MANITOBA TECHNICAL INSTITUTE

Department of Education
1961-62
Winnipeg Canada

Fourteenth Annual Announcement
Calendar

1961

Tuesday, July 4 — Departmental Summer School opens.
Tuesday, July 4 — Courses commence for students who are completing their academic schooling.
Friday, August 11 — Departmental Summer School closes.
Tuesday, August 8 — Second Practical Nurses' course opens.
Tuesday, September 5 — Early fall program commences.
Monday, September 11 — Pre-Apprenticeship courses open in designated trades, provided enrolment warrants same.
Monday, September 11 — Apprenticeship courses open for Apprentices in the designated trades.
Wednesday and Thursday, September 27 and 28 — Registration for the Fall term of evening classes.
Monday, October 2 — Fall term of evening classes for adults opens for a period of ten weeks (two nights per week).
Friday, December 22 — Institute closes for Christmas holidays.

1962

Tuesday, January 2 — Institute re-opens. Apprenticeship courses open for Apprentices in the designated trades.
Wednesday and Thursday, January 3 and 4 — Registration for the winter term of evening classes.
Monday, January 8 — Winter term of evening classes for adults opens for a period of ten weeks (two nights per week).
Monday, January 8 — First Practical Nurses' course opens.
Thursday, April 19 — Institute closes for Easter recess.
Tuesday, April 24 — Institute re-opens after Easter recess.
Tuesday, July 3 — Departmental Summer School opens.
Friday, August 10 — Departmental Summer School closes.
Tuesday, August 7 — Second Practical Nurses' Course Opens.

The Institute reserves the right to cancel any course for which there is insufficient enrolment or to shift to a tutorial basis classes which drop below a minimum size.
The Manitoba Technical Institute

Portage at Wall Street
WINNIPEG
Manitoba

UNDER THE DIRECTION OF
THE DEPARTMENT OF EDUCATION
DOMINION - PROVINCIAL AGREEMENT

Financial assistance towards the cost of operating the Manitoba Technical Institute is provided by the Federal Department of Labour under the terms of the Technical and Vocational Training Agreement.

Hon. Stewart E. McLean, B.A., LL.B., - Minister of Education
B. Scott Bateman, B.A., - Deputy Minister of Education
B. F. Addy, B.Sc., M.A., - Director of Vocational Education
J. C. Wakefield, B.Sc., M.A., - Principal

APPROVED BY AND ISSUED UNDER AUTHORITY OF THE MINISTER OF EDUCATION
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A. General Information

The Manitoba Technical Institute was established in 1946 as a part of the Provincial Government's system of higher education. The establishment of the Institute came as a result of a long recognized need to make available to the youth and adults of Manitoba, industrial vocational education at the post-secondary school level. The increasing complexity of our present society necessitates the training of an increasing number of technical and skilled personnel. There is a steady demand for skilled workers with sound academic backgrounds, who can qualify as foremen, supervisors, superintendents, master mechanics, toolmakers, inspectors, salesmen, technicians, draftsmen, and designers. The scientific and technical nature of the courses prepares students for such important positions in industry.

Co-operation with representatives of industry in planning courses assures that they are closely related to the industrial needs of Manitoba. During the fourteen years of growth, the Institute's program has offered practical shop experience judiciously mixed with theory. This training offers young people of ambition and ability a sound basis of growth in proficiency in many of our major industries.

Whether students are training to become cooks, stenographers, watch repairmen, hairdressers, or diesel mechanics, they learn on the type of equipment that is standard in the trade, and from instructors who have made good on the jobs they teach. Because training conditions are closely adapted to those of industry, the transfer from training to employment is not difficult.

Vacancies exist in the majority of the courses now offered during the summer and fall. New courses will be added as the need arises. Facilities are available for approximately 50 courses with a total enrollment of 1,000 full-time students.
Office Hours

The general office and the registrar's office on the second floor are open Monday through Friday from 8:30 a.m. to 4:30 p.m.

Applications for Admission

Only written applications are considered for admission. These should be completed and returned to the Institute at the earliest possible date. A transcript of the marks received by an applicant in his last completed grade of academic schooling is required.

If marks are unavailable at the time the application is completed, the application should be sent to the Institute at once with a note on the application that a transcript of marks will follow.

Requirements for Admission

All candidates for admission must have sound general education prior to entrance. He must be of good moral character, have good health, and must be sixteen years of age or over. Although a complete high school education is desirable, it is not essential in all courses. Minimum requirements have been laid down and are indicated in the course outlines.

Where an applicant does not possess the required formal educational pre-requisite for a course, an opportunity will be afforded mature persons with practical experience and a reasonable educational background to enter classes if, in the opinion of the Principal of the Institute, the student is capable of doing the work satisfactorily. The applicant may be required to write entrance examinations.

Entry Dates

The Institute does not operate on a term basis. Instruction is on an individual basis and students may commence their training at any time during the year when there is a vacancy. When classes are filled to capacity, further applications are placed on a waiting list. As vacancies occur in the courses, they will be filled from this waiting list.
Fees and Deposits

Fees for all courses are confined to registration. They are on a quarterly basis, payable as follows:

- Manitoba Resident — $20.00 per quarter or portion thereof payable on first day of quarter. $50.00 for Welding courses No. 73 and 74.
- Non-Resident — $40.00 per quarter or portion thereof payable on first day of quarter. $100.00 for Welding courses No. 73 and 74.

All cheques or money orders should be made payable to "The Manitoba Technical Institute".

These small registration fees are not refundable.

A tool deposit fee may be required of students attending certain shop courses. This amount, less any deductions for tools lost or damaged, will be returned to the student if application is made within thirty days after the completion of the course.

Applicants are urged to make sure that they are enrolling for the course in which they seek instruction.

Board and Room

No dormitories are operated in connection with the Institute. The main office has a list of suitable boarding houses for students who wish to board and room in the city. Because this list changes from day to day, we recommend that you obtain it on the day you commence your training. Board and room will cost approximately $60.00 per month.
**Lockers**

Lockers are available without cost to full-time students. Combination locks of excellent quality may be purchased at the Institute for the sum of $1.00 each.

**Training of Unemployed Persons**

Under Schedule "M" Agreement between the Dominion and Provincial Governments, unemployed persons may be eligible for vocational training. This may apply to persons who have never been employed as well as to those who are temporarily unemployed. The National Employment Service of the Unemployment Insurance Commission determines the eligibility of prospective trainees under this agreement. Such persons desiring vocational training should visit the local offices of the N.E.S. concerning the steps to be taken to be admitted to classes at the Manitoba Technical Institute.

