equipment; the selection, estimation, and application of fabric; basic construction processes such as webbing, springs, rolled edges, frames, fillings, repairs, and the use of heavy duty sewing machines. Consumer information will be included. Students will begin with a footstool and then progress to a chair such as a pull-up or bedroom type.
Course Fee: $9.20
Day School: 72 Periods
Evening School: 40 Hours

440-411 UPHOLSTERY II (Intermediate)
A study of fabrics and art principles will be emphasized. New construction processes will be included with respect to upholstery projects such as chair framing, channel type bases, use of foam, working with plastic, restyling through use of fillings, and various finishing trims. Students will learn to make patterns for specific areas. Projects will include chair with a reversible cushion and platform rocker. Prerequisite: Upholstery I.
Course Fee: $2.50
Day School: 79 Periods
Evening School: 50 Hours

440-409 UPHOLSTERY III (Advanced)
This course is planned for the student who needs to perfect their techniques as well as learn the intricate processes of difficult pieces of furniture. Instruction will include working with wire edges, restyling through use of fillings, chair framing, and basic carving changes. Chair and davenport projects may be selected, but due to limited space in the classroom, the davenport cannot be brought to class. Other student projects, such as wing chairs, or projects with content of the instructor, may be selected.
Course Fee: $2.50
Day School: 79 Periods

440-412 UPHOLSTERY IV (Period or Antique)
Special problems of period or antique furniture are treated in this course. Instruction will include the history of furniture, selection of appropriate fabric, wood treatment, and construction processes such as stripping and rebuilding foundations, tufting, channeling, and finishing techniques. Chair and loveseat projects may be selected, but due to limited space in the classroom, the loveseat cannot be brought to class. Work will be done under supervision.
Course Fee: $2.50
Day School: 79 Periods
MANAGEMENT

304-450 HOME MANAGEMENT FOR THE HANDICAPPED

Instruction will include meal preparation and management; work simplification techniques in caring for a home, including special techniques such as working from a wheelchair or with one-hand disability; laundry and ironing procedures and storage and working height planning. The course will be taught cooperatively by an occupational therapist and a home economist.

Day School: 14 Periods

304-451 SUCCESS IN MANAGING YOUR MONEY

Management is using the resources you have to reach your goals. Good management is using what you have to get as much as possible of what you want. Members of the class study their previous spending patterns, look at alternate plans, and then formulate their own yearly spending plan based on their family needs, values, and goals. This 8 week course is planned for men and women. Couples are encouraged to attend.

Day School: 24 Periods
Evening School: 20 Hours

PERSONAL DEVELOPMENT, FAMILY LIFE EDUCATION

304-400 CHILDBIRTH AND INFANT CARE

Instruction in this course includes prenatal care, pregnancy and labor, the philosophy of natural childbirth, relaxation techniques and exercises, labor, the postpartum period, and infant care. Expectant fathers are invited to attend with their wives. A special session is planned for fathers. Three day courses and nine evening courses are offered annually.

Materials Fee: $1.00

Day School: 18 Periods
Evening School: 16 Hours

301-380 CLOTHING SELECTION

A clothing course designed to help the contemporary woman choose the best in fashion for herself and her family. Consideration will be given to the effective use of line, design, and color to achieve becoming dress for all occasions. It will include the development of an awareness of quality, labels and their meaning, and shopping techniques. Consideration will be given to helping a woman develop her taste and personal style in selecting clothes and accessories.

Materials Fee: $1.00

Evening School: 20 Hours

305-436 FAMILY LIFE — Clothing For Our Family

A course designed to help students meet personal and family clothing needs. Content will include selection and care of clothing, spending the clothing dollar wisely, repairing, laundering, grooming and personal appearance. A garment may be constructed.

Day School: 24 Periods

305-430 FAMILY LIFE — Family Living

Parents seeking assistance from the Dane County Family Court may be enrolled in a 14 or 28 week course planned to help them in understanding the role of parents, child development and behavior at various age levels, problems in children’s growing up, educational and financial concerns, religious aspects, and special adult problems. Students recommended by Family Court or Dane County Public Assistance Programs may enroll.

Evening School: 28 or 56 Hours

305-433 FAMILY LIFE — Guiding Our Children

Mothers and fathers will learn about their role as parents, including children’s physical needs, personality development, emotional and social growth, play activities as learning experiences, discipline, and the need for creating a healthy home atmosphere for a child’s development.

Day School: 12 Periods
Evening School: 18 Hours

305-437 FAMILY LIFE — Home Furnishings

The student will receive information on or creating a livable house or apartment through selecting furnishings to fit the family budget and needs; good arrangements of home furnishings using basic art principles, using storage space, window and wall treatments, and accessories.

Day School: 18 Periods
Evening School: 18 Hours

305-434 FAMILY LIFE — Home Management

This course will help the student appraise personal goals and habits; buy, pay, and spend with a plan; prepare a realistic budget; care of the home using energy and time-saving procedures; use and care of equipment; and the selection and use of cleaning supplies. Home management can be planned so responsibilities are handled easily and enjoyably.

Day School: 12 Periods
Evening School: 12 Periods

305-521 FAMILY LIFE — Meal Planning and Preparation

The student will receive help in menu planning and meeting nutritional needs of family members, food preparation techniques, interesting uses of surplus foods, meal service, and wise use of the food dollar, time and energy.

Day School: 24 Periods

*Open to Family Court and Public Assistance Clients Only
305-102 GUIDING YOUR CHILD (1 to 6 years of age)
This six week lecture-film course, co-sponsored by the Dane County Mental Health Center, is planned to help parents gain an understanding of their children's physical, mental, social, and emotional growth; individuality and growth patterns of children. The importance of your Family Philosophy — values, goals, and relationships — will be studied. Parent couples are invited to attend. This course is a free public service, open to all Dane County residents.
Materials Fee: $1.00  Evening School: 12 Hours

305-103 GUIDING YOUR CHILD (6 to 12 years of age)
This six week lecture-film course, co-sponsored by the Dane County Mental Health Center, will help parents in guiding their children's physical and mental growth, helping children to enjoy learning, family relationships and their influence on emotional growth, and developing moral and social concepts. Parent couples are invited to attend. This course is a free public service, open to all Dane County residents.
Materials Fee: $1.00  Evening School: 12 Hours

305-104 LIVING WITH ADOLESCENTS
A series of lectures and discussions centering on normal adolescent behavior. Psychologists, psychiatrists, medical doctors, guidance counselors explain general adolescent behavior patterns which parents then learn to observe in their children.
Evening School: 20 Hours

305-101 LOOKING AT MARRIAGE
This seven week course, planned for young adults 16 to 25 years old, will help the student apprise readiness for marriage, study love and affection, financial problems or concerns, physiology and reproductive functions, and relationships as viewed by members of the clergy. The course is co-sponsored by the Dane County Mental Health Center and is open to all residents of Dane County for a nominal materials charge only.
Materials Fee: $1.00  Evening School: 14 Hours

303-205 PERSONALITY AND POISE
Instruction will include gaining an understanding of oneself, development of a philosophy of life, gaining self-confidence and poise, strengthening one's personality, appreciation of the importance of personal appearance and an understanding of the factors which affect it, developing attitudes and characteristics which contribute to success, characteristics and attitudes which will help one adjust to change, and getting along with people. A companion course is Clothing Selection.
Materials Fee: $1.00  Day School: 20 Periods
Evening School: 20 Hours

305-100 THE PRE-SCHOOL CHILD (ages 1-5 years)
This course will emphasize handling the problem of young children and surviving parenthood successfully. The study, discussion, films and current readings will provide practical help in guiding children. Discussion topics will include learning by observing young children at play, behavior characteristics of each age, and discipline.
Evening School: 12 Hours

305-105 PREVENTIVE LAW (for Men and Women)
This eight week course, co-sponsored by the Dane County Bar Association, will include lecture-discussions on property ownership, inheritance of property, contracts and agreements, wills, trusts, marriage and divorce laws, business laws as partnerships, sole proprietorships, collections, negotiable instruments, accidents, sales, credit, and installment contracts. Members of the Dane County Bar Association will coordinate and teach the course. Couples are encouraged to attend.
Course Fee: $1.00  Evening School: 18 Hours
VOCATIONAL TRADE

General Trades
Automotive
Building Trades
Diesel
Drafting
Electronics
Graphic Arts
Machine Shop
Technical
Welding
School for Workers

The Industrial Divisions course offerings are numerous and varied. The majority of the single or sequence courses are designed for trade extension purposes. Some emphasis is given to consumer courses and to the needs of the community served. In addition to the courses offered, numerous clinics, institutes, and seminars are conducted.
**VOCATIONAL TRADE**

### GENERAL TRADES

#### 409-414 AERONAUTICS GROUND SCHOOL COURSE
Subjects covered include civil air regulations, meteorology, ariel navigation, and radio, general service, and safety practices.

**Lab Fee:** $5.00  
**Evening School:** 40 Hours

#### 418-406 CATERING SPECIALTIES
Preparation and service of delicate and practical food specialties for buffet and party tables and assistance in the solution of food problems, particularly food service for large groups.

**Lab Fee:** $10.00  
**Evening School:** 20 Hours

#### 410-430 HOME BUILDING AND REMODELING
A course in home building and remodeling for persons interested in obtaining information on the major areas of home construction or remodeling.

**Lab Fee:** $10.00  
**Evening School:** 12 Hours

#### 432-440 INDUSTRIAL METAL LAYOUT
An introduction to the layout procedures for industrial metals as they need to be formed and cut to develop the desired shapes and joints.

**Lab Fee:** $4.00  
**Evening School:** 20 Hours

#### 805-101 PHOTOGRAPHY
Fundamentals of black and white photography.

**Lab Fee:** $5.00  
**Evening School:** 20 Hours

#### 401-404 REFRIGERATION
This course includes fundamentals of refrigeration machines and systems.

**Lab Fee:** $2.00  
**Evening School:** 40 Hours

### AUTOMOTIVE

#### 404-112 AUTOMOTIVE COURSE FOR CONSUMERS
This course is designed to familiarize car owners with proper care and maintenance of their vehicles.

**Lab Fee:** $5.00  
**Evening School:** 50 Hours

#### 404-416 AUTO BODY
This course covers fundamentals and practices in welding, metal finishing, and spray painting of auto body units.

**Lab Fee:** $10.00  
**Evening School:** 60 Hours

#### 404-405 AUTO MECHANICS I (Brakes)
This course covers the theory and servicing of brakes, including power brakes.

**Lab Fee:** $10.00  
**Evening School:** 60 Hours

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**AUTO MECHANICS II**
(From Wheel Alignment, Steering and Balancing)
This course covers the fundamentals and use of wheel alignment and balancing equipment, frame straightening, and power steering.

**Lab Fee:** $11.00  
**Evening School:** 60 Hours

**AUTO MECHANICS III** (Electrical Systems and Carburation)
This course is designed for persons interested in entering the automotive field. It covers the fundamentals and servicing of automotive electrical units and carburetors.

**Lab Fee:** $11.00  
**Evening School:** 60 Hours

**AUTO MECHANICS IV** (Engines)
This course is designed to cover the theory and servicing operations of modern gasoline engines.

**Lab Fee:** $11.00  
**Evening School:** 60 Hours

**AUTO MECHANICS V** (Carburation and Tuneup)
A highly technical course in engine tuneup using Sun diagnostic equipment and the Clayton dynamometer.

**Prerequisites:** Journeyman Auto Mechanic.  
**Lab Fee:** $11.00  
**Evening School:** 60 Hours

**AUTO MECHANICS VI** (Automatic Transmissions)
This course covers disassembly, inspection, reassembly, and adjusting of various transmissions and their linkage.

**Prerequisites:** Journeyman Auto Mechanic.  
**Lab Fee:** $11.00  
**Evening School:** 60 Hours

**AUTO MECHANICS VII** (Advanced Engines)
This course covers the servicing and overhauling of modern gasoline engines.

**Prerequisites:** Auto Mechanics IV.  
**Lab Fee:** $12.00  
**Evening School:** 60 Hours

**AUTO MECHANICS VIII** (Alternators)
This course covers the theory and servicing of alternator, generators, and regulators used on late model vehicles.

**Lab Fee:** $7.00  
**Evening School:** 60 Hours

**AUTO MECHANICS IX** (Transistorized Ignition Systems)
This course includes the theory and some testing of various types of transistorized ignition systems. (Standard equipment and optional equipment.)