Local National Employment Service Offices are located in the Province at:
- Winnipeg—Travellers Building, 283 Bannatyne Ave.
- Portage la Prairie—100 Saskatchewan Ave. West
- Brandon—153 - 11th Street
- Dauphin—319 Main Street North
- The Pas—163 Edwards Avenue
- Flin Flon—2nd Floor, Federal Bldg., 3rd Avenue

**Training of Disabled Persons**

Under Schedule "R" Agreement between the Dominion and Provincial Governments, disabled persons who, because of a continuing or remaining disability, require training to fit them for continuing employment in a suitable occupation may be eligible for vocational training. By suitable occupation is meant one which is suited to the physical capacities, aptitudes, and interests of the trainee.

Eligibility for training under Schedule "R" is determined by a Training Selection Committee established under the Provincial Department of Education.
Students trained under Schedule "R" pay no fees and may receive allowances for board and room, transportation and incidental expenses.

Persons who believe they may be eligible for training under this schedule should write or telephone to Walter N. Boyd, Provincial Co-ordinator of Rehabilitation, Room 615, Norquay Bldg., 401 York Avenue, Winnipeg 1. Telephone WH 6-7616.

Financial Assistance

For information on Bursaries for full-time vocational courses, write for application forms and particulars to the Registrar, Department of Education, Room 50, Legislative Building, Winnipeg 1. These awards are based primarily on need and scholarship.

Library

The Institute Library and Reading Room, located on the second floor of the main building, functions as a dynamic centre through which students and faculty are enabled to carry on many of their research, study and recreational activities. The library collection consists of a variety of volumes, and a wide selection of magazines, indexes and pamphlets. The Library is open from 8:30 a.m. to 4:30 p.m., Monday through Friday.

Cafeteria

The Cafeteria at the Institute provides excellent hot noon-day meals at low cost. Prices are kept as low as possible. Students are not required to eat in the Cafeteria, but most students prefer to do so.

Canteen and Students' Lounge

The Students' Lounge is located on the fifth floor. Here, students who do not avail themselves of the facilities offered in the Cafeteria may eat their noon-day lunch. A canteen, where textbooks, supplies, and refreshments may be purchased is operated in connection with the Students' Lounge.
The M.T.I. Bowling League

Students enjoy belonging to our bowling league which meets once a week. There are boys and girls on every team. This organization offers the student an excellent opportunity to get well acquainted with fellow students. A large trophy is awarded each year to the team with the highest average for the season. Small trophies are given to the boy and girl with the highest individual averages.

Field Trips

The work at the Institute is closely related to the work of industry. It is the policy of the school to take field trips to outstanding establishments closely related to the students' studies. Students are expected to bear their own expenses, if any, on these trips.

Guidance

All applicants may receive guidance. Personal interviews can be arranged with the Principal or other appropriate officials who will be able to assist applicants to register for courses in harmony with their occupational aims and needs. Call at the Institute or write to the Principal to benefit from this service.

Related Instruction

Related work includes instruction having specific application to the selected trades in the fields of science, mathematics, trade literature, safety and health, blueprint reading, machine shop, and welding. The study of these related subjects provides the student with technical knowledge necessary to a complete understanding of his trade. The requirements vary with the trade. Each, however, is designed to supplement and extend development of manipulated skill in the shop.

Employment Services

All our students who need assistance to find jobs are helped by the Special Placements Branch of the National Employment Service who make every effort possible to find suitable employment for graduates.
Graduates will be referred by this officer directly to personnel officers and industrial organizations where positions are available.

**Attendance**

Students must attend regularly. When a student remains away from school for a period of five consecutive school days, without notifying the Registrar as to the reason for his absence, the student shall be considered as discontinuing his course.

Students are expected to attend all classes for which they are scheduled. Erratic attendance is reason for dismissal. Absences from class are not excused except for personal or family illness or death in the student's immediate family.

**NOTE:** Students prevented by conscientious scruples from attending classes on days which have been set aside by their faith for religious observances will be excused provided that the Registrar's Office is notified in advance.

Students are entitled to 30 hours of instruction per week.

**Discipline**

Students are expected to exhibit adult behaviour. All students are subject to the rules and regulations of the Institute and may be suspended or dismissed if their conduct, progress, attendance, or attitude proves unsatisfactory. The Institute
reserves the right to dismiss at any time, students who are unable or unwilling to profit from instruction. In such cases, no portion of the fee is refundable.

Students are required to complete all assignments of home work.

**School Hours**

Day classes are operated from 8:30 a.m. to 12:00 noon and from 1:00 to 4:00 p.m., five days per week throughout the school year. A fifteen minute break period is allowed morning and afternoon.

**Illness, Accidents and Injuries**

The Institute reserves the right to call a physician in case of illness, the expense to be borne by the student.

The Institute has exerted and will continue to exert every effort to avoid accidents, but incorporates the following statement as part of the understanding between itself and its students: "The Province of Manitoba, its officers, agents, employees assume no liability, expressed or implied for the result of sickness or accidents involving personal injury to any students, whether in connection with the Institute's instruction program wherever conducted, or incident to other activities on the Institute's properties or elsewhere."

Filing of an application form carries with it approval and consent with respect to the Institute's policy governing accidents or illness as thereon set forth.

A Safety First program is a continuous operation at all times in all Departments.

**Scholastic Regulations**

A student enrolled in the Institute must maintain a satisfactory scholastic standing. The result of a student's work in each subject is expressed by a single letter grade at the end of approximately each quarter, and reports of the student's progress will be sent to parents or guardians at Christmas, Easter, and at the end of July.
The letters A, B, C, D, F, I, are used. These indicate the following standards:

- A—Excellent ........................................... 90 - 100
- B—Very Good .......................................... 80 - 89
- C—Average ................................................. 70 - 79
- D—Passing .................................................. 60 - 69
- F—Failure .................................................. Below 60
- I—Incomplete

A student doing unsatisfactory work may be placed on probation or dismissed.

(If the time required to complete a course is excessive, no Certificate of Attainment will be granted.)

Equipment

The Institute provides all machine tools, special equipment, and supplies for school projects, but students are required to pay for any tools lost or carelessly broken. The equipment, and facilities of the Institute are practical, realistic, and match the latest demands of industry. Much of the equipment has been donated by industries so that the students may become familiar with the very latest methods.

Books, Supplies and Tools

Students are required to furnish textbooks, materials required for any special projects constructed for themselves, stationery supplies, such as pencils, erasers, notebooks, etc., and shop clothing. Two suits of coveralls are required for most shop courses. In some courses where a personal set of tools is required, they must be furnished by the student.

In all courses, a student is encouraged to purchase sufficient tools from time to time so that upon completion of his course he has accumulated the necessary tools with which to enter employment. The value of such tool kits varies with the trade

Building

The Institute occupies five floors of a modern, fireproof building which has been extensively remodelled to meet the particular needs of an industrial educational program. Approximately 130,000 square feet of floor space are utilized in
the various laboratories, shops, drafting rooms, classrooms, library, offices, and other special purpose areas. The shops are well lighted and ventilated.

A special feature of the physical plant is the laboratory and shop lay-outs. Laboratories now in use include: general science, including physics and chemistry; materials testing; heat treating and tool hardening; reproduction and blue printing; diesel; electrical rotating machinery; radio and television.

**Purpose of Institute Program**

The program of instruction in classroom, laboratory, and shop emphasizes the fundamentals needed to prepare students for practical, responsible work.

The educational offerings include related as well as shop content. The related subjects are an integral part of each curriculum and are emphasized in preparing students for the duties of intelligent citizenship, and for the responsibilities of enlightened, articulate workers in a complex democratic society. The shop content gives the student the necessary knowledge and skills to successfully earn a living in his occupational pursuits.

Because the curricula are complete in themselves and not dependent upon additional courses at another school, the student who completes his course at the Institute is ready for employment.

Prospective students must meet the occupational standards set up by Industry as to physical fitness, educational background, emotional makeup and native intelligence. This is determined by trial, interview, testing, or counselling with the Trade Instructor, Shop Director or Principal. The school reserves the right to reject any applicant who does not propose to use the training for entry into employment, who is not occupation-ally qualified, or who cannot profit by Trade Training.

**Certificates of Attainment**

A certificate of Attainment is presented to each student who has been enrolled for the designated length of his course and has:

1. Attended regularly.

2. Attained a passing mark in each required subject.
3. Completed six months of satisfactory employment in his selected field of work after the completion of his course.

4. Received the recommendation of his home room instructor.

Duplicate certificates will be issued on payment of a fee of $1.00.

Suitable certificate cases may be obtained from the Registrar at the time of graduation, at a cost of $2.00 each.

**Graduation**

Graduations are held every Spring and Fall, at which time certificates are presented to the candidates meeting the four requirements.

Graduates may order pictures of the graduating class from the Registrar on the evening of graduation.
B. Apprenticeship

Courses listed in this department are annual training courses for indentured apprentices in the designated trades.

Full-time day classes are operated in the following designated trades:


All indentured apprentices in designated trades will be notified in writing by the Director of Apprenticeship when they will attend classes for their annual training.

<table>
<thead>
<tr>
<th>Instructors</th>
<th>Trade</th>
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<tbody>
<tr>
<td>Mr. Allan</td>
<td>Plastering</td>
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<tr>
<td>Mr. Clayton</td>
<td>Carpentry</td>
</tr>
<tr>
<td>Mr. Davidson</td>
<td>Painting and Decorating</td>
</tr>
<tr>
<td>Mr. Gibson</td>
<td>Refrigeration</td>
</tr>
<tr>
<td>Mr. Godden</td>
<td>Electrical Construction</td>
</tr>
<tr>
<td>Mr. McIntyre</td>
<td>Electrical Construction</td>
</tr>
<tr>
<td>Mr. Morrison</td>
<td>Sheet Metal</td>
</tr>
<tr>
<td>Mr. Mann</td>
<td>Plumbing</td>
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<tr>
<td>Mr. Pankiw</td>
<td>Plumbing</td>
</tr>
<tr>
<td>Mr. Redhead</td>
<td>Woodworking</td>
</tr>
<tr>
<td>Mr. Smith</td>
<td>Bricklaying</td>
</tr>
<tr>
<td>Mr. Tait</td>
<td>Auto Body Repair</td>
</tr>
<tr>
<td>Mr. Ursel</td>
<td>Auto Repair Mechanics</td>
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<tr>
<td>Mr. Heron</td>
<td>Auto Repair Mechanics</td>
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COURSE No. 1

Indentured Auto Body Repair Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (6 Weeks)

Related Subjects:
   Trade Literature
   Trade Mathematics

INTERMEDIATE COURSE (6 Weeks)

SENIOR COURSE (4 Weeks)

Textbook:
   "Modern Autobody & Fender Repair"—Vale

Tools:
   Each student must provide himself with welding and chipping goggles and a kit of tools designated by Instructor.
COURSE No. 2

Indentured Automobile Repair Mechanic Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE (6 Weeks)

Related Subjects:
Industrial Mathematics       Machine Shop
Trade Science               Soldering
Trade Literature

INTERMEDIATE COURSE (6 Weeks)


Related Subjects:
Industrial Mathematics       Trade Literature
Trade Science               Welding

SENIOR COURSE: (4 Weeks)


Related Subjects:
Industrial Mathematics

Textbooks:
"Automotive Mechanics"—Crouse
"Automotive Electricity"—Crouse
COURSE No. 3

Indentured Bricklaying and Stone Masonry Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)

Related Subjects:
Industrial Mathematics
Trade Science
Shop Drawing and Blueprint Reading
INTERMEDIATE COURSE: (6 Weeks)

SENIOR COURSE (4 Weeks)

Textbooks:
"Bricklaying I"—Delmar
"Bricklaying II"—Delmar
"Bricklaying III"—Delmar

COURSE No. 4

Indentured Carpenter Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)
Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading

MACHINE WOODWORKING: (4 weeks)
Instruction on the operating, maintenance and safety of common woodworking machinery and portable power tools.

INTERMEDIATE COURSE: (6 Weeks)

Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading

SENIOR COURSE: (4 Weeks)

Textbooks:
"Use of Hand Tools and Portable Machinery"—Delmar
"Framing, Sheathing, and Insulation"—Delmar
"Concrete Form Construction"—Delmar
"Interior and Exterior Trim"—Delmar

Supplies:
1 3' Folding Rule or Steel Tape
2 Nail Sets
COURSE No. 5

Indentured Electrical Construction Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)


Practical: Joining and splicing wires. Bell and annunciator circuits. Wiring with knob and tube, loomex, armoured cable, conduit, and surface raceways. Installation of incandescent lighting, fixtures, water heaters, ranges, and single phase motors.

Related Subjects:
- Industrial Mathematics
- Trade Literature
- Shop Drawing and Blueprint Reading
- Trade Science
- Machine Shop

Textbook:
"Industrial Electricity"—Nadon and Gelmine
INTERMEDIATE COURSE: (6 Weeks)


Related Subjects:  
Industrial Mathematics  
Shop Drawing and Blueprint Reading  

Textbook:  
“Related Information Electricity III and IV”—Delmar  
“Industrial Electricity”—Nadon and Gelmine

SENIOR COURSE: (4 Weeks)


Practical: As required to illustrate theory.