**Prerequisites:** Journeyman Auto Mechanic.  
**Lab Fee:** $5.00  
**Evening School:** 15 Hours
The text contains a list of courses offered in Vocational Trade, including:

- **AUTO MECHANICS X (Advanced Carburetion)**
- **AUTO MECHANICS XI (Automotive Air-Conditioning)**
- **SMALL ENGINES FOR CONSUMERS**
- **SMALL ENGINE REPAIR I**
- **BLUEPRINT READING I**
- **BLUEPRINT READING II**
- **WOODWORKING I**
- **WOODWORKING II**
- **DIESEL I**
- **DIESEL II**
- **DIESEL III**
- **DIESEL IV**
- **ARCHITECTURAL DRAFTING I**

Each course description includes prerequisites, course content, and fees. Some courses cover advanced topics such as blueprint reading, small engine repair, and diesel mechanics, while others focus on woodworking and architectural drafting. The fees range from $5.00 to $8.00, and the courses are offered during evening hours. The courses are designed to provide practical skills and theoretical knowledge in their respective fields.
461-463 ARCHITECTURAL DRAFTING II
This course is a continuation of Architectural Drafting I. Course content will include execution of the drawing of the plans for a single family dwelling, and perspective and rendering of the final design.
Lab Fee: $4.00 Evening School: 60 Hours

461-400 DRAFTING I (Mechanical)
A course based on approximately 30 drawings which gives the student opportunity to develop both skills and knowledge. The specific area of the material includes: lettering, geometric construction, simple scale drawing and dimensioning; linking is optional.
Lab Fee: $1.00 Evening School: 60 Hours

461-404 DRAFTING II (Mechanical)
This is a continuation of Drafting I. In addition, cross-sections, auxiliary views, pattern layouts, construction of curves, intersections, triangulation, pictorial drawings, screw threads, and thread conventions are included.
Lab Fee: $4.00 Evening School: 60 Hours

461-405 DRAFTING III (Mechanical)
This is a workbook course including completion problems, free-hand sketching, visualization exercises, auxiliary views, revolutions, and sections.
Lab Fee: $1.00 Evening School: 60 Hours

461-416 DRAFTING IV (Mechanical)
Machine drawing covering detailing and assembly drawings including limiting fits, tolerances, and allowances.
Lab Fee: $4.00 Evening School: 60 Hours

461-408 DRAFTING V (Mechanical)
This course covers mechanisms, gears, cams, worm and wheel construction and bevel gears; also the math for the foregoing problems in the mechanisms as well as a study of linkages and velocity diagrams.
Lab Fee: $5.00 Evening School: 60 Hours

ELECTRONICS
418-468 ELECTRICITY I
This is a fundamental course designed primarily for maintenance men who need general information in the field of electricity. A study is made of circuits and circuit components, instruments and their uses, transformers, and electric motors.
Lab Fee: $5.00 Evening School: 50 Hours

418-469 ELECTRICITY II (Industrial)
The study of the safe operation, installation, and maintenance of electricity as applied in manufacturing installations. Three-phase, relays, micro-switches, etc., are introduced.
Lab Fee: $8.00 Evening School: 40 Hours

418-469 ELECTRONICS I
A lecture-demonstration course to include: DC and AC electrical theory, introduction to vacuum tubes, vacuum tube circuits and circuit analysis, AM and FM superheterodyne radio receivers.
Lab Fee: $8.00 Evening School: 40 Hours

418-471 ELECTRONICS I - RADIO (Servicing)
A lecture-laboratory course in radio servicing. Includes operations and use of test equipment; individual instruction on methods and techniques of servicing AM and FM radio receivers, auto radios, and photo combinations.
Lab Fee: $8.00 Evening School: 40 Hours

418-482 ELECTRONICS I - LABORATORY
A lecture-laboratory course in advanced circuit analysis and electronic instrumentation.
Lab Fee: $8.00 Evening School: 40 Hours

418-465 TELEVISION I
Theory of operation and servicing procedures for CRT circuits, the vertical and horizontal deflection sections, the low and high voltage power supplies. About 60 per cent of class time used for laboratory procedures.
Prerequisite: Electronics 418-460 and Electronics 418-461.
Lab Fee: $12.00 Evening School: 120 Hours

418-466 TELEVISION II
Continuation of Television I; sections studied are synchronism, video and intermediate frequency, and frequency modulation sound. About 40 per cent theory, 60 per cent laboratory with emphasis on receiver testing and repair.
Prerequisite: Television I.
Lab Fee: $12.00 Evening School: 120 Hours

418-467 COLOR TELEVISION
Lecture-demonstrations of principles of the color television system; how color circuits differ from ordinary receivers, color receiver set-up procedures, frequency response curves, color equations, and trouble-shooting methods.
Prerequisite: Television II.
Lab Fee: $8.00 Evening School: 30 Hours
VOCATIONAL TRADE

414-417 INDUSTRIAL ELECTRONICS I
A lecture-laboratory course which includes modern electron theory, operation of solid state diodes and transistors, types and fabrication of transistors, circuits and circuit analysis, transistor-like devices other than the triode transistor.
Lab Fee: $2.00
Evening School: 60 Hours

414-418 INDUSTRIAL ELECTRONICS II
A lecture-laboratory course which includes vacuum rectifiers and thytrons, light sensitive devices, control circuits, synchron, and an introduction to computers.
Lab Fee: $6.00
Evening School: 40 Hours

GRAPHIC ARTS

204-402 LETTERPRESS PRINTING
A general laboratory course with demonstrations and practical experience in typesetting, linotype operation and operator maintenance, makeup, imposition, automatic platen and cylinder presswork. It is not necessary for students to work in all areas. He may select any or all areas for gaining experience in the letterpress process.
Lab Fee: $2.00
Evening School: 40 Hours

204-431 LINOTYPE MAINTENANCE
This course will cover the essential operations performed by the operator of the machine. The operation taught will be the changeover of the machine, routine checkups, cleaning, lubrication, and minor adjustments. Practice is given in trouble shooting in which the student is expected to locate machine troubles.
Lab Fee: $4.00
Evening School: 40 Hours

204-473 LITHOGRAPHIC PRESS OPERATION
The course covers press principles, basic maintenance, press feeders, register systems, conveyors, delivery, blankets and packing, lithographic plates, ink, makerteddy, pH, and press operation.
Lab Fee: $6.00
Evening School: 60 Hours

204-474 ADVANCED LITHOGRAPHIC PRESSWORK
This course includes press operator's maintenance in setting bearer pressures, timing feeders, adjusting timing, setting impression cylinder grippers, aligning delivery grippers, setting delivery grippers, aligning cylinders, principles of packing short and long, matching colors, study of different types of lithographic plates, adjusting ink to paper. Press experience is offered in running process jobs, varnishing, scoring, and perforating, embossing, and running numerous papers and color registration.
Lab Fee: $6.00
Evening School: 60 Hours

204-458 PRINTING ESTIMATING
The units covered in this course include paper estimating, ink estimating, techniques in estimating composition, makeup and imposition, presswork, engraving, bindery, camera, stripping and platemaking. A study will be made of techniques used in setting up cost centers in a plant and items which must be studied in obtaining hourly rates for a given cost center. The course will also cover the use of the Franklin Offset and letterpress pricing guides.
Lab Fee: $2.00
Evening School: 40 Hours

204-483 PROCESS CAMERA I
This is a basic course in the study of camera operations, including films, emulsions, optics, light reflection, techniques in shooting line copy, and basic halftone principles.
Lab Fee: $8.00
Evening School: 60 Hours

204-490 PROCESS CAMERA II
This course includes principles of halftones, densitometry, and duotones.
Lab Fee: $8.00
Evening School: 60 Hours

204-489 PROCESS COLOR
This course includes development of test plates for checking out press, calculation of hue error, purity and efficiency, making color separations by camera back reflection copy, separation by contact, camera back separation from transparency, and running of process jobs on the offset press.
Prerequisite: At least two years experience in presswork or camera.
Lab Fee: $12.00
Evening School: 40 Hours

204-493 STRIPPING AND PLATEMAKING I
This course includes black and white stripping techniques and making of presensitized plates.
Lab Fee: $8.00
Evening School: 60 Hours

204-496 STRIPPING AND PLATEMAKING II
This course includes advanced stripping techniques in color work and experience with various platemaking processes.
Lab Fee: $8.00
Evening School: 60 Hours

204-476 SURVEY OF LITHOGRAPHY
This course is designed for the purchaser of lithography and the printer interested in adding litho to his present facilities.
Lab Fee: $2.00
Evening School: 40 Hours
MACHINE SHOP

421-435 BLUEPRINT READING I (Machine Trades)
This course covers the basic elements of lines and figures of common or simple objects and introduces the student to the principles of working drawings. The course proceeds to develop with the consideration of machined parts and the machine shop processes including drilling, turning, milling, boring, and threading. Some time is devoted to sketching.
Lab Fee: $1.00
Evening School: 40 Hours

421-437 BLUEPRINT READING II (Machine Trades)
The interpretation of blueprints, detail drawings, assembly drawings, symbols and notes from industrial prints.
Prerequisites: Blueprint Reading I (Machine Trades)
Lab Fee: $1.00
Evening School: 40 Hours

420-457 MACHINE SHOP I
This course covers the operation, care, and nomenclature of machine tools, use and care of hand tools and precision instruments, and the computation and layout for basic machine operations.
Lab Fee: $7.00
Evening School: 60 Hours

420-458 MACHINE SHOP II
This course covers advanced operations of machine tools, the more difficult layout and transfer methods and computations necessary for advanced machine work.
Information pertaining to special courses offered in the machine tool area may be obtained by contacting the Madison Vocational, Technical and Adult Schools.
Prerequisite: Machine Shop I
Lab Fee: $7.00
Evening School: 60 Hours

420-459 MACHINE SHOP III
Advanced operations, setups, inspection, and materials are covered with emphasis in the milling and grinding areas. Limited work in tool and cutter grinding and superfinishing is included.
Lab Fee: $7.00
Evening School: 60 Hours

420-460 MACHINE SHOP SPECIAL
A course designed to provide an opportunity for people desiring special assistance in machining problems or projects. Inventions, special tooling, specific operations are developed as to the student’s needs.
Lab Fee: $7.00
Evening School: 60 Hours

129-436 DIE MAKING
This course covers the purpose and advantages of dies, general design, selection of materials, die layout, location and construction of parting lines, single and multiple cavities, section thickness, draft angles, cores and inserts, slides and actuating parts, ejectors, pulling and venting, thermal controlling and construction procedures including plant visitation.
Lab Fee: $2.00
Evening School: 20 Hours

129-438 TOOL AND DIE DESIGN
A basic course in the fundamentals of die design, covering press data, die materials, die terminology, standard parts, layout, process planning, and calculation. Both theory and workshop application will be covered.
Lab Fee: $4.00
Evening School: 30 Hours

129-431 INSPECTION I
This course covers measurement basics, accuracy, tolerance, limits, facilities, referencing, measurement standards, traceability, intervals of calibration, environment, scheduling and recording, procedures of inspection and selection of inspection equipment.
Lab Fee: $2.00
Evening School: 20 Hours

129-432 INSPECTION II
An advanced course in inspection procedures. Emphasis is placed on selection, application, and implementation of inspection quality control. Most work is done with mechanical instruments but pneumatic electronic and optical are introduced.
Lab Fee: $2.00
Evening School: 20 Hours

129-433 METROLOGY (Machine Trades)
This course reviews the principles of measurement, the reference of measurement, and the application of measuring devices. Primary emphasis is on advanced mechanical tools with some application of pneumatic, electronic, and optical tools.
Lab Fee: $3.00
Evening School: 20 Hours

544-401 NUMERICAL CONTROL
A basic course in numerical control programming for two and three axis movements. It will cover the basic principles underlying the system, advantages and disadvantages, the procedure to the programming of a problem, and a workshop to develop a manuscript.
Materials Fee: $5.00
Evening School: 20 Hours

TECHNICAL

827-433 CIVIL ESTIMATING
Specialized estimating for engineering aides, or for those working in Civil Engineering or Civil Technology.
Lab Fee: $1.00
Evening School: 10 Hours
VOCATIONAL TRADE

607-477 LEGAL ELEMENTS OF CIVIL TECHNOLOGY
This course will include the following subjects: contracts, specifications, U. S. Land Division, state platting code, and ethics.
Lab Fee: $1.00 Evening School: 10 Hours

607-478 MECHANICS (Statics and Dynamics)
This course is an introduction to the field of mechanics. The following topics are covered: result and equilibrium forces, moment, stress, stress, parallel-nonparallel forces, static and kinetic friction.
Materials Fee: $1.00 Evening School: 10 Hours

607-480 SURVEYING MATHEMATICS
This course will include the fundamental mathematics necessary as a foundation for surveying.
Lab Fee: $1.00 Evening School: 20 Hours

607-481 SURVEYING MATHEMATICS II
Continuation of Surveying Mathematics I.
Lab Fee: $1.00 Evening School: 20 Hours

600-190 TECHNICAL DRAFTING I
A course designed to provide fundamental knowledge of the principles of mechanical drafting and to develop skill in the basic techniques of using drafting room equipment. It covers lettering, orthographic projection, dimensioning, geometric construction, detail and assembly drawing, inking, developed surfaces, and simple scale drawing.
Lab Fee: $3.00 Evening School: 190 Hours

607-482 TRANSIT INSTRUCTION
This course offers apprentice and journeyman trades people an opportunity to learn the construction transit level.
Lab Fee: $2.00 Evening School: 20 Hours

WELDING

448-403 WELDING I
This course is designed to cover the fundamentals of the manual shielded arc welding process. The course is basic to all other arc welding courses because it provides the student with knowledge and manipulative skill in the use of the electric arc welding equipment. The student develops skill in welding on mild steel in the flat and horizontal positions using the lap, tee, corner and groove joints, with various types of electrodes.
The fundamentals of oxy-acetylene welding on mild steel in the flat, horizontal, and vertical position, the flame cutting of steel and braze of steel and cast iron, are also included.
Lab Fee: $20.00 Evening School: 60 Hours

448-401 WELDING II
Continuation of fundamentals of electric arc welding to develop manipulative skills in horizontal, vertical, and overhead positions using several classification types of electrodes.
Continuation of oxy-acetylene welding on mild steel, cast iron, aluminum, and steel pipe.
Prerequisite: Welding I or shop experience.
Lab Fee: $30.00 Evening School: 60 Hours

448-408 WELDING III
This course is designed to prepare welding operators to become certified in structural steel, pipe welding, boiler and pressure vessel welding in conformance with the A.W.S. and the A.M.E. Codes applicable to the Industrial Commission of Wisconsin. Instruction is also given in the processes of tungsten inert gas, metallic inert gas, and submerged semiautomatic welding on mild steel, stainless steel, and aluminum.
Prerequisite: Welding II.
Lab Fee: $20.00 Evening School: 60 Hours

SCHOOL FOR WORKERS

The Madison Vocational, Technical and Adult Schools in cooperation with the School for Workers of the University of Wisconsin Extension Division offers courses to those interested in union problems.