COURSE No. 6

Indentured Factory Woodworker Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)


Related Subjects:  
Industrial Mathematics  
Shop Drawing and Blueprint Reading
INTERMEDIATE COURSE: (6 Weeks)


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading

SENIOR COURSE: (4 Weeks)


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading

Textbooks:
“Use of Hand Tools and Portable Machinery”—Delmar
“Principles of Woodworking”—Hjorth
“Operations of Modern Woodworking Machines”—Hjorth and Holtrop.

Supplies:
1 3' Folding Rule or Steel Tape
2 Nail Sets
1 Pencil and Notebook

COURSE No. 7

Indentured Machinist Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

MACHINIST APPRENTICE I: (10 Weeks)

Care and use of layout instruments and hand tools. Basic operation of drill press, lathe and shaper. Safety. The theory of the above basic operations and related information on coolants, lubrication, etc., will be covered.
Related Subjects:
- Industrial Mathematics
- Blueprint Reading
- Trade Literature
- Trade Science

MACHINIST APPRENTICE II: (8 Weeks)


Related Subjects:
- Industrial Mathematics
- Trade Literature
- Blueprint Reading
- Trade Science

MACHINIST APPRENTICE III: (6 Weeks)

Worm gears, planer, use of various lathe tools, milling attachments and methods, spur gears, grinding and sharpening electrical equipment and theory on above operations.

Related Subjects:
- Industrial Mathematics
- Trade Literature
- Blueprint Reading

MACHINIST APPRENTICE IV: (4 Weeks)

Advanced lathe work, bevel and helical gears, slotter, fundamentals of tool making and theory of above operations. General review.

Related Subjects:
- Industrial Mathematics
- Metallurgy
COURSE No. 8

Indentured Painter and Decorator Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

**JUNIOR COURSE: (8 Weeks)**


Related Subjects:
Industrial Mathematics
Trade Science
Shop Drawing and Blueprint Reading

**INTERMEDIATE COURSE: (6 Weeks)**


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading

**SENIOR COURSE: (4 Weeks)**


Text:
“Painting and Decorating Encyclopedia”—Jarvis
COURSE No. 9

Indentured Plasterer Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)


Related Subjects:
Industrial Mathematics
Trade Science
Shop Drawing and Blueprint Reading

INTERMEDIATE COURSE: (6 Weeks)

SENIOR COURSE: (4 Weeks)


Textbooks:
“Plastering Skill and Practice”—Van Den Branden
“Study Guide for Plastering Skill and Practice”

COURSE No. 10

Indentured Plumber Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)


Related Subjects:
Industrial Mathematics 
Shop Drawing and Blueprint Reading 
Trade Science 
Welding

INTERMEDIATE COURSE: (6 Weeks)


Related Subjects:
Industrial Mathematics 
Shop Drawing and Blueprint Reading 
Trade Science
SENIOR COURSE: (4 Weeks)


Related Subjects:
Industrial Mathematics Trade Science

Textbooks:
"Study Guide for Plumbing"

NOTE: Students in Junior Course must supply themselves with welding goggles.

COURSE No. 11

Indentured Refrigeration Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)

Related Subjects:
Industrial Mathematics Trade Science
Shop Drawing and Blueprint Reading Welding

INTERMEDIATE COURSE: (6 Weeks)

Related Subjects:
Electric Motors, Relays, and Starters

SENIOR COURSE: (4 Weeks)

Textbooks:
"A.S.R.E. Data and Applications"—A.S.R.E.
"Modern Refrigeration"—Althouse & Turnquist

NOTE: Students must supply themselves with welding goggles.
COURSE No. 12

Indentured Sheet Metal Apprentices

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

JUNIOR COURSE: (8 Weeks)


Related Subjects:
Industrial Mathematics
Trade Science
Shop Drawing and Blueprint Reading

INTERMEDIATE COURSE: (6 Weeks)


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading
Trade Science

SENIOR COURSE: (4 Weeks)


Textbooks:
“Sheetmetal Pattern Drafting, and Shop Problems”—Daugherty.
“Sheetmetal Shop Practice”—Bovie
C. Pre-Employment Courses

The following eight groups of courses are termed pre-employment, in that they are complete courses in themselves. This enables the graduates to go directly into employment without further training, except where future up-grading courses are necessary.

Applicants for these courses should enquire at their local National Employment Service as to their eligibility for training and unemployment benefits under Schedule "M".

I Pre-Employment Courses in Designated Trades

Full time day courses are operated in the following trades:

Autobody, Automotive Repair, Carpentry, Electrical Construction, and Factory Woodworking.

Candidates 16 to 21 years old should apply to the Director of Apprenticeship, Department of Labour, 609 Norquay Building, York and Kennedy Street, Winnipeg 1, Manitoba and make application to commence pre-apprenticeship training in the courses listed opening on Tuesday, September 5, 1961.

These courses are designed for Pre-Apprentices and Unemployed Persons between the ages of 16 and 21.
COURSE No. 21

Pre-Employment Auto Body and Fender Repair
(6 to 7 Months)

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

Contents:

Theoretical: Basic tools, Expansion and contraction of metals. Characteristics of lacquers and enamels, thinners and paint removers. Polishing and finishing.


Related subjects:

Industrial Mathematics
Trade Science
Trade Literature

Textbook:

"Modern Auto Body and Fender Repair"—Vale.

NOTE: Each student must provide himself with welding and chipping goggles, and a kit of tools designated by Instructor.
COURSE No. 22

Pre-Employment Automotive Course
(6 to 7 Months)

Pre-Requisites: Approval of the Director of Apprenticeship, Department of Labour.

Contents:

**Theory:** Identification and use of tools and equipment. Operation of cooling, lubrication, and fuel systems including carburetion. Related parts and operation of internal combustion engines and running gears including clutches, transmission, differentials, brakes, steering gears, steering geometry and wheel suspensions. Elementary electricity including wiring circuits, generating circuits, ignition and instrument gauges. Review by film strip.

**Practical:** Selection, use, and proper care of tools and equipment. Shop safety, tire and tube repairs, battery maintenance, chassis lubrication, brake adjustments, and light repairs. Sufficient practice in repairs and maintenance of engines, transmissions, and differentials as a basis for further training in major repairs.

Related Subjects:

- Industrial Mathematics
- Shop Drawing and Blueprint Reading
- Trade Literature
- Trade Science
- Soldering
- Machine Shop

Textbook:

"Automotive Mechanics"—Crouse

Supplies and Tools:

Each student must supply himself with two suits of coveralls and a junior set of mechanic's hand tools, specified by the instructor.
COURSE No. 24

Pre-Employment Carpentry (6 to 7 Months)

Pre-Requisites: Approval of Director of Apprenticeship, Department of Labour.

Contents:


Related Subjects:
Industrial Mathematics Trade Literature
Shop Drawing and Blueprint Reading Trade Science

Remarks:
Applicants should be physically fit and able to work at heights.

Textbooks:
"Use of Hand Tools and Portable Machinery"—Delmar
"Operation of Common Woodworking Machines"—Hjorth
"Framing, Sheathing and Insulation"—Delmar
"Simplified Stair Layout"—Delmar

Supplies: 1 notebook 1 pencil

Tools:
Each student must supply himself with a kit of tools specified by the instructor.
COURSE No. 25

Pre-Employment Electrical Construction
(6 to 7 Months)

Pre-Requisites: Approval of Director of Apprenticeship, Department of Labour.

Contents:


Related Subjects:
- Industrial Mathematics
- Shop Drawing and Blueprint Reading
- Trade Literature
- Trade Science
- Machine Shop
Textbooks:
"Industrial Electricity"—Nadon and Gelmine
"Wiring Simplified"—Richter
"Canadian Electric Code”—City of Winnipeg Edition

Supplies:
In addition, students are required to supply themselves with the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>1 looseleaf notebook</td>
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</tr>
<tr>
<td>1 pen</td>
<td></td>
</tr>
<tr>
<td>1 scale</td>
<td></td>
</tr>
<tr>
<td>3 common screwdrivers (1/8'', 3/16'', 1/4'')</td>
<td></td>
</tr>
<tr>
<td>2 Robertson screwdrivers (No. 6 and No. 8)</td>
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</tr>
<tr>
<td>1 pair 8'' sidecutting pliers</td>
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<tr>
<td>1 pair 8'' diagonal cutting pliers</td>
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<tr>
<td>1 pair needle nose pliers</td>
<td></td>
</tr>
<tr>
<td>1 pair pump or gas pliers</td>
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<tr>
<td>1 claw hammer</td>
<td></td>
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<tr>
<td>1 pocket knife</td>
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</table>

COURSE No. 26

Pre-Employment Factory Woodworking
(6 to 7 Months)

Pre-Requisites: Approval of Director of Apprenticeship, Department of Labour.

Contents:


**Practical:** Common woodworking joints, first to be made by hand tools and later by machine factory production methods. Window frames, door frames, and sashes fitted and equipped with modern hardware. Simple roof constructions and elementary stair construction. Instruction in developing from blueprint to full size on shop layout board for construction of kitchen cupboards, bookcases, mantel shelves, etc. Practical work in conditioning all varieties of saws, planes, planer, jointer, and cutting knives of various types.
Related Subjects:

Industrial Mathematics        Trade Literature
Shop Drawing and Blueprint Reading  Trade Science

Textbooks:

“Simplified Stair Layout”—Delmar
“Framing, Sheathing, and Insulation”—Delmar
“Principles of Woodworking”—Hjorth
“Use of Hand Tools and Portable Machinery”—Delmar
“Operation of Common Woodworking Machines”—Hjorth

Supplies:

1 3’ folding rule
2 nail sets
1 notebook and pencil

COURSE No. 27

Pre-Employment Machine Shop (6 to 7 Months)

Pre-Requisites: Approval of Director of Apprenticeship, Department of Labour.

Contents:

Theory: Tools and equipment, Types of materials, Fastening devices, Safety precautions.

Practical: Selection, use and care of hand tools, Benchwork, Lathe work, Shaper and planer, Elementary Milling practices.

Textbooks:

“Machine Tool Operation”—Part I and II
“Workbook on Machine Tool Operation”
II COMMERCIAL

The Commercial Department of the Manitoba Technical Institute has established an enviable record and reputation for developing efficient well trained office workers for business firms throughout the Province of Manitoba.

Our Graduates have found their training completely acceptable to themselves and to their employers. They have found the cost of training surprisingly low.

Students who qualify under the regulations of the National Employment Service may enter these classes under Schedule "M".

INSTRUCTORS

Miss G. Bell    Mrs. J. Dixon
Miss A. Berezowiecki    Mrs. J. Foster
Mrs. L. K. Bjornson    Miss B. Tod
Mrs. J. Briggs
## MINIMUM STANDARDS REQUIRED IN THE COMMERCIAL DEPARTMENT

### SECRETARIAL COURSE

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<tr>
<td>Shorthand Transcription</td>
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<tr>
<td>Spelling</td>
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<td>Penmanship</td>
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<td>Bookkeeping—</td>
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<tr>
<td>(Practical) 60%</td>
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<tr>
<td>(Financial Statements) 60%</td>
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<td>English</td>
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<tr>
<td>Business Arithmetic</td>
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<td>Commercial Law</td>
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### JUNIOR ACCOUNTANCY

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<td>English</td>
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### STENOGRAPHIC

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### BUSINESS MACHINES

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<td>70%</td>
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<tr>
<td>Bookkeeping Machine</td>
<td>70%</td>
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<tr>
<td>Monroe Calculator</td>
<td>70%</td>
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<tr>
<td>Spelling</td>
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<td>English</td>
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<td>Business Correspondence</td>
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<tr>
<td>Elementary Bookkeeping</td>
<td>60%</td>
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<td>Penmanship</td>
<td>60%</td>
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COURSE No. 31

Business Machines (Approximately 9 Months)

Pre-Requisites: A minimum of a complete Grade XI.

Contents:

In addition to these subjects, National Cash Billing Machine. Monroe Calculator. Ten Key Calculator. I.B.M. Key Punch 024. Friden Calculator may be added.

Textbooks:
"Gregg Typewriting for Colleges—Intensive Course"—Rowe, Lloyd, Winger, and Smith.
"Typing for Accuracy"—White
"Words"—Fourth Edition—Gregg.
"Comptometer Course"
"Basic Bookkeeping and Supplies"—Seggie, Sutherland, and Downes.
"Machine Calculation"—English, Johnson, Pactor—Pitman.
"20,000 Words"—Louis A. Leslie.

Supplies:
1 stenographer's notebook
1 ledger
1 journal
1 ruled pad
1 straight pen and fine nib

COURSE No. 32

Junior Accountancy (Approximately 11 Months)

Pre-Requisites: A minimum of a complete Grade XI.

Contents:

Textbooks:
"Basic Accounting Practice with Supplies" — Seggie — Pitman.
"The New Method Arithmetic"—Pitman
"Words"—Fourth Edition—Gregg
"Canadian Law"—Jennings.
"Workbook in Canadian Law"—Jennings.
"Gregg Typewriting for Colleges—Intensive Course" — Rowe, Lloyd, Winger, and Smith.
"Typing for Accuracy"—White.
"Sprott’s Metronomic System of Writing"—Part 2—Pitman.
"Basic Bookkeeping with Supplies"—Pitman.
"20,000 Words"—Louis A. Leslie.