491-407 STEWARD TRAINING AND GRIEVANCE HANDLING
This class is intended to provide training for union stewards and departmental committees who have had little or no previous training. The class will include discussion of the duties of a steward, general training in how to handle problems arising on the job (such as those typically connected with safety, working conditions and wage or work assignment complaints), how to recognize grievances, how to gather facts on complaints and
LEADERSHIP TRAINING FOR UNION MEMBERS

What is leadership, types of leadership, building an active steward organization, developing effective committees, improved communications, improved meetings, building an education program.

Evening School: 16 Hours

481-486 LEADERSHIP TRAINING FOR UNION MEMBERS

An apprentice training program in Wisconsin is a legally constituted program of education set up under the laws of the State of Wisconsin to prepare a man for presenting in management and how to follow through on grievances in the later steps of the procedure. The class will consider the broader role of the shop steward as a leader in the workplace and as an employee representative in labor-management relations. Special emphasis will be given to handling typical shop problems in the early stages of the grievance procedure, using whatever possible, actual contracts and specific problems of class members. The class will also attempt to provide stewards and committeemen for their leadership function according to the terms of their particular collective agreements.

Evening School: 16 Hours

APPRENTICESHIP

The Apprenticeship Law

An apprentice training program in Wisconsin is a legally constituted program of education set up under the laws of the State of Wisconsin in such a way that the employer and the apprentice are fairly treated under a contractual agreement called an indenture varying in length from three to six years. During this time, the apprentice can be assured of receiving well-rounded training in his selected field, and the employer can be assured of having a screened, tested, and capable employee. This is accomplished by the cooperative effort of the Apprenticeship Division of the Wisconsin Industrial Commission which supervises the work of the apprentice on the job to see that it meets the standards set for the particular trade, the employer who provides the work experiences for the apprentice, and the school which provides the instruction in trade technology and the related sciences. A combination of work on the job and the related training in the school, each supplementing the other, forms the basis for close to an ideal learning situation. This method of training is age-old and proven. Any person aspiring to learn a trade may benefit by investigating the merits of the Wisconsin Plan for apprentice training.

Content of Indenture

There are four major stipulations within an indenture which govern:
1. Term of training, which varies from three to six years.
2. Schooling and school attendance, which ranges from 300 to 600 hours.
3. Work processes which the apprentice is to be rotated through on the job.
4. Wages to be paid in step increases to the apprentice for the duration of his apprenticeship.

The terms of the indenture listed above are accomplished under the supervision of the Apprenticeship Division of the State of Wisconsin and the aid of the joint labor and management apprenticeship committees.

Joint Apprenticeship Committees

The joint Apprenticeship Committees are made up of representatives of labor and management who serve in an advisory capacity to the school in connection with the planning of apprenticeship programs for both day and evening classes. Recommendations are made relative to curriculum content, equipment needs, and other information necessary to keep apprenticeship instruction and programs current with the needs of industry.

Apprenticeship Counseling Service

Prospective applicants for apprenticeship may receive counseling relative to job opportunities, wages, nature of work, and special aptitudes required for the apprenticeship trades by contacting the Coordinator of Apprenticeship at the Madison Vocational, Technical and Adult Schools.

Application for Apprenticeship

A variation of procedures is followed by the Joint Apprenticeship Committee representing the numerous crafts in the Madison area. The Supervisor's Office of the School of Trade and Technical Education will furnish information relative to application procedures upon request. This information is also available at the Supervisor of Apprenticeship Office in the Hill Farms State Office Building.
APPRENTICESHIP PROGRAMS

501-599 BARBER APPRENTICESHIP
Apprentice problems, sanitation, hair, anatomy and physiology, diseases, drugs and cosmetics, scalp treatments, facial treatments, light therapy, business management, barber law, sales and service, barber instruments, barber shop equipment, honing and stropping, scalp services, facial services, haircutting, hair styling, history of barbering, legal aspects of barbering, bacteriology and sanitation, and business relations.

Day School: Length of Apprenticeship: 300 Hours

408-590 BRICKLAYING APPRENTICESHIP
Bricklaying techniques; masonry materials; methods of bricklaying; trade arithmetic; safety, tools, and equipment; basic shop sketching; blue print reading for building trades; methods of building layout; quantity survey for bricklayers; drawing for building trades; welding; and transit instruction.

Day School: Length of Apprenticeship: 400 Hours

440-590 CARPENTRY APPRENTICESHIP
Carpenter tools and equipment, frame construction, concrete form construction, arithmetic for carpenters, blueprint reading and sketching for carpenters, building materials, roof construction, quantity survey for carpenters, stair construction, interior and exterior trim, fireproof building construction, drawing for building trades, transit instruction, welding, and carpentry extension.

Day School: Length of Apprenticeship: 400 Hours

466-590 CEMENT FINISHING APPRENTICESHIP
Mathematics, blueprint reading and sketching, related science, layout and transit work, and safety and first-aid.

Day School: Length of Apprenticeship: 400 Hours

502-590 COSMETOLOGY APPRENTICESHIP
Disinfection and sanitation for cosmetologists, cosmetic chemistry, skin and scalp diseases, theory of facial massage and cosmetic use, law and sanitary rules, selected cosmetology techniques, theory of permanent waving, theory of manicuring, applied electricity for cosmetologists, anatomy and physiology for cosmetologists, theory of shampooing, basic business principles, theory of scalp treatments, theory of hair tints and color rinses.

Day School: Length of Apprenticeship: 288 Hours

412-590 ELECTRICAL APPRENTICESHIP

Day School: Length of Apprenticeship: 400 Hours

201-590 GRAPHIC ARTS AND PRINTING APPRENTICESHIP
Electricity, presswork, lithography, letterpress, graphic arts technology, English for printers, human relations, and printing mathematics.

Day School: Length of Apprenticeship: 400 Hours

420-590 MACHINE TRADES APPRENTICESHIP
Drawing interpretation, principles of metallurgy, basic industrial hydraulics, basic drafting, machine tool technology, communications, human relations, electricity, and mathematics.

Day School: Length of Apprenticeship: 400 Hours

424-590 PAINTING AND DECORATING APPRENTICESHIP
Related interior painting and decorating, painting methods and techniques, basic shop sketching, blueprint reading for building trades, related wood finishing, practical estimating for painters, paperhanging, related exterior painting, interior decoration, and layout and design for painters.

Day School: Length of Apprenticeship: 400 Hours

427-590 PLUMBING APPRENTICESHIP
Drawing for plumbers; mathematics for plumbers; science for plumbers; drainage and sewage disposal; plumbing fixtures and materials; water supply; soil, waste, and vent pipes; special rules and regulations; plumbing repair; blueprint reading; plumbing code; welding; and transit instruction.

Day School: Length of Apprenticeship: 400 Hours

422-510 SHEET METAL APPRENTICESHIP
Radial line development, hand tools, fabrication techniques, sheet metal mathematics, machines, materials and supplies, duct construction and erection, machine blueprint reading, parallel line development (cornice), blueprint reading for sheet metal workers, welding, oxy-acetylene welding, arc welding.

Day School: Length of Apprenticeship: 400 Hours
APPRENTICESHIP

435-590 STEAMFITTING APPRENTICESHIP
Basic science, basic mathematics, pipe drafting, basic heating, air conditioning, refrigeration, isometric drawings, material requisitions, fuel burning equipment, pipe bending, panel heating, rigging, use and care of tools and equipment, pneumatic controls, welding, instruments, the pipefitter and pipewelder handbook.

Day School: Length of Apprenticeship: 600 Hours

447-510 STRUCTURAL STEEL AND IRONWORKER APPRENTICESHIP
Steel construction; connections; fabrications; erection; transportation and maintenance; rigging; fiberline; wire rope; chains and hooks; hoisting equipment; anchorages; scaffolding, skids, and rollers; lifting and moving loads; blueprint reading; and applied mathematics.

Day School: Length of Apprenticeship: 400 Hours

448-590 TOOL AND DIE APPRENTICESHIP
Tool and die fundamentals; tool and die technology, mathematics, drawing interpretation, drafting, welding, metallurgy, industrial hydraulics, electricity, communications, and human relations.

Day School: Length of Apprenticeship: 400 Hours

441-590 WATCHMAKING APPRENTICESHIP
Watch repairing techniques, watch theory and construction, watch regulating and adjusting technology.

Day School: Length of Apprenticeship: 128 Hours

448-590 WELDING APPRENTICESHIP
Blueprint reading, arc welding theory and practice, gas welding theory and practice, shielded arc theory and practice, structural steel and pipe certification, welding metallurgy.

Day School: Length of Apprenticeship: 400 Hours

CO-OPERATIVE PROGRAMS AND COMMUNITY SERVICES

Homemaking
Civic Music
Rehabilitation
Clinics and Institutes

There are many areas in which the Madison Vocational, Technical and Adult Schools cooperates with other agencies and educational institutions in order to give an all inclusive functional educational program to the community. These areas cover a wide range of interest and purpose from research and cultural programs to specific vital and current changing information pertinent for particular businesses and industrial groups.

Groups interested in cooperating with the school in regard to the planning of specific programs, institutes or clinics should contact the school.

The Madison Vocational, Technical and Adult Schools is willing to formulate advisory committees to identify types of programs for the benefit of the citizens of the greater Madison area. These committees serve an important purpose in suggesting future instructional staff, as well as making recommendations to the board for plans for future equipment and facilities.
COMMUNITY SERVICE

HOMEMAKING

UNIVERSITY OF WISCONSIN STUDENT TEACHERS IN HOME ECONOMICS

Adult courses in Home Economics serve as a learning laboratory for seniors in Home Economics Education, University of Wisconsin, who desire experiences in adult teaching. The cooperative program includes an orientation-information meeting and a tour of the school for the student teachers, and three consecutive observation-participation experiences in specifically designated classes. Supervising teachers and University of Wisconsin Home Economics Education staff members cooperatively determine responsibilities and procedures in providing learning opportunities for student teachers. This program is carried on during both semesters.

MONTHLY RADIO PROGRAMS

Home economics staff members share information and new developments in their field of work with listeners to the Homemakers Program, WHA Radio state stations. These programs are presented from September through June on the first Thursday of each month. The first program informs the listeners of offerings and new trends in Adult Education through Home Economics. Succeeding programs contain specific subject information.

TV SERIES — "Guiding Your Child Toward Maturity" —

A Community Project

A six-week lecture-discussion series on "Guiding Your Child Toward Maturity" will be presented over WHA-TV early in the school year. This series will follow during the second semester by additional programs developed in Family Life Education. These projects are co-sponsored by:

State Department of Public Welfare

Dane County Mental Health Center

Madison Council of Parent and Teachers Association

Dane County Cornell on Family Living

WHA-TV, and

Madison Vocational, Technical and Adult Schools

HOMEMAKERS CLUB

An educational-service-social organization meets monthly at the School on the second Friday afternoon of each month. A speaker or special feature, business meeting, and fellowship are included in each program. Club members work on several service projects in the community. Membership is open to all interested women.

SPECIAL PUBLIC PROGRAMS FOR WOMEN

Periodically, persons of authority are invited to present selected informational programs to students and interested persons. Specialists for these public programs include fashion and fabric consultants from major pattern companies in New York, buyers and skilled personnel from stores, and specialists who will help women keep pace with new developments in their profession of homemaking. Public information media is used in acquainting women with these selected programs.

CIVIC MUSIC

The Madison Civic Music Association represents the combined efforts of the Madison Symphony Orchestra, the Madison Civic Chorus, the Civic Opera Workshop, the Civic Opera Guild, the Women's Committee, and a large body of contributing members with one common purpose in mind, to foster and develop the art of music among Madison's growing population.

Equally important in its long-standing development has been the association's co-sponsor, the MADISON VOCATIONAL, TECHNICAL AND ADULT SCHOOLS.

The Madison Civic Symphony Orchestra, founded in 1895, has presented public concerts to Madison audiences for 40 years. The orchestra, classified by the American Symphony Orchestra League as an Urban Orchestra, has a basic membership of 70 players. The orchestra presents an annual series of orchestral concerts, performs with the Civic Chorus in major operas, joins with Civic Opera groups in operatic productions, presents several youth concerts each season, and gives an annual Benefit Pops Concert. Membership in the orchestra is by audition with the director.

The Madison Civic Chorus was founded in 1927. Its membership averages 100 singers. The chorus presents two or more annual concerts of traditional and contemporary oratorios and other choral works, assisted by the Madison Symphony Orchestra. Its membership is open to qualified singers who must audition for the director.

The Civic Opera Workshop was originated in 1962. Its members devote themselves to the study of a wide range of operas. They have presented two fully staged operas in recent years and have participated in several other operatic presentations, including concert version operas, operettas, and semi-staged operatic scenes. Membership is by audition with the director.

The Women's Committee of the Madison Civic Music Association was founded in 1928. Its 160 members devote themselves to promoting and assisting with civic music events in many di-
COMMUNITY SERVICE

verse ways. The Women's Committee sponsors the annual Benefit Pops Concert of the orchestra.