Supplies:
1 scribbler 1 small typing pad
1 lined pad 1 ruler
1 large notebook 1 pen and ink

COURSE No. 33

Secretarial (Approximately 11 Months)

Pre-Requisites: A minimum of a complete Grade XI.

Contents:
For students who desire a Secretarial Course with greater scope, Accounting may be added.

NOTE: Students completing this course may continue with teacher training for a Vocational Instructor’s Certificate—Commercial.

Textbooks:
"Basic Course in Pitman Shorthand"—Pitman
"Shorthand Dictation and Transcription"—Pitman
"Gregg Typewriting for Colleges—Intensive Course"—Rowe, Lloyd, Winger, and Smith.
"Typewriting for Accuracy"—White.
"New Method Arithmetic"—Pitman.
"Basic Bookkeeping and Supplies"—Seggie, Sutherland, and Downes.
"Canadian Law"—Jennings.
“Canadian Law Workbook”—Jennings.
“A Complete Course in Office Practice”—Allan E. Sparling—Gregg.
“Words”—Their Spelling, Pronunciation, Definition, and Application—Fourth Edition—Gregg.
“20,000 Words”—Louis A. Leslie.

Supplies:
2 small typing pads 1 large notebook
1 large typing pad 1 letterhead pad
3 shorthand notebooks 1 straight pen, ink
1 large ruled pad 1 ledger
1 fountain pen 1 eraser
1 ruler 1 journal
1 nib No. 292

COURSE No. 34

Stenography (Approximately 9 Months)

Pre-Requisites: A minimum of a complete Grade XI.

Contents:

Textbooks:
“Gregg Typewriting for Colleges—Intensive Course”—Rowe, Lloyd, Winger, and Smith.
“Typing for Accuracy”—White


"The English of Business Workbook"—Second Edition—Hagar, Stewart, Hutchinson—Gregg

"Sprott’s Metronomic System of Writing"—Part 2—Pitman.

"Basic Course in Pitman Shorthand"—Pitman.

"Shorthand Dictation and Transcription"—Pitman

*"Students Shorthand Dictionary and Phrase Book"—Pitman

"A Complete Course in Office Practice"—Allan E. Sparling—Gregg Publication.

"20,000 Words"—Louis A. Leslie.

*These books to be purchased later.

Supplies:

2 small typing pads
3 shorthand notebooks
1 fountain pen
1 straight pen, ink
1 letterhead pad

1 large typing pad
1 large ruled pad
1 eraser
1 nib, No. 292
1 large note book
III DRAFTING COURSES

The draftsman is the worker who makes the shop or working drawing from a layout or sketch which he received from the designer. He acts as an interpreter between the creative mind of the designer and the skill of the mechanic in the shop who actually constructs the product. The draftsman is therefore an essential worker in our modern system of production and manufacturing.

A student will be most apt to succeed in the drafting courses if he finds himself able to translate abstract visual concepts into concrete forms. This ability should be joined with a pride in accuracy and neatness of work.

Mechanical draftsmen are employed in all mechanical trades. Government surveys show that in a city of 300,000 or more people, there are usually 2,000 or more draftsmen at work.

Architectural drafting is an essential trade in the building industry. Almost all buildings today are constructed according to an overall plan or blueprint drawn by an architectural draftsman. These blueprints or drawings show the exact dimensions and the shapes of the materials that go into the overall plan of construction.

After graduation, opportunities are quite numerous for trained draftsmen. The graduate from this department will probably start at a moderate hourly rate, perhaps as a Junior Draftsman, and then in a year or two may be advanced to a better position.

Instructors
Mr. Adams
Mr. Goodridge
Mr. Mousseau

Shop
Mechanical Drafting
Architectural Drafting
COURSE No. 41

Architectural Drafting (9 Months)

Pre-Requisites: A minimum of a complete Grade XI.

Contents:
A. Introduction to Architectural Drafting—
   Use of instruments, symbols and conventions, and lettering.
B. Perspective—
   Instrumental perspective, architectural perspective, orthographic and perspective projections, and perspective construction by projections from the side plane and vanishing points.
C. Isometric Projections—
D. Architectural Design—
   Balance, harmony, proportions, rhythms, emphasis, and orientation.
E. Procedure in Architectural Drawing—
   Floor plans, elevations, room planning, and arrangement.
F. Construction Principles—
   Study of building materials, frame building, brick and brick veneer construction, excavation, masonry, and reinforced concrete.
G. Preparing Floor Plans, Elevations, and Working Drawings—
(1) Bungalow type dwellings.
(2) Two-storey type dwellings.
(3) Apartment buildings.

H. Use of surveyors' instruments in laying out and leveling buildings, including some practical field experience.

Related Subjects:
Industrial Mathematics
Trade Literature

Textbooks:
"Building Construction"—Huntington.
"Lessons in Lettering I & II"—French & Turnbull.

COURSE No. 42

**Mechanical Drafting (9 Months)**

Pre-Requisites: A minimum of a complete Grade XI.

NOTE: This course is designed for those who wish to find employment as mechanical draftsmen, particularly as detailers or layout men, in practically any branch of industry.
Contents:

Related Subjects:
Industrial Mathematics
Trade Literature
Trade Science

Textbooks:
"Technical Drawing"—Giesecke
"Lessons in Lettering"—French & Turnbull
IV ELECTRICITY and ELECTRONICS

The fields of Electricity and Electronics are rapidly expanding and offer many and varied opportunities for well-trained personnel.

In the past, the demand for well-trained repairmen from our Electrical Department has been brisk, and all worthy graduates have been placed. These men, in many cases, have taken over service departments in commercial establishments, or in some cases gone into business for themselves.

In view of the tremendous strides taken in the past few years in radio, television and industrial electronics, the Institute has revised its courses to keep abreast of the trends in these industries.

Courses in this department operate approximately ten months a year, and students eligible under the training requirements of the National Employment Service may be enrolled as Schedule "M" Trainees.

**Instructor**
- Mr. Donaldson
- Mr. Gemmel
- Mr. Hume
- Mr. Labelle
- Mr. Skinner
- Mr. Ross

**Shop**
- Radio Operating
- Radio Operating
- Radio Servicing
- Appliance Repair and General Electrical
- Radio Servicing
- Television
COURSE No. 51

Electrical Appliance Repair (8 Months) (960 Hours)

Pre-Requisites: A minimum of a complete Grade X.