The Civic Opera Guild is primarily concerned with the Association's operatic presentations. Its members undertake the many behind-the-scenes activities involved in opera production. Membership is open to all opera lovers.

The contributing members of Madison Civic Music Association help provide financial support necessary to maintain the civic music program in Madison. Last year's membership totaled 820.

REHABILITATION

In cooperation with the Wisconsin State Rehabilitation Department, the Madison Vocational, Technical and Adult Schools provide training for vocationally handicapped persons, mentally handicapped persons, and severely disabled adults over 18 years of age.

Upon recommendation of the State Rehabilitation Division, any vocationally handicapped person who can benefit from training may be enrolled in any of the regular courses offered by the school.

For the mentally handicapped person the WORK ADJUSTMENT PROGRAM is available.

This program is designed to provide vocational evaluation, training, counseling, and placement services for mentally handicapped young adults. These persons served by this program are active clients of the State Rehabilitation Division and are considered potential candidates for eventual employment. Principle objectives of the program are to orient students to the role of wage earner and citizen and help them prepare for employment commensurate with their abilities. In addition, considerable emphasis is placed on helping students develop personal and social adequacy which will assist them to adjust better to their homes and community.

Realistic work experience is provided for each individual which introduces the student to the world of work and many of the necessary skills required in a competitive work environment. Related material is offered according to individual need. Approximately 25 students are served in one academic year.

For the severely disabled adult, the WISCONSIN HOME-CRAFT SERVICE is available.

This service is an art and craft instruction service of the Vocational Rehabilitation Division of the State Board of Vocational, Technical and Adult Education available to severely disabled adults sixteen years of age or over, who, because of the severity of their physical or mental disabilities, cannot engage in full-time training or employment outside of their homes.

Craft instructors make scheduled calls to trainees' homes to guide the individuals in courses of instruction leading to the making of useful and decorative marketable products.

Courses of instruction include weaving, woodworking, needlework, ceramics, art metal, leathercraft, decorative painting, rug hooking, silk screen printing, etc.

Marketing assistance is provided by volunteer agencies sponsoring sales outlets.

Application for these programs can be made at the District Rehabilitation Office, Room 830, State Office Building, 1 West Wilson Street, Madison, Wisconsin 53702, phone: 266-8666.

CLINICS AND INSTITUTES

Welding Institute
Automobile Refinishing
Automobile Parts
Chrysler Corporation Workshop
Welding Institute - Dairy Equipment Co.
Welding Institute - Carnes Corporation
Alemite School - Alignment & Balancing
Sunnen - Honing
Freeway Driving Seminar
Cosmetology Institute
Engine Operation - Piston Rings, Perfect Circle
COMMUNITY SERVICE

The school offers, whenever possible, facilities for meetings, conferences, workshops, and examinations to various community organizations, such as:

League of Women Voters
Federation of Teachers
United Cerebral Palsy of Dane County
Madison Public Schools Art Teachers
Central Wisconsin English Teachers Association
Central Wisconsin Engineering Technicians Association
City Personnel Office
National Secretaries Association Workshop
State Bureau of Personnel
Women's Municipal Golf Association
Phi Delta Kappa
Big Brothers of Dane County
Central High School P.T.A.
Dane County Dental Assistants
Dane County Dental Society—"Careers in Dentistry Day"
State Food Merchandising Committee
Governor's Dropout Committee
American Society of Civil Engineers and Technicians
Madison District Nurses Association
DECCA Business Man
Homecrafters Fair
Postmasters' Management Conference
Traffic Safety Conference
Governor's Committee on Children and Youth
American Management Association
State Board of Veterinary Examiners
Wisconsin Press Association
Troop 600, Boy Scouts of America
Four Lakes Council, Boy Scouts of America
Wisconsin Gasoline Dealers Association
Wisconsin Women's Legislative Council

*Administration and Staff
ADMINISTRATIVE OFFICERS
Norman F. Mithy ............................................ Director
Glenn F. Otwell ........................................... Assistant Director and Business Manager

SUPERVISORS—GENERAL EDUCATION
Robert V. Ahrens ........................................... Marketing
Maud R. Gilbert ............................................. Health Occupations
Willyfried Y. Guenther .................................. Art
Elsedr E. Heese ............................................. Cube Technology
Roldan Johnson ............................................ Music
Dean H. Kammer .......................................... Business
 coût E. Morrison ........................................... Trade and Technical
Christina Miskel .......................................... Home Economics
Alum C. Thomas ........................................... Assistant Supervisor, Trade and Technical

ANCILLARY STAFF
Donald N. Andersen ...................................... School Interpretation—Television
Arthur F. Catarrani ....................................... Librarian
Mary Lou Diehl ............................................ School Interpretation
Hildred F. Drake ........................................... Guidance and Counseling
Orval A. Gabriel .......................................... Student Services
Richard Grau ............................................... Audio-Visual
Charles H. La Follotte .................................. Assistant Registrar
Joseph H. Sevier .......................................... Registrar

TEACHER-COORDINATORS
Clifford Andreoli ......................................... Safety Education
Virginia Caso .............................................. Medical Assisiting
Lucille M. Dagno .......................................... Practical Nursing
Belle C. Fiedler ............................................ Dental Assisting
John R. Gildof ............................................ Mechanical Design Technology
Velma B. Hamilton ........................................ Social Sciences
Raymond C. Hulker ....................................... Mathematics
Charles A. Johnson ....................................... Automotive Technology
Grace Krause ............................................... Homecraft
Marian M. Kaelin ........................................... Quantity Food Preparation
James C. Kowans .......................................... Machine Shop Technology
John R. Schillak .......................................... Business Administration—Accounting
Roland O. Sprecher ...................................... Science—Chemistry
Fred A. Thaller ............................................ Welding
Yemen Tari .................................................. Civil Technology
Jeanette A. Van Vonderen ................................ Secretarial Science
Jane Von Gunten .......................................... Fashion Merchandising
Diane H. Wendel ......................................... Electronics Technology

*Since the staff is ever changing in an adult program, there are constant additions and deletions.
FACULTY

Madison Vocational, Technical and Adult Schools faculty members
who instruct adult school or apprentice school on a full or part-time basis
in day or day and evening classes:

Adams, Alice Jo ....................................................... Fashion Merchandising
Agard, Jean S .......................................................... English
Anderson, Clarence C ............................................... Typewriting
Anderson, Patricia .................................................. Social Sciences
Arndt, John ............................................................ Accounting, Business Mathematics, Typewriting
Atkins, Betty .......................................................... English
Bellow, Ellen ........................................................... Social Sciences
Bench, Harry A ....................................................... Automotive Technology
Bednar, John ............................................................ Art
Bennett, Patricia ..................................................... Practical Nursing
Bishop, Frances ....................................................... Millinery
Blockham, Mabel ..................................................... Accounting
Blusieke, Harvey ..................................................... Painting and Decorating
Bordner, Feda .......................................................... Work Adjustment Program
Brockett, Edward M .................................................. Auto Body Technology
Brooks, Norma ....................................................... Clothing
Brown, Delmar ....................................................... Graphic Arts
Buchholz, Jane ........................................................ Clothing
Burgess, Violet ...................................................... Using Dollars Wisely, Management
Chapman, Murriel ................................................... Crafts - Roses Making
Christensen, James .................................................. Director, Madison Municipal Band
Clark, Gerald .......................................................... Plumbing
Creydt, Omer ......................................................... Sheet Metal
Delaire, LaRoy ......................................................... Mechanical & Metallurgy Technology
Dhillon, Orice J ........................................................ Mechanical Design Technology
Dittmer, Dorothy M .................................................. Practical Nursing
Dover, N. Rodric .................................................... Merchandising
Douherty, M.T ......................................................... Medical Assisting
Dudler, Jean C ........................................................ Practical Nursing
Eaton, Mina ............................................................. Homecraft
Engstrom, Conrad, Jr ................................................ Rural Electrification
Epley, John L .......................................................... Supervisory Training
Featherstone, Virginia ............................................... Foods
Fehr, Elizabeth ........................................................ Clothing
Finn, Judith A ........................................................ English
Follett, Reife .......................................................... English
Frankland, John ..................................................... Photography
Gelbke, Alma ........................................................ Cosmetology
Gempeler, O. H ....................................................... Steam Stamping
Gitter, Helen Louise ................................................ Foods
Goldfarb, Tana ........................................................ Childbirds and Infants
Goldenberg, Roselle ................................................ Typing
Graf, Sylvia .......................................................... Clothing, Millinery

Green, Donald ........................................................ Framing and Mailing Pictures
Greene, Florence N ................................................ Mathematics
Groy, Hayden ........................................................ Marketing - Salesmanship
Gruber, Marion ..................................................... Dental Assisting, Medical Secretarial
Hayek, Charles ...................................................... Art
Hefly, Marie L ........................................................ Medical Secretarial
Henderson, Thurman D ............................................. Machine Shop, Welding
Hessel, James ........................................................ Supervisory Training
Heyer, Otto ............................................................ Blueprint Reading, Architectural Drawing
Hoers, Richard ....................................................... Home Building and Remodeling
Hoppen, Janet H ...................................................... Hotel - Motel Sales Promotion
Huennekens, Earl .................................................... Food Merchandising
Hulstrom, Richard E ................................................ Clothing
Johnson, Richard E .................................................. Business Administration - Data Processing
Johnson, Robert ...................................................... Electronics Technology
Kamm, Marjorie M .................................................. Practical Nursing
Kampen, Owen ........................................................ Art
Kerkhoff, Louise ...................................................... Clothing
Kiersat, Jean ......................................................... Home Management for the Handicapped
Kilgour, William E ................................................ Social Sciences
Killingstad, Helga ..................................................... Foods
King, Harold E ....................................................... Graphic Arts Photography
Kins, John P ........................................................... Science, Physics
Kiser, Arthur R ....................................................... Legal Secretarial
Kiser, Banderi ........................................................ Legal Secretarial
Krebs, Herman J ..................................................... Upholstery
Kruse, Elizabeth ..................................................... Interior Decoration
Leary, Patrick ........................................................ Quantity Food Preparation
Levin, Jack R .......................................................... Auto and Power Mechanics
Lund, Dalia ............................................................ Clothing
Lund, Dorothy ......................................................... Personal Development
McCarthy, Nancy ...................................................... Food Service Assistants
McCullough, Elizabeth ............................................... Music
McLaughlin, Frances ................................................ Quantity Food Preparation
MacKenzie, Peter, Jr ................................................ Quantity Food Preparation
Magen, Edward ....................................................... Carpentry
Maiden, Marlin J ..................................................... Auto Mechanics
Maitel, Cynthia C .................................................... Fashion Merchandising
Malone, Thomas ..................................................... Art
Marquardt, Charles ................................................ English
Martin, Donald ....................................................... Diesel Theory
Martin, Winfield ..................................................... Sheet Metal
Mastik, Mary Lou .................................................... Dental Assisting
Mazur, Edward ....................................................... Masonry
Mayer, Milde ........................................................ Secretarial Science
Mikkelsen, Ruth ...................................................... English
Miller, William ....................................................... Business Administration - Data Processing
Miller, Madeline .................................................... Driver Education
Moecke, Robert ..................................................... Driver Education
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**FACULTY: Evening**

Special faculty members who instruct on a part-time basis in evening classes only:

Ager, Rollin, Basic Computer Programming
Anderson, Carol, English
Austin, Jaise, Knitting
Baranowski, Edward, Credit Union Leadership
Barranco, Samuel, Business English
Branting, Florence, Childbirth and Infant Care
Barto, Clinton, Russian History
Beddun, Harold, Glaziers
Beeson, Ann, Clothing
Benson, Wallace, Art Metal
Berg, Rush, Merchandise Display
Bertrand, Robert J., Hotel - Motel Law
Bessent, June, Reading With Your Children
Bielesfeld, Betty, Flute
Billey, Robert, Accounting
Birn, Yvette, Modern Dance
Black, R. A., AIB Home Mortgage Lending
Blevens, James, Tool & Die Design
Brandenburg, Harold, Advanced Investments
Brandenburg, Marian, Interior Decoration
Brett, Carol, Spanish
Brown, John, Contact Selling
Bryant, Howard, Computer System Design
Bumstead, James, Glassiers
Burzynski, Mabel, Knitting
Byrne, Laurette, Key Punch, Machine Calculation
Campbell, Michael, English
Casenove, Lorna, Knitting
Christensen, Diane, Clothing
Christensen, Jean, Clothing
Cipore, Fred, U. S. History
Claude, Joseph, Piano
Colbert, Edward, Cabinetmaking
Collins, Joan, Feature and Article Writing
Collins, Richard, AIB Economics
Collins, Richard, Oil and Portrait Painting
Collett, Alfred, Citizenship
Corry, Barbara, Clothing
Cutter, Elmer, Accounting
Dawson, Vance, Art Forms
Dempsey, Angelina, Civil Service Review
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<tr>
<td>906-452</td>
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</table>
school of vocational trade and technical education
Norman P. Mitby, Director

Madison Vocational, Technical
and Adult Schools
211 North Carroll Street
Madison 3, Wisconsin

Board of Vocational and Adult Education
Fred M. Mason, President
Frank G. Collester, Vice-President
Robert D. Gilberts
Russell E. Dresser
George Hall
School of Vocational Trade and Technical Education

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The School of Vocational Trade and Technical Education program is planned to meet the objective of fitting people for useful employment. We are challenged by a world which vitally needs the highest possible achievements of each individual.

It is the aim of the school administration and teaching staff to gear the instruction to the individual needs and desires as well as to the capacity and ability of the student to the end that, upon completion of the curriculums, the student may secure satisfactory employment in the semi-skilled occupations, apprenticeable and other trades, and technical fields.

The School of Vocational Trade and Technical Education is one of the seven divisions of the Madison Vocational and Adult School offering training on a post high school level. The others are School of Business, School of Commercial Arts, School of Marketing, School of Medical Assistants, School of Practical Nursing, and School of Quantity Food Preparation and Service.

Students enrolled in any of these divisions receive instruction from highly qualified instructors. Equipment of the school is the best obtainable. Instruction is under constant supervision, and upon satisfactory completion of the two year technical curriculums in several of the areas, an Associate Degree in Applied Science is granted in accordance with the standards set up by the Wisconsin State Board of Vocational and Adult Education. A diploma is awarded to those completing other one and two year curriculums.

This Catalog outlines briefly the various curriculums available in the School of Vocational Trade and Technical Education.

High school graduates in the greater Madison area are cordially invited to visit the school or write to us for further detailed information.

Norman P. Mitby, Director
Financial aids are available to students who are in need of them. Blanks to be filled out to apply for financial aids are available in the Registration Office.

The Guidance Office is located in Room 136. This department is at the service of all students who have health, welfare, placement or guidance problems. It offers counseling service to all adults. Aptitude, interest and general information tests are given where indicated as a part of this service. Any young student or adult wishing to avail himself of an opportunity to take these tests may arrange for them at this office. Adults who are delayed or about to retire because of age are invited to use the counseling service.

The services of the Placement Office are available to employers in the Madison area in their effort to obtain the best qualified workers for available job opportunities. It will be the purpose of this office to recommend to employers only those who appear to be well qualified. Students in the school may register with the Placement Office for prospective jobs for which they would like to receive consideration.

In accordance with the laws of Wisconsin, non-resident tuition for persons under twenty-one years of age is chargeable to the county in which the student resides. Those desiring to enroll under the benefits of this law are required to obtain the proper blank from the Registration Office and have it signed and returned to the school as evidence of residence.

Persons over twenty-one years of age pay their own tuition ($1.50 per day, 75¢ per half-day) unless the town in which they reside agrees to pay the tuition.

For those who pay their own, tuition is payable in advance for each nine week period. Tuition may be charged for only actual days of attendance; hence all unused tuition will be refunded to the student if a written request or student receipt is presented to the main office by the close of the school year.

The school store is located on the first floor in Room 151. Here students can buy the necessary books and supplies from 8:00 a.m. to 11:30 a.m. and 1:00 p.m. to 4:00 p.m.

To be purchased by students and will average between $30.00 and $40.00 per year.

Information regarding registration dates and hours may be obtained by contacting the main office of the Madison Vocational and Adult School.

Ample housing is available in the immediate school area. Sleeping rooms average $7.00 per week per person.
PROGRAM OBJECTIVES

The School of Trade and Technical Education has been planned and organized with the following primary objectives:

1. To provide an education for life work.

2. To provide opportunities for general education as well as in the engineering sciences, so that the student can have a fuller participation in the total life about him.

3. To help the student determine facts and information about himself so that he may be able to select an occupational area in which he is most apt to succeed.

To obtain the foregoing objectives, two methods of approach are included in this brochure. One method is through training for a skilled occupation which is vocational trade training. The second is the technical institute program which provides a broad scope of coverage in the sciences, related subjects, and academics and includes training for a job area and or strata which lies between the job responsibilities of the skilled workman and the engineer.

AREAS OF TRAINING

THE VOCATIONAL TRADE PROGRAMS ARE:

- Auto Body
- Auto Mechanics
- Cabinetmaking
- Graphic Arts
- Machine Shop
- Sheet Metal
- Welding

THE TECHNICAL INSTITUTE PROGRAMS ARE:

- Automotive Technology
- Electronics Technology
- Civil Technology
- Mechanical Design Technology

PLACEMENT

The Madison Vocational and Adult Schools maintain a placement service to assist students in obtaining part-time employment while in school and full-time employment upon satisfying the requirements for the completion of a trade or technical curriculum.

DIPLOMAS AND DEGREES

Diplomas are granted on the satisfactory completion of one- and two-year full-time terminal trade programs. Associate Degrees in Applied Science are granted for satisfactory completion of two-year full-time Technical Institute programs which have been evaluated and accredited by the State Board of Vocational and Adult Education.
STANDARDS

Staff
All staff members participating in the program have met the qualifying requirements for teachers established by the Wisconsin State Board of Vocational and Adult Education.

Entrance Standards
The standard for entrance in the technical program is a C average or better high school record. Each student is given personal consideration.

Grades
Student must maintain an average grade of C to remain in the program.

Grading System

<table>
<thead>
<tr>
<th>Grade</th>
<th>Numerical Equivalent</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>93 - 100</td>
</tr>
<tr>
<td>B</td>
<td>Very Good</td>
<td>86 - 92</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>78 - 85</td>
</tr>
<tr>
<td>D</td>
<td>Minimum Passing</td>
<td>70 - 77</td>
</tr>
<tr>
<td>U</td>
<td>Unsatisfactory</td>
<td>69</td>
</tr>
<tr>
<td>Inc.</td>
<td>Incomplete</td>
<td></td>
</tr>
</tbody>
</table>

Incomplete (Inc.) is the only conditional grade given and must be removed within one semester. This grade signifies that the student's work was satisfactory but not completed.

Text Books
Post high school and college level instructional material are used throughout the course.

RECOMMENDED PREPARATORY HIGH SCHOOL COURSES FOR ENTRANCE INTO THE VOCATIONAL TRADE AND TECHNICAL PROGRAMS FOR THE TECHNICAL STUDENTS

Modern technology requires mastery of English, mathematics, and science. Accordingly, it is strongly recommended that the four-year high school training curriculum of the prospective technical student include as many courses in these subject areas as possible. The following is a suggested minimum list:

English—3 years
Mathematics—2 years, including algebra and geometry
Science—2 years, one of which should preferably be physics. Chemistry is strongly recommended as the second science.

Industrial Arts or Shop Course—1 year

FOR VOCATIONAL TRADE STUDENTS

The Vocational Trade programs make extensive use of English, mathematics, and science, but place more emphasis upon manual skills. The following is the suggested minimum list of high school courses for the prospective trade preparatory student:

English—2 years
General Mathematics—1 year
Science (preferably General Physics or Physical Science)—1 year

Industrial Arts or Shop Courses

TECHNICAL INSTITUTE PROGRAMS

The technical institute programs of the Madison Vocational and Adult School provide courses to students who have completed high school or who have an equivalent education and have the ability to carry post high school courses successfully. The technical programs offered through the trade and technical division of the Madison Vocational and Adult School are Automotive Technology, Electronics Technology, Civil Technology, and Mechanical Design Technology. These are two-year terminal programs and lead to Associate Degrees in Applied Science.
**Auto Mechanics Curriculum**

The following are the courses included in the Auto Mechanics two year full time program.

**First Year**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course</th>
<th>Periods Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>900.1</td>
<td>Automotive Brakes</td>
<td>10</td>
</tr>
<tr>
<td>900.9</td>
<td>Wheel Align. &amp; Balancing</td>
<td>10</td>
</tr>
<tr>
<td>1000.7</td>
<td>Technical Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>930.1</td>
<td>Basic Drafting I</td>
<td>5</td>
</tr>
<tr>
<td>900.2</td>
<td>Automotive Engines</td>
<td>20</td>
</tr>
<tr>
<td>970.1</td>
<td>Machine Shop I</td>
<td>5</td>
</tr>
<tr>
<td>970.5</td>
<td>Machine Shop II</td>
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<tr>
<td>990.12</td>
<td>Diesel</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course</th>
<th>Periods Per Week</th>
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</thead>
<tbody>
<tr>
<td>900.5</td>
<td>Electrical Systems</td>
<td>10</td>
</tr>
<tr>
<td>900.8</td>
<td>Tune-up and Carburetion</td>
<td>10</td>
</tr>
<tr>
<td>990.5</td>
<td>Welding</td>
<td>5</td>
</tr>
<tr>
<td>900.3</td>
<td>Clutches and Transmissions</td>
<td>20</td>
</tr>
<tr>
<td>900.6</td>
<td>Parts Department Practices</td>
<td>5</td>
</tr>
<tr>
<td>900.4</td>
<td>Differentials and Rear Axles</td>
<td>5</td>
</tr>
<tr>
<td>930.2</td>
<td>Basic Drafting II</td>
<td>2</td>
</tr>
<tr>
<td>940.1</td>
<td>Auto Body I</td>
<td>5</td>
</tr>
<tr>
<td>101.1</td>
<td>Communications Skills 1A</td>
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**Second Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course</th>
<th>Periods Per Week</th>
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<tbody>
<tr>
<td>900.5</td>
<td>Electrical Systems</td>
<td>10</td>
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<tr>
<td>900.8</td>
<td>Tune-up and Carburetion</td>
<td>10</td>
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<td>990.5</td>
<td>Welding</td>
<td>5</td>
</tr>
<tr>
<td>900.3</td>
<td>Clutches and Transmissions</td>
<td>20</td>
</tr>
<tr>
<td>900.6</td>
<td>Parts Department Practices</td>
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<tr>
<td>900.4</td>
<td>Differentials and Rear Axles</td>
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<td>930.2</td>
<td>Basic Drafting II</td>
<td>2</td>
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<td>940.1</td>
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</tr>
<tr>
<td>101.1</td>
<td>Communications Skills 1A</td>
<td>2</td>
</tr>
</tbody>
</table>

**Auto Mechanic**

**Specialty Mechanic**

**Shop Foreman**

**Employment with Manufacturers of Motor Vehicles**

**Employment in Automobile Factories**

**Motor Vehicle Salesman**

**Technical Teacher**

**Truck Driver**

**Auto Body Metal Finishing**

**Auto Body Painter**

**Automotive Technician**

**Jobber Salesman**

**Service Manager**

**Sales Manager**

**Parts Manager**

**Bus Driver**

**Auto Body Trimmer**

Automotive

Automotive service is **BIG BUSINESS**, a fast growing business. There are more than 60,000,000 cars and trucks on American roads today and every one of them requires repairs or adjustments from time to time. That means employment for more than 500,000 automotive mechanics or automotive technicians. Ten years from now we can estimate the cars and trucks on the highways to be 80,000,000 or more and of course there will have to be a proportionate number of mechanics to care for them. There is a need for at least an additional 40,000 trained technicians each year to fill the vacancies of those retiring and for those new positions created by an increased number of vehicles.

Automatic transmissions and other improvements and changes in car manufacture have made the repair of automobiles more and more complicated with the result that more different kinds of repair specialists are needed so the demand for skilled servicemen will create career opportunities for young men with the ability and training.

When a person makes automotive service his career, his work can bring him many worthwhile rewards and satisfactions. There's the satisfaction of using personal skill with tools and machines to handle a tough job expertly and efficiently. And then, too, there is the satisfaction of learning all about new products and service methods as new developments occur in the automotive industry. The job has variety and it is gratifying to know that one's skill is in wide demand, and that along with security, there are real opportunities for advancement.

**OPPORTUNITES IN THE AUTOMOTIVE FIELD**

- Automatic Mechanic
- Speciality Mechanic
- Shop Foreman
- Employment with Manufacturers of Motor Vehicles
- Employment in Automobile Factories
- Motor Vehicle Salesman
- Technical Teacher
- Truck Driver
- Auto Body Metal Finishing
- Auto Body Painter
- Automotive Technician
- Jobber Salesman
- Service Manager
- Sales Manager
- Parts Manager
- Bus Driver
- Auto Body Trimmer
## AUTO BODY CURRICULUM

### First Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>First Semester</th>
<th>Periods Per Week</th>
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<tbody>
<tr>
<td>940.1</td>
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<td>Welding</td>
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<tr>
<td>930.1</td>
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### Second Semester

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<td>935.1</td>
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### Second Year

<table>
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<th>Periods Per Week</th>
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<td>Record Keeping</td>
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<td>1220.1</td>
<td>Applied Science</td>
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<tr>
<td>940.06</td>
<td>Automotive Service Mgt.</td>
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<tr>
<td>Electives</td>
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### Second Semester

<table>
<thead>
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<th>Periods Per Week</th>
</tr>
</thead>
<tbody>
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<td>Auto Body</td>
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<td>Auto Body Estimating</td>
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<td>1000.1</td>
<td>Industrial Safety</td>
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<td>101.18</td>
<td>Communication Skills</td>
<td>5</td>
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<tr>
<td>Electives</td>
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<td>5</td>
</tr>
</tbody>
</table>
CABINETMAKING
The usual method for entering employment in the carpentry or cabinetmaking field in the Madison area is through an apprenticeship. This involves four years of work on the job along with 400 hours of related training in the school of carpentry or cabinetmaking technology and in the sciences. The student who has an aptitude for this kind of work will find it to be very interesting and stimulating as well as a remunerative occupation. Through the ages the building of those things which contribute to comfortable living is done with lasting pride on the part of the builder.

The following two-year cabinetmaking course is designed to serve as pre-apprentice training for entrance into either the carpentry or cabinetmaking field.