Contents:


Related Subjects:

- Industrial Mathematics
- Elementary Shop Drawing
- Trade Literature
- Machine Shop
- Trade Science
- Refrigeration

Textbooks:

- "Electrical Appliance Servicing"—Crouse
- "Electric Motor Repair"—Rosenberg
- "Industrial Electricity"—Nadon & Gelmine
- "Basic Electricity I & II"—Delmar

Supplies:

Students are required to supply themselves with notebook, pens, pencils and tools.

---

COURSE No. 52

**General Electrical Course (10 Months)**

**(1200 Hours)**

Pre-Requisites: A minimum of a complete Grade X.

Contents:


Related Subjects:

- Industrial Mathematics
- Elementary Shop Drafting and Drawing
- Trade Literature
- Trade Science
- Machine Shop
Textbooks:

“Industrial Electricity”—Nadon and Gelmine
“Electric Motor Repair”—Rosenburg
“Wiring Simplified”—Richter
“Canadian Electrical Code”
“Electrical Appliance Servicing”—Crouse
“Blueprint Reading for Electrical Trade (Residential)”—Delmar
“Basic Electricity I & II”—Delmar

Supplies:

In addition, students are required to supply themselves with notebook, pen, pencils, and tools as listed under Course No. 25.

COURSE No. 53

Radio Operating (10 months)

Pre-Requisites: A minimum of a complete Grade XI, or the consent of the Principal.

Contents:

Theory: Basic D.C. and A.C. theory, the application of electronic circuit components, the function of electronic circuits in transmitters, receivers, and navigational and automatic-alarm equipment.
Practical: Morse Code and the practical operation and testing of Marconi Marine equipment. The course provides the training necessary for obtaining a second class Radio Operator's Certificate.

NOTE: This course qualifies a student to write for the Department of Transport second class commercial Radio Operators certificate. Due to the high standards required for this course, both the Institute and the Department of Transport require a pass mark of 75%.

Textbooks:

"Radio Operators' Handbook, Computation of Messages"
"Electronic Communications"—Schrader
"Postmaster Generals Handbook"

COURSE No. 54

Radio Servicing (10 months)

Pre-Requisites: A minimum of a complete Grade XI.

Contents:


**Related Subjects:**
- Industrial Mathematics
- Shop Drawing and Blueprint Reading
- Trade Literature
- Trade Science

**Textbooks:**
- "Elements of Radio Servicing"—Marcus & Levy
- "Radio Servicing Theory and Practice"—Marcus
- "Basic Radio and Radio Receiver Servicing"—Zbar and Shildkraut

**Tools:**
Students are required to purchase the following tools and supplies:
- 1 pair 6" long nose pliers
- 1 pair 6" diagonal cutting pliers
COURSE No. 55

Television Servicing (5 months)

Pre-Requisites: Complete Radio Servicing Course No. 54 or at least 3 years' experience in Radio Servicing. (Applicants from the trade are required to pass successfully an examination based on Course No. 54.)

Contents:

Theory: A basic course for radio servicemen to acquaint them with television theory and function of basic TV circuits. Basic color circuits. Basic Transmitter Service.


Textbooks:

"Television Servicing"—Levy & Frankel
"Basic Television"—Grob
"Television Test Equipment"—Kiver
"Color TV Fundamentals"—Kiver
V MECHANICAL COURSES

Persons not eligible for Apprentice training may be interested in the courses listed herein. In some of these courses, special arrangements may be made for students coming from the farms, to break their course, by taking four or five months training during each of two successive winters.

Students should enquire at their local office of the National Employment Service concerning their eligibility to enter training in any of these courses under Schedule “M”.

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<tr>
<td>Mr. Dripps</td>
<td>Diesel</td>
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<tr>
<td>Mr. Gibson</td>
<td>Refrigeration</td>
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<td>Mr. Shura</td>
<td>Diesel</td>
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<td>Mr. Patterson</td>
<td>Automotive Mechanics</td>
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<td>Mr. Tait</td>
<td>Autobody Repair</td>
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<td>Mr. Young</td>
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<td>Mr. May</td>
<td>Stationary Engineering</td>
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Course No. 61

**General Auto Body and Fender Repair**

*(8 Months)*

**Pre-Requisites:** A minimum of a complete Grade IX and over the age of 21.

**Contents:**


**Related Subjects:**

- Industrial Mathematics
- Trade Literature
- Trade Science
- Welding

**Remarks:**

Applicants must be physically fit and not allergic to lacquers and paints.

**Textbook:**

"Modern Autobody & Fender Repair"—Vale.

**NOTE:** Students must supply themselves with welding and chipping goggles, and a kit of tools designated by instructor.
COURSE No. 62

**General Automotive (8 Months)**

Pre-Requisites: A minimum of a complete Grade IX and over the age of 21.

Contents:


Related Subjects:
- Industrial Mathematics
- Trade Literature
- Trade Science
- Machine Shop
- Soldering
- Welding

Textbook:

"Automotive Mechanics"—Crouse.

NOTE: Students must provide themselves with coveralls, and a kit of hand tools that will be designated by the instructor.

COURSE No. 63

**Diesel Mechanics (10 Months)**

Pre-Requisites: A minimum of a complete Grade X.

This course consists of nine units of one month each, plus related subjects, totaling one month.

Unit I—Tractor Shop—Safety, tools and equipment.
Unit II—Engine Shop—Gas engine types and construction, cooling systems, lubrication.
Unit III—Diesel Lab—Carburetion, fuel pumps, blowers.
Unit IV—Tractor Shop—Transmissions, drives, steering, clutches, and brakes.
Unit V—Engine Shop—Diesel engine construction and overhaul.
Unit VI—Diesel Lab—Electrical, wiring, ignition, controls, hydraulic systems.
Unit VIII—Engine Shop—Tune-up.
Unit IX—Diesel Lab—Fuel injection, maintenance, overhaul and adjustments.

Related Subjects:
Industrial Mathematics
Trade Science
Machine Shop
Welding

Textbooks:
"Diesel and High Compression Gas Engines"—Kates
"Automotive Mechanics"—Crouse
"Fuel Injection Systems"—Diesel Publications Inc.

Supplies:
Students must provide themselves with coveralls, welding goggles, and a kit of tools that will be designated by the instructor.
COURSE No. 64

General Refrigeration and Air Conditioning
(10 Months)

Pre-Requisites: A minimum of a complete Grade X.

Contents:


Related Subjects:

Shop Drawing and Blueprint Reading
Electric Motors, Relays and Starters
Industrial Mathematics
Trade Literature

Trade Science
Machine Shop
Welding

Textbooks:

“Commercial and Industrial Refrigeration”—C. Wesley Nelson

“Modern Refrigeration”—Althouse & Turnquist

NOTE: Students must supply themselves with welding goggles.
COURSE No. 65

Stationary Engineering (6 to 8 months)

Pre-Requisites: A minimum of a complete Grade X and over 18 years of age.