### Cabinetmaking Curriculum

**First Year**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Periods Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>950.1</td>
<td>Cabinetmaking</td>
<td>20</td>
</tr>
<tr>
<td>930.1</td>
<td>Basic Drafting</td>
<td>5</td>
</tr>
<tr>
<td>1010.1</td>
<td>Applied Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>950.7</td>
<td>Principles of Woodworking</td>
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**Second Semester**

<table>
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<th>Course Title</th>
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<td>950.2</td>
<td>Cabinetmaking</td>
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<tr>
<td>930.2</td>
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<td>5</td>
</tr>
<tr>
<td>1010.1</td>
<td>Applied Mathematics</td>
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</tr>
<tr>
<td>930.9</td>
<td>Architectural Drafting</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Periods Per Week</th>
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<tbody>
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<td>950.3</td>
<td>Cabinetmaking</td>
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<tr>
<td>930.3</td>
<td>Cabinet Drafting</td>
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</tr>
<tr>
<td>950.6</td>
<td>Machine Maintenance</td>
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</tr>
<tr>
<td>950.8</td>
<td>Production Cabinetmaking</td>
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**Second Semester**

<table>
<thead>
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# Graphic Arts Curriculum

## First Year

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</table>

The program is quite flexible to allow for individual differences and interests. It is not necessary to attend full-time. Specialized courses may be taken by special arrangement in the following areas:


## Graphic Arts: A Top Industry

The Graphic Arts today is one of the top industries in the country. Physical plants, ranging from the neighborhood print shop to those employing thousands of workers, produce commercial printing, advertising literature, publications, newspapers, cartons, paper products of all kinds, and almost everything that has printing on paper and other materials. The work is produced by one of several processes such as letterpress, offset lithography, gravure, silk screen, flexography or antigum, and other processes.

Allied with the printing industry are such plants as those which make paper, printing ink, printing machinery and supplies, photo-engravings and other types of printing plates, and printing press rollers.

## Need Young People

The printing industry especially needs young men and women who have a fairly good knowledge of English grammar, spelling and punctuation, and who like to work with their hands in creative effort, or who like to work with machinery. There is a need for young people who would like to become copywriters, proofreaders, estimators, linotype operators, compositors, pressmen, camera men, strippers, and layout artists.

Wages and salaries in the printing industry are among the highest in America. One authority states: "According to the United States Bureau of Labor Statistics, the skilled workers in the Graphic Arts industry earn 55% more than unskilled workers. They exceed those in the steel, textile, transportation and food industries by about 12 per cent, and stability of employment is far above average."
MACHINE SHOP CURRICULUM

First Year

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<tr>
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<td>Shop Sketching</td>
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<tr>
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<td>Blue Print Reading</td>
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<td>Machine Shop</td>
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Second Semester

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<td>Principles of Metallurgy</td>
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<td>Research Problems</td>
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Second Year

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<tr>
<td>Electives</td>
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</table>

Nature of the Work

Machine shop training enables the student to plan and carry to completion a machined product. He will learn how to work from blueprints and written specifications. He will be taught to select the proper tools and materials for each job and plan the proper sequence of the job operations. His training in shop practices and working properties of such metals as steel, cast iron, aluminum, brass, and what operations machine tools can perform, make it possible for him to turn a block of metal into an intricate precise part. In general, the machinist must learn how to use and care for all of the basic machine tools and use them to work metal to various shapes and tolerances. He will also acquire a broad knowledge in the use of precision measuring equipment so that he can do work to the limits required in his trade.
Sheet Metal

A one year basic course designed to give a young man an opportunity to determine whether he has the interest, aptitude, and ability necessary to succeed in sheet metal work. The contents of the course cover the blueprint reading, and drafting needed for entrance into this type of work.

SHEET METAL CURRICULUM
(One Year Course—Pre-Apprentice)

First Semester

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Second Semester

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# WELDING CURRICULUM

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## Second Semester

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## Second Year

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</table>

## Job Opportunities

- Plate and Structural Welding
- Industrial Pipe Welding
- Maintenance Welding
- Heli Arc Welding
- Pressure Vessel
- Shipyard Welding

Welding Opportunities

The occupational opportunities in the metalworking industries are excellent, the higher the degree of skill and training, the better are the opportunities.

Certified and qualified welders are always in demand. Welders certified to do work on large steel buildings and bridges and men certified to do industrial pipe and high pressure welding are in constant demand and can find employment provided they are willing to go where the jobs are.

Job Opportunities

- Plate and Structural Welding
- Industrial Pipe Welding
- Maintenance Welding
- Heli Arc Welding
- Pressure Vessel
- Shipyard Welding
technical education
AUTOMOTIVE TECHNOLOGY

The Automotive Technology program is designed to prepare students to do quality maintenance work and to be able to diagnose technical difficulties encountered in the operation of motor vehicles. A knowledge of basic scientific principles and technical information is emphasized so that students have an understanding of why difficulties occur. Included within the curriculum besides automotive laboratory and theory are courses in management, business operations, mathematics, science, machine tools and communication skills. Electives within the course requirements allow enough flexibility to care for special needs of the job objective. Upon successful completion of the course, there are job opportunities to become an auto mechanic, automotive diagnostician, parts department man, experimental mechanic, automotive specialist, automotive inspector, jobber salesman, automotive parts salesman, or service station operator. The requirements for graduation are 66 credits.

AUTOMOTIVE TECHNOLOGY CURRICULUM

First Year

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Electives

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ELECTRONICS

Fields of Work
Electronic technology deals with the design and application of electron tubes, transistors, transducers, and related solid state devices. The technician may be involved with radio, radar, television or telephony or in the manufacture of electronic systems and components, (such as guided missiles). He will make tests of electric devices using voltmeters, oscilloscopes, signal generators, and other delicate laboratory testing equipment. He must be proficient in the use of hand tools, and be able to solder.

Job Opportunities
Radio and Television Service Technician
Instrumentation Technician
Printed Circuits Technician
Electronic Systems Research Technician
Guidance Systems Research Technician
Electronic Layout Technician
Electronic Computer Technician
# ELECTRONICS TECHNOLOGY CURRICULUM

## First Year

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## Second Year

### First Semester

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### Second Semester

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## Record Keeping

- Technical Science I
- Basic Drafting I
- Human Relations
- Technical Mathematics I
- Electricity I
- Electricity II
- Electronics I

## Second Semester

- American Institutions
- Technical Mathematics II
- Electronics Drafting
- Communications Skills IA
- Communications Skills IB
- Technical Science II
- Electronics II

## Second Year

- Technical Mathematics III
- Industrial Safety
- Salesmanship
- Industrial Electronics I
- Electronics III

## Second Semester

- Technical Mathematics IV
- Job Relations
- Electronics IV
- Manufacturing Processes
- Industrial Electronics II
CIVIL TECHNOLOGY CURRICULUM

Civil Technology work covers a very broad field. It has considerable placement opportunities with the following organizations: state highway departments, county engineers, county surveyors, city engineers, private surveyors, consulting engineers, private power companies, public utilities, United States Engineering Corps, and construction companies. The greater part of the field work is carried on out-of-doors and field men may be exposed to nearly every kind of weather. Draftsmen are also employed in this field of work. They may be engaged in plotting profiles, plotting or computing cross-sections, yardage over-all and mass diagram. The draftsman may plot maps, highway and railroad alignment or he may do some structural drafting in reinforced concrete, timber or steel. In other instances the job may divide his time between drafting and field work.

The physical requirements of the field worker will include considerable walking in rough and irregular terrain. Those employed strictly as draftsmen will need good eyesight.

Job Opportunities

Opportunities are abundant for interesting, secure, and remunerative careers in the road building and construction industries. As much as $7,000 per year as an engineering aide can be earned.
CIVIL TECHNOLOGY

First Year

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<th>Course</th>
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<td>Technical Mathematics I</td>
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<td>Construction Laboratory</td>
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<td>Civil Estimating I</td>
<td>920.10</td>
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<td>Highway and Topographical Drawing II</td>
<td>930.12</td>
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<td>Structural Analysis</td>
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MECHANICAL DESIGN TECHNOLOGY
The mechanical design curriculum is basically concerned with manufacturing and its various aspects. It is designed for students who are interested in preparation for work in the development and design of mechanical products or the machines, tools, and equipment used in their fabrication or assembly. The increased use of automation in all industries has raised the demand for trained men in this field, and this demand will continue to increase. The curriculum provides basic training in the application of fundamental principles to machine design, tool design, production planning, heat and power equipment, materials testing, and industrial instruments. The instruction is planned to enable graduates of the course to take positions at the assistants or technician level.

JOB OPPORTUNITIES
Customer Problem Expediter
Draftsman
Detail Designer
Estimator
Production Supervisor
Research Assistant
Quality Control Inspector
Time Study Man
Engineering Salesman
Production Planner
Operation Planner
Test Tool and Serviceman
Blueprint Supervisor
# MECHANICAL DESIGN TECHNOLOGY CURRICULUM

## First Year

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<td>990.5</td>
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<td>Descriptive Geometry</td>
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<td>Principles of Metallurgy</td>
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<td>970.5</td>
<td>Elements of Machine Design</td>
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<td>970.13</td>
<td>Basic Hydraulics</td>
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<td>Basic Industrial Electronics</td>
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<td>970.16</td>
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<td>Electives</td>
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Electives:
- 970.8 Basic Foundry Practices 2
- 930.11 Sheet Metal Drafting 1
- 1000.5 Industrial Photography 1
- 910.1 Fundamentals of Electricity 1
- 1000.6 Optical Tooling 2
- 300.10 Record Keeping 2

Laboratory fees approximately $30 per year. Texts and equipment $50.
COURSE DESCRIPTIONS

American Institutions 120.1
This is a study of American social and political institutions as they affect the individual as a citizen and as a worker in business and industry. The student learns to recognize institutions as forces that control human behavior. He also learns the relationship between social and political institutions, economic changes, and the problems that he must face as a member of society. Topics considered are social groups, culture, cultural changes, social control, problems of city living, the American system of government, public opinion and propaganda, democracy and its critics, political parties and elections, government and business, and international relations.

Applied Science 120.1
Applied Science is basically a physics course in mechanics. Emphasis is given to the practical application of physical phenomena relating to the properties of matter, forces, and motion; also included is a study of heat, light, magnetism and electricity, and electronics. Industrial applications of the physical principles studied are stressed.

Architectural Drafting 930.9
A fundamental course in basic drafting, including lettering, geometric constructions, orthographic projection, dimensioning, and freehand sketching, as well as fundamentals required in planning and drawing a small house plan.

Auto Body I 940.1
This is a one semester course of instruction to lay the groundwork for the three succeeding units. Welding, both theory and practice, study of auto body construction and metal bumping are stressed.

Auto Body II 940.2
This unit stresses the use of hand tools, metal finishing, shrinking metal, and alignment.

Auto Body III 940.3
This course covers the use of power tools, the repair of hoods, doors, and trunk lids. Paint, paint products, spray guns, and spray equipment are covered in theory and practice. A unit in damage analyzing is also included.

Auto Body IV 940.4
This course concentrates on major collision repair and covers repair or replacement of roof and quarter panels. A study of shop layout and design, and the basic fundamentals of operating an auto body repair shop.

Auto Body Repair Estimating 940.5
This course is on a lecture, demonstration, and discussion basis and covers the problems with which the auto body estimator is confronted.

Auto Body Repair Estimating 940.5
This course is designed to acquaint the student with the problems confronting an Auto Body Repair Mechanic. Emphasis is focused upon theory rather than the development of skills. It is assumed that the students taking this course will eventually be in positions where general knowledge of this subject will be of great benefit.
Automatic Brakes—900.1
A study of the basic fundamentals of brakes, hydraulic principles and atmospheric pressure in relation to brakes. The servicing operations and procedures on all modern types of brakes including power brake systems are covered.

Automotive Engines—900.2
This course is designed for those automotive gasoline engines which are to be taught in Public Schools as recommended by the A.A.A.-A.M.A. Committee on Automotive Instruction in Public Schools. The course is designed to include the fundamentals of engine construction, operation, and repair. The course is presented in the workbook and Automotive Mechanics text by the author or his approved substitute. The course is designed to train the student in the operation of the engine and in the maintenance of the engine. The course includes the study of the various parts of the engine, the operation of the engine, and the maintenance of the engine.

Automotive Service Management—940.06
Understanding the functions, methods, and mechanics of the service manager's position. The student is introduced to the professional aspect of the service field.

Basic Drafting I—930.1
Basic Drafting introduces the student to the principles of the drafting field. The course is designed to give the student a working knowledge of the fundamentals of drafting and the practical application of these fundamentals to the design and drafting of mechanical systems.

Basic Drafting II—930.2
This course is designed to give the student a working knowledge of the principles of drafting and the practical application of these principles to the design and drafting of mechanical systems.

Basic Foundry Practice—970.8
A survey course to familiarize the student with the basic principles of foundry practice, methods of casting, the use of metal castings, and the equipment used.

Basic Hydraulics—970.13
A survey course to acquaint the student with the principles of hydraulics and the equipment used in industrial production.

Basic Industrial Electronics—930.16 (MOD)
An introduction to the vacuum tube, fundamental tube operation, reflection amplification, oscillation and detection; relays; dc and ac motors, emphasis on the electronic control of mechanical processes.

Basic Tool Design—970.9
The material is presented in such a way that the prospective draftsman will learn the principles of TOOLING and how typical problems are solved. Though assignments in design, problems are solved. The student is given an opportunity to express his own creative ability and ingenuity to solve practical problems while at the same time developing his drafting skill.

Bindery Procedures—960.1
The bindery is the last process in the production of printed materials. In this course a study is made of the various finishing operations. These operations include inspection, collating, folding, inserting, trimming, punching, rounding corners, scoring, perforating, numbering, padding, stitching, and sewing.

Blue Print Reading—935.1
In this course the student uses a textbook designed to give a thorough knowledge in reading "orthographic" prints and working drawings and also introduces the student to sheet titanium and machinery processes. There are two main types of blue print with supplementary material and a series of reference charts.

Cabinet Drafting—930.8
A study of the fundamental principles of design as they apply to cabinet construction, including vertical and horizontal space divisions, the drawing of these divisions, and their relation to the cabinet. The student is introduced to the various types of cabinets and their design, as well as the various styles and forms. Assignments are given the student to develop the student's skill in planning and constructing cabinets.

Cabinetmaking—950.1
A beginning course intended for anyone who wishes to acquire experience in the use of hand tools and woodworking machines. Students start with fundamental tool processes on simple woodworking projects and proceed to advanced work as they acquire the necessary skills. Fundamental operations on a limited number of machines along with safety rules are taught.

Cabinetmaking—950.2
The course is designed to give the student a working knowledge of the principles of cabinetmaking and the practical application of these principles to the design and construction of cabinets. The course includes the study of the various parts of the cabinet, the operation of the cabinet, and the maintenance of the cabinet.

Cabinetmaking—950.3
Covers specific information on materials and tools used by the cabinetmaker and millworker. The method of manufacturing, source of raw materials, standards of the product, units of purchase, and grading systems are studied and discussed. Specific assignments are made on each type of material, and reference texts are supplied wherever possible.

Cabinetmaking—950.4
Covers the application and practice of the principles of cabinetmaking taught in the first three terms. Machine maintenance and repair are stressed. Specialties such as wood turning, router, and shaper operations are included.

Carpentry Theory—950.5
This course general and is intended for persons needing an understanding of the field. Subject matter is comprehensive and is covered in a theory and discussion basis. Skills are not taught.

Chemistry of Lithography—960.2
This is a basic course in chemistry with special emphasis on those parts of organic and inorganic chemistry that relate to Lithography. It develops the fundamental principles regarding matter, scientific measurements, and applies these principles to their practical applications in printing and lithography.
Civil Engineering Drawing I—920.3
Concerns the application of the theory of projection to structures; structural steel and reinforcement concrete drawing and detailing; shop drawing and checking.

Civil Engineering Drawing II—920.4
Devoted to specialized highway and topographical drawing and design. Plan reading and computations involved in highway work are also emphasized.

Civil Engineering Drawing III—920.5
This course is a continuation of Civil Engineering Drawing II and is devoted to specialized highway topographical drawing and design. Plan reading and computations involved in highway work are also emphasized.

Civil Estimating I—920.10
A specialized course in estimating suited to the needs of the engineering aide.

Clutches and Transmissions—900.3
This course teaches the operating principles, repair procedures, and causes of troubles in automotive clutches and the operation, maintenance, and diagnostic work and repair concerning standard transmissions.

Communication Skills IA—101.1
To review the elements in spoken communications and to stimulate the student to continued effort in improving his abilities and knowledge in the field of effective speaking. Conference table type of communication is stressed.

Communication Skills IB—101.2
To teach students to communicate understandably and comfortably. This involves teaching them basic skills in reading, writing, and listening. Our emphasis is on the written report.

Composition I—960.3
A working knowledge of printing terms and practices is developed. Fundamental operations and processes such as typesetting by hand, imposition for press, handling type forms, proofing and correcting type forms and distribution of type are covered in this course. Linotype keyboarding and operation are started.

Composition and Make-up II—960.4
This course includes the setting and makeup of simple type forms, advanced linotype operation, type identification and classification, and imposition for automatic platen presses.

Composition and Make-up III—960.5
The setting and makeup of more difficult type forms, cold type setting, cylinder press lockup of single and multiple type forms, and the taking of reproduction proofs, are covered in this course.

Composition and Make-up IV—960.6
An opportunity is provided to analyze and make up and layout business, commercial, and book forms for production processes.

Construction Laboratory—920.1
This course covers masonry structure plan interpretation in light of forming materials, forming methods, procedures, reinforcing materials and installation, masonry construction, and structural steel. Deviation allowances are emphasized.

Electricity I—910.5
Electricity I includes a study of the most fundamental and basic concepts in electricity. Included are: structure matter; circuit functions—voltage, resistance, and current flowing; conductors and insulators; Ohm's Law; and series, parallel, and combinations, parallel circuits.

Electricity II—910.6
Electricity II includes a study of induced voltage and Faraday's Law; the generation of A.C.; the use of the sine curve; a study of average, effective, and maximum values of A.C.; Ohm's Law in A.C. circuits; inductive and inductive reactions; capacitance and capacitive reaction; resonance; A.C. circuit—inductors, coupling, time constants.

Electronics I—910.1
Basic electronics includes an introduction to thermionic emission of vacuum tubes; voltage and current factors; the Edison Effect; electron characteristics; the diode and the diode effect; rectifiers and filter circuits; structure and tube characteristics of the triode; the triode as an amplifier; the tetrad and pentode; special tubes; audio amplifiers; voltage and power; radio frequency amplification; modulation and demodulation; oscillators; the TRF receiver.

Contracts and Specifications—920.9
This course is designed to give the student background in reading and writing contracts and specifications. This is approached through the use of many examples.

Copy Preparation and Post-up—960.7
Instruction is given in the preparation of copy for ads and brochures. Analysis of space for photos, copy, and art work. Laboratory practice in the preparation of layouts for photo-offset lithography.

Descriptive Geometry—930.7
Descriptive Geometry deals with the fundamental principles of orthographic projection, applying them to the solution of structural, line and plane problems. Its scope is much broader than normally encountered in the presentation of views and objects. In fact, descriptive geometry includes these elementary phases of drawing work and extends the theory of orthographic projection to applications requiring special drawing techniques for their solution.

Diesel I—900.12
The purpose of this course is to give the automotive student an overview and understanding of the comparative values and problems in the related field of diesel mechanics and operation.

Differentials and Rear Axles—900.4
This course covers the theory, operation, repair, and trouble-shooting on differential assemblies and the theory, operation, repair, and trouble-shooting on drive lines, joints, and axle assemblies.

Electrical Systems—900.5
Teaching fundamental electrical and magnetic theory necessary for automotive repair, and to apply this material to the units of the automobile, testing equipment, and diagnostic procedures.

Electronics Drafting I—910.15
The application of mechanical drawing skills to the development of radio and electronic circuits and diagrams.
Electronics II—910.2
Includes an analysis of transmitter operation; the electromagnetic wave; transmitter and receiver antennas; modulation and demodulation, AM and FM; the TRF and super-heterodyne radio receiver; a description and study of the procedures of trouble-shooting; a complete review of the ways in which test instruments are used; printed circuits; transistor operation and circuitry.

Electronics III—910.3
Basic circuits used in commercial radar systems, transmitters, computers, etc., are found in television receivers, therefore, basic circuit theory, normal and abnormal circuit operation, the operation and proper use of test equipment are taught with the use of TV receivers. In addition, students build and test special circuits using construction boards with more than one hundred specially matched parts.

Electronics IV—910.4
Remaining sections of TV receivers are studied. Special applications in the use of oscilloscopes, marker and signal generators are presented. High frequency alignment techniques are taught. Color TV principles are presented with set up and test procedures for color receivers. Use of special color test equipment is taught.

Elements of Machine Design—970.5
This course applies the principles learned in Mechanics and Strength of Materials to the design of machine elements.

Fundamentals of Electricity—910.1
This course covers the basic technical theory of electricity, circuits, generation of power, transformation of power, metering, and basic electrical mathematics.

Graphic Arts Photography I—960.8
This course is an introduction to sensitized emulsions, developing films, printing pictures, enlargements, the use of cameras, and the use of other graphic equipment.

Graphic Arts Photography II—960.9
The student is introduced to the process camera and films used for line and half-tone reproduction. A study is made of emulsions, optics, and light reflection. Laboratory sessions and lectures are given in the proper use and applications of photography. This course is designed for students who wish to be producers of photographic materials and who wish to work in the field of graphic arts.

Graphic Arts Photography III—960.10
This course includes a more intensive study of film, paper, and photographic materials. Instruction is given in the use of cameras, the printing of pictures, the use of other graphic equipment, and the proper use and applications of the sensitometer. This course is designed for students who wish to be producers of photographic materials and who wish to work in the field of graphic arts.

Graphic Arts Photography IV—960.11
This course is an introduction into color theory in relation to the making of color separations. Various methods of color separation processes are studied. Color separation topics include color controls, color register, color correction masks, separation negatives, screen positives, and color proofing.

Highway and Topographical Drawing I—930.3
This course presents the fundamentals of road construction, computations of earthwork quantities, mass digests, maximum and minimum grades, sight distance. Principles they apply to highway construction. Drafting, print reading and sketching are presented.
Highway and Topographical Drawing II—930.12

Pre-requisite: Highway and Topographical Drawing I

Provides exercises involving the elements of location; alignments; road and street intersections; rigid and flexible pavements and appurtenances.

Human Relations—540.1

Basic psychology principles are taught so the student may be better equipped to deal with those human relationships confronting him in future vocational and social situations. Stress is placed upon the application of the rules of mental hygiene to home and work situations. Group and personal adjustment problems are studied and discussed.

Hydraulics—920.11

This course is designed to give an understanding of the flow of fluids. The following topics are covered: Pressures; pressure centers; stability of gravity dams; flow in pipes and channels; turbulent flow; formulas and diagrams for pipe flow.

Industrial Electronics II(ET)—910.9

A seminar type course including a detailed study of gaseous tube operation; relays; de und ac motors; introduction to computer circuits; advanced study of transistor circuits; servo and synchro operations.

Industrial Electronics I (ET)—910.9

This is a seminar type course and a continuation of Industrial Electronics I. Special advanced individual and group problems in the field of electronics are pursued from inception to completion.

Industrial Photography—1000.5

The course is designed to acquaint the prospective technician with the medium of photography as a means of conveying ideas or clarifying difficult subject matter. An attempt is made to give the student a comprehensive background of the photographic and reproduction processes in order that the individual may utilize them to his advantage in supplementing written matter with effective illustrations.

Industrial Safety I—1000.1

To develop an understanding of basic principles necessary to properly motivate safe working habits in industry.

Job Relations—1000.2

This course covers an overview of relationships the employee has with fellow workers and management, also a study of the financial structure of industry so he may better his own position and responsibility in the organization.

Layout and Design—201.2

The elements and principles of design are studied, analyzed and applied. Practical applications include the study of type faces, type selection and copyfitting. A study is made of conventional and abstract design as it relates to contemporary practice.

Machine Drawing Interpretation—970.13

In this course the student uses a textbook designed to give a thorough knowledge in reading "architectonic" prints and working drawings and also introduces the student to shop terminology and machining processes. There are more than fifty blue prints with supplementary material and a series of reference sheets.

Machine Maintenance—950.6

An advanced course. The work consists chiefly of sharpening, adjusting, and maintaining such woodworking machinery as drum sanders, planers, shapers, tenoning machines, and band and circular saws.

Machine Operating Principles—960.13

This course is to familiarize the student with the basic operations that can be done on basic machine tools and such other operations as precision measurement, layout, cutting fluids, heat treatment, and inspection.

Machine Shop I—970.1

Shop orientation; overview of the machine tool trade, common metals, safety of hand and machine tools, bond tool operations and care of tools, machine tool operations (drill, saw, grinder, and lathe basic operations).

Machine Shop II—970.2

More difficult operations on drill, grinder, saw, and lathe; simple operations on shaper, mill, and grinders; the beginning of the completion of a job; and simple heat treating.

Machine Shop III—970.3

Review of 970.1 and 970.2; advanced work on operations of the shaper and milling machines; advanced heat treatment, and medium advanced grinder operation.

Machine Shop IV—970.4

Job work (organization, set up, estimating, and cost production); advanced indexing, indexing, measuring (inspection), grinding, and milling; and acquaintance with production machines and automation.

Machine Shop Mathematics—1000.3

Intended for Machine Shop students who need a review of the fundamentals of arithmetic before beginning the study of higher mathematics. The work covers the following topics: the fundamental operations of fractions and decimals; percentages, ratios and proportion; powers and roots of numbers; angular measurement; and finding of areas, volumes, and weights of materials by the use of formulas.

Machine Shop Mathematics—1000.4

The practical computations involved in the operation of machine tools and in other machine shop work, are stressed. The following topics are covered: practical computation; speeds and feeds of various machine tools; screw threads; flats, slats, and keyways; tapers; gear and pulley trains; bolting; simple, differential, and angular indexing; hole milling, and simple trigonometric functions.

Manufacturing Processes and Materials—1000.3

A knowledge of present manufacturing processes is of extreme importance to technicians engaged in industry. Instruction in this course deals with the technical fundamentals of important manufacturing processes, engineering materials, and the modern machine tools necessary for processing these materials.

Manufacturing Processes and Materials—1000.4

This course is a continuation of 1000.3 with emphasis changing from generalization to specific details, particularly in the field products manufactured in the bulk for consumption by industry.
Materials and Field Testing—960.2
Purpose of testing, testing equipment used, specifications, geology of state; brief statement of geological history, types and distribution of aggregates. Portland cement concrete; concrete mixtures; design of proportions, placing and curing, tests; concrete products.

Mechanisms—970.12
This is both a drawing and a theory course. The subjects studied lend themselves to graphical analysis. Both mathematical and graphical methods of solution are used in solving problems.

Optical Tooling—1000.6
Objective: To provide an opportunity for each student to understand the principles of optical instruments; develop basic skills in the use of optical instruments as they are used in industry.

Parts Department Practice—900.6
The teaching of functions, records, and ordering problems of the small parts room operator.

Physics of Lithography—960.14
This course involves the study of physics as it relates to lithography. This includes the principles of mechanics, heat, light, optics, electricity, and magnetism.

Press Technology—960.15
Press technology is a practical course. Demonstrations and practices are intended to provide the student with experience in making press adjustments such as, bearer pressures, gripper adjustments, pressure adjustments, timing adjustments, and a study of paper, distortions, their possible causes and cures.

Press Troubles—960.16
Since presswork involves both chemical and physical changes, many troubles result. This course makes an analysis of all problems culminating in the pressroom. An effort is made to be able to detect the cause of the problem and the adjustments necessary to overcome the trouble.

Presswork, Letterpress—960.17
This is a basic course in presswork with emphasis on the mechanical operation of platen, automatic platen and cylinder presses. Related instruction is provided on ink, rollers, paper, plates, embossing, die cutting, numbering, thermography, paper cutting and flexography.

Presswork, Lithographic—960.18
This course provides the practical instruction on the mechanical operation of various offset presses. A study of feeder operation, conveyors, register systems, ink rollers and dampner adjustments, lithographic plate handling, the printing unit and delivery systems on offset presses.

Principles of Metallurgy—970.15
A survey course introducing the student to the field of metallurgy. It includes: the location of ore deposits, the conditions found in the earth, deriving of metals from their ores, refining and purification, addition of elements, and the manufacture into various shapes and forms for industry; and, the classification of ferrous and non-ferrous alloys, the testing of metals for mechanical properties, and common metal problems such as fatigue and corrosion.

Principles of Woodwork—950.7
A beginning course for those wishing to acquire experience in the use of cabinetmaker's hand tools. A knowledge of tools, their uses, and fundamental tool processes are stressed through simple woodworking projects.

Printer's English—100.8
This course is designed to develop the English skills necessary for a compositor to do his job well. Covered in this class are such basic English practices as spelling, punctuation, proof reading and marking, syllabication, and printing terminology. Printing style manuals are reviewed.

Printing Mathematics—1010.5
This course covers the kind of mathematical problems that confront a printer. The course content includes: multiplication, division, addition, figuring ems of type, cost of composition, stock estimating for cutting and cost, and copy fitting.

Production Cabinetmaking—950.8
Methods used in cabinetwork shops for quantity production. The setting up of the common woodworking machines for quality work and study of jigs and devices to assist in machining, gluing, and finishing wood products.

Production Planning and Procedures—960.20
Planning, scheduling and control of a printing job in a plant may be a simple process in small plants and very complex in large plants. The course involves the needs for control of production, budget control of sales, production financing, job analysis of processes and materials, production routing, scheduling, inspection, and statistical quality control applications.

Production Practices—960.21
For three semester students are provided laboratory experiences in processing production jobs for the school. This allows the student time to acquire a related amount of skill in various areas. The final project is to design and produce a twelve, sixteen-page brochure. Each student must complete all operations involved in the production of this brochure.

Record Keeping—300.10
Gives the technical student a working knowledge of accounting, its forms, procedures, and methods as they may apply to a small business.

Research Problems—970.6
This is a seminar designed to provide an opportunity for each student to test his ability to apply the scientific method to the solution of a design problem. He will present his his in a formal way; to acquaint him with sources of information, and to understand and appreciate the methods of industrial engineering.

Salesmanship—500.1
Selling fundamentals; study of the customer; applied selling techniques; sales presentation; making the sales story convincing; helping the customer to buy; building for greater sales volume; building permanent business.

Selected Machine Shop Operations—970.14
This course is to familiarize the student with the basic operations that can be done on the basic machine tools and other operations as precision measurement, layout cutting fluids, heat treatment, and inspection.
Seminar—970.16
This is a section which provides opportunities for advanced study, both group and
dividual, in the processes and recording of project development from inception to
completion.

Sheet Metal—980.1
The objectives sought in Sheet Metal pre-apprentice training for the first semester are the
development of manipulative skills, the instilling of good work habits in the care and
use of tools and equipment, and instruction in the safety precautions necessary in the
trade. The first 18 weeks will include fundamental operations and processes including
16 blueprints of useful projects. Basic blueprint reading, sheet metal mathematics, drafting,
and sheet metal pattern layout.

Sheet Metal—980.2
The second 18 weeks of sheet metal pre-apprentice training will include advanced
work in the same subjects, operations, and processes as covered in the first semester. Students
who show satisfactory progress will be given aptitude tests and recommended for
apprenticeship.

Sheet Metal Drafting—930.11
This course covers parallel line, radial line, and triangulation pattern development and
short cut methods of layout.

Shop Mathematics I—1000.6
A course dealing with mathematical calculations that must commonly be made by sheet
metal workers. It includes common and decimal fractions, linear and angular measures,
area and volume measures, and formulas. Facility is developed in the use of such
common measuring tools as the steel rule, the micrometer, the protractor, and the divider.

Shop Mathematics II—1000.7
A course dealing with mathematical calculations that must commonly be made by sheet
metal workers. It includes common and decimal fractions, linear and angular measures.

Shop Sketching—970.7
In freehand sketching the student learns to measure, sketch and dimension projects that
are taken from practical situations and transformed to drawing paper. The sketches
are both orthographic and pictorial.

Mathematics (Applied) 1010.1
This is a course in applied shop mathematics which includes a review of decimals,
fractions, simple computations, measurement, and applied shop problems.

Mathematics (Applied) 1010.2
This course is a continuation of 1010.1 and covers practical algebra, geometrical
constructions, work and power, speed ratios of pulleys and gears, and practical problems
which a journeyman welder may be called upon to solve.

Mechanics—920.12
This course is an introduction to the field of mechanics. The following topics are covered:
result and equilibrium forces; moments; stresses; concurrent-noncoplanar forces; static
and kinetic friction.
Mechanics and strength of materials is the science dealing with the effects of forces—first, those that act upon a body tending to change its shape and its position, and, second, the forces or stresses which are set up in solids to resist the impact of outside forces. In mechanics it is statics and dynamics, and in strength of materials it is stress and strain.

Course I is a thorough analysis of the fundamental concepts of mechanics as applied to machine parts, structures, beams and columns as well as developing an understanding of testing techniques and to acquaint the student with the strength of various materials and the method of testing.

This course is designed to introduce the student to the analysis of steel structures and includes trusses, beams, and columns.

Course II is designed to introduce the prospective engineers' side the fundamental principles of surveying. The methods of measuring distances are discussed along with the corrections which should be applied to correct for errors. This is followed by a study of the transit and level. Along with this, the principles of stadia, bearings and other angles are taught.

(Theory, Supervised Field Work and Field Surveying Problems on Student's Own Time)

Pre-requisite: Surveying I

Additional experience in field practice is provided in a problem approach to running a traverse, surveying complicated topographical surveying, setting lines and grades, route surveying. The student is assigned problems in field work which he works out in his own time. Field trips to various construction jobs are included.

This course includes the construction of horizontal curves, earthwork and an abundance of field problems on actual construction sites.

This course covers a basic outline of the laws governing land surveying.

Technical Drafting I challenges the student to use the skills he acquired in basic drawing and increases his potential to engage in more advanced drafting work. The scope of the work ranges from practice in lettering and laying to geometric constructions: pictorial drawing, fastened sketching, orthographic projection, auxiliary views, sections and intersections and developments.

Technical Drafting II is another step forward in the study and application of the techniques of mechanical drawing.

This is the final course of the series. Its purpose is to introduce the student to a variety of subjects which will tend to give him a more complete rounding-out in the general aspects of his training.

Technical Mathematics II begins where Technical Mathematics I leaves off. Mathematical technology. The material includes basic arithmetic and algebraic operations, complex numbers, simple equations, logarithms, slide rule and trigonometric functions.

A continuation of Technical Mathematics I. The material includes trigonometric functions of angles of any magnitude, graphs of trigonometric equations and identities, trigonometric functions of two angles, law of sines, law of cosines, law of tangents.

The materials covered in this course include graphical representation, straight line equations, parabolic sections, properties of plane and solid geometric figures and progressions.

This course is an introduction to calculus and includes differentiation of first and second order equations and integration of first and second order equations.

The course in technical mathematics deal with these topics of mathematics that are needed by technical workers in the fields of electrical, mechanical, and structural technology. Problems in applied mathematics are dealt with: arithmetic principles, percentage, common and decimal fractions, weights and measures, ratio and proportion, powers and roots. Geometric and algebraic functions pertaining to automotive industries are studied.

Technical Mathematics II begins where Technical Mathematics I leaves off. Mathematical concepts from the fields of algebra, geometry, trigonometry, analytical geometry, and calculus are all used to quantify and make more meaningful the concepts of electronics.

The course in technical mathematics deal with those topics of mathematics that are needed by technical workers in the fields of electrical, mechanical, and structural technology. The material in Technical Mathematics I includes basic plane rules, basic arithmetic and algebraic operations, complex numbers, simple equations, formula manipulation, simultaneous equations, determinants, quadratic equations, equations involving radicals, proportion and variation, logarithms, exponential equations, radical measures, and trigonometric functions.

The material covered in Technical Mathematics II covers trigonometric solution of right triangles, trigonometric slip-rule operations, plane vectors and components, trigonometric functions of angles of any magnitude, graphs of the trigonometric functions, trigonometric equations and identities, trigonometric functions of two angles, law of sines, law of cosines, law of tangents, trigonometric half-angle formulas, graphical representation, straight-line equations, parabolic sections, properties of plane and solid geometric figures, and progressions.

A review of the arithmetic principles including measurements. The trigonometric functions and slide rule are also introduced.
Technical Mathematics II 910.18
A review of algebra is given before advanced work in algebra is attempted. Logarithms
are introduced, and some practical applications are taught.

Technical Mathematics III 910.19
Some analytical geometry is introduced and its relation to algebraic equations is taught.
The solution of oblique triangles using trigonometry is employed.

Technical Mathematics IV 910.20
Calculus is introduced and its power in the solution of algebraic and trigonometric
equations is taught.

Technical Science I-1200.1
Technical Science I is basically a physics course in mechanics. Emphasis is given to the
practical application of physical phenomena relating to the properties of matter, forces,
and motion.

Technical Science II-1200.2
Technical Science II is basically a physics course including the study of heat, light,
magnetism, and electricity, electronics, and nuclear energy. Industrial applications of the
physical principles studied are stressed.

Technical Sketching 930.7
In freehand sketching students learn to measure, sketch, and dimension projects that
are taken from practical situations and transferred to drawing paper. The sketches are
both orthographic and pictorial.

Television Laboratory and Theory I-910.3
An overall picture of the complete television system is presented. The television receiver
is studied in block diagrams. Each block (or section) of the receiver is studied in detail
for: theory of operation; normal operation; effect of defective parts on operation; and
service procedures.
The circuits studied are constructed on specially built circuit boards. Normal operation
and abnormal operation measurements are made using many different kinds of test
equipment. Trouble shooting procedures for each section are taught on commercial
receivers. Experimental data must be recorded and analyzed.

Television Laboratory and Theory II-910.4
A continuation of TV I. In addition to service procedures for the remaining sections of
the TV receiver, the use of special test equipment is taught, alignment procedures, and
antenna installation. Upon completion of the study of the remaining sections of the
receiver, instruction is given in special home servicing techniques, use of advanced
test equipment, and test methods.

Tune-up and Carburetion 900.8
This course teaches the basic operating principles of automotive carburetion and fuel
systems, and applying these principles to diagnostic work, using analyzing and testing
equipment.
Welding I—990.1
Basic Processes of Welding
A. In the basic process of electric arc welding the course covers the machines and accessories, selection and study of electrodes, welding joints and beads, also the acquiring of the manipulative skills in welding mild steel in the Flat and Horizontal positions.
B. In the basic process of oxy-acetylene welding and cutting, the course covers the torches and accessories, gases and their manufacture, flames, as well as the acquiring of the manipulative skill in welding mild steel in the Flat, Horizontal and Vertical positions.

Welding II—990.2
A. In the process of electric arc welding, the course covers welding joints and beads, welding metallurgy, specimen testing, also the manipulative skills in welding mild steel in the Vertical and Overhead positions and tests for performance proficiency on structural steel.
B. In the process of oxy-acetylene welding, the course covers the related information and manipulative skills for welding stainless steel, bronze welding, gray cast iron welding and aluminum welding.

Welding III—990.3
A. Under the process of electric arc welding, this course covers all manual procedures for tungsten inert gas welding and the manipulative skill in the welding of pipe sections.
B. Under the process of oxy-acetylene welding, the course covers the manipulative skill for welding of pipe and airplane tubing.

Welding IV—990.4
Under the process of electric arc welding, the course covers the related and manipulative skills in the welding of cast iron, alloy steels, the carbon arc and hard surfacing.
This section under the process of electric arc welding will cover the semi-automatic and automatic arc welding processes, the study of welding procedures, and weld positions.

Welding Processes and Applications—990.5
This course is designed to familiarize the student with welding processes and their application in the fabrication of machine parts. This course also covers discussion on the testing and qualifying of material and welding operators.

Wheel Alignment and Balancing—900.9
This course covers the principles of wheel alignment, axle and frame straightening, wheel balancing and wheel, hub and drum straightening. The trouble shooting, inspection, correction and road testing of a vehicle.

Wood Finishing—950.9
Practice is given in furniture finishing. The course includes the preparation of new and old wood surfaces for finishing or refinishing, and the application of wood bleaches, different kinds of stains, wood fillers, shellacs, flat and glass varnishes, lacquers, and other modern wood finishes.