Contents:

Theory: (third class steam course). Steam Boilers, Steam Boiler details, Boiler fittings, Strength of materials, Combustion, Heat and work, Piping, Feed water treatment, Coal, Gas and Oil Burners, Automatic Controls, Steam Engine, Steam Turbines, Air Compression, Refrigeration, Heating and Ventilating, Air Conditioning, Electricity, Electric Motors and Starters, Science as applied to Power Engineers.

Practical: Related Subjects
Machine Shop
Gas Welding
Industrial Mathematics
Blueprint Reading and Sketching
Mechanical Drawing
Electric Welding

NOTE: Students completing course must receive the approval of the Chief Boiler Inspector, Department of Labour, to write Provincial examinations.
VI METALWORK

The field of metalworking is extremely large and diversified; a wide variety of methods are utilized in shaping the raw materials into useful products.

Our Machine Shop and Sheet Metal Shop are adequately equipped to provide students with a complete and comprehensive training. Students are taught to use the machines and tools safely, intelligently, and with skill. The fundamental operations of these trades are analyzed in the related classroom, and then firmly fixed in mind by actual practical shop projects arranged in logical sequence.

The Welding Section is composed of four shops in three different areas of welding: gas welding, electric arc welding, and pipeline welding. The two Gas Welding Shops have forty separate torches supplied from an acetylene and oxygen manifold. There are also portable units and an automatic cutting unit which each student learns to use. The Pipeline Welding Shop's equipment is of the latest design that is presently being used by pipeline contractors.

The Electric Arc Welding Shop consists of two rows of booths which contain independent units both portable and stationary of various makes. The student is given the opportunity of becoming familiar with the different types of equipment.

The student is expected to develop his ability as a gas or arc welder in flat, vertical, and over-head positions on low-carbon steel, and must be able to make a good weld on cast iron.

Courses in the Metalwork Department are open under Schedule “M” to students qualifying for training through the National Employment Service.

**Instructors**

Mr. Dillon
Mr. Finn
Mr. Lane
Mr. Ness
Mr. Morrison

**Shop**

Oxy-Acetylene Welding
Electric Arc Welding
Machine Shop
Machine Shop
Sheet Metal
COURSE No. 71

**Machine Shop Practice (10 Months)**

Pre-Requisites: A minimum of a complete Grade X.

Contents:


Related Subjects:

- Industrial Mathematics
- Trade Literature
- Trade Science
- Shop Drawing and Blueprint Reading

Textbooks:

- "Machine Tool Operation"—Burghardt and Axelrod
- "Workbook on Machine Tool Operation"—Burghardt and Axelrod
COURSE No. 72

General Sheet Metal Course (10 months)

Pre-Requisites: A minimum of a complete Grade X, and over 21 years of age.

Contents:


**Practical:** Work on projects to develop skills in the use of measuring instruments, hand tools, and hand and power operated tools and equipment. Forming, edging, reinforcing, grooving, beading, punching, riveting and drilling. Use of solders and soldering equipment. Single, double, dovetail, and flanged seams, slip seams, standing seam, Pittsburgh lock, drive cleats, etc. Above seams applied to tees, mitres, gutters and downspouts, air-conditioning fittings, etc. Safety habits.

Related Subjects:

Industrial Mathematics

Trade Science

Textbooks:

"Sheetmetal Pattern Drafting and Shop Problems" — Daugherty

"Sheetmetal Shop Practice"—Bruce
COURSE No. 73

Oxy-Acetylene Welding Course (3 Months)

Pre-Requisites: A complete Grade X, or consent of the Principal

Contents:

**Theory:** Historical development of the oxy-acetylene process. Care and use of tools and equipment. Welding techniques. Test for identifying metals. The general theory of expansion and contraction. Weld testing methods. Safety precautions.

**Practical:** Fusion welding of steel sheet, plate, and pipe (all positions). Welding repairs of cast iron, brass, copper, stainless steels, aluminum, and zinc die castings. Bronze welding and hard surfacing applications. Fabrication and use of jigs and fixtures. Face and root bend tests. Oxy-acetylene flame cutting (both manual and machine).

Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading
Trade Science

Textbook:
“The Oxy-Acetylene Handbook.”

NOTE: All students will provide themselves with suitable goggles, tip cleaners, gauntlets, aprons, etc.

Special Fees:
Special registration and laboratory fees are as follows:
Resident of Manitoba $ 50.00
Non-Resident $100.00
COURSE No. 74

Electric Arc Welding Course (3 Months)

Pre-Requisites: A complete Grade X, or consent of the Principal.

Contents:


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading
Trade Science

Textbook:
"New Lessons in Arc Welding"—Lincoln Electric Co.

NOTE: All students will provide themselves with suitable goggles, gauntlets, aprons, etc.

Special Fees:
Special registration and laboratory fees are as follows:
Resident of Manitoba ........................................ $ 50.00
Non-Resident .................................................. $100.00
COURSE No. 75

Pipeline Welding Course (2 Months)

Pre-Requisites: Must be young and agile, maximum age 30.

Preference will be given to those with previous pipeline experience.

Contents:

Supplies:
Each student must supply himself with a hood, gloves, goggles, and suitable work clothing.

NOTE: Only students authorized under Schedule “M” will be admitted to this course.
VII BUILDING CONSTRUCTION

Persons not eligible for Apprenticeship training may apply for the following course. Students should enquire at their local office of the National Employment Service concerning their eligibility to enter training under Schedule “M”.

Instructor
Mr. Redhead
Mr. Stark

Shop
General Woodworking
General Woodworking
COURSE No. 81

General Woodworking (8 Months)

Pre-Requisites: A minimum of a complete Grade X, and over 21 years of age.

Contents:

Theory: Tools and equipment. Materials. Fastening methods. Emphasis on accuracy and correct procedure in operation of both hand and machine tools. Theory of conditioning saws, planes, knives, cutter knives, etc. Instruction in the values of woods (soft and hard.) Glues and their uses. All types of cabinet hardware and methods of fastening.

Practical: Common woodworking joints to be made first by hand and later by machine. Instruction in use, maintenance, operation, and safety factors of common woodworking tools and machines used in cabinet making. Instruction in blueprint reading and layout boards. Machining and assembling of all types of cabinets, built-in cupboards, mantels, etc. Elementary construction of sash, doors, window and door frames, and stairs. Elementary framing and roof construction.

Related Subjects:

Industrial Mathematics                      Trade Literature
Shop Drawing and Blueprint Reading          Trade Science

Textbooks:

"Operation of Common Woodworking Machines"—Herman Hjorth
"Principles of Woodworking"—Herman Hjorth
"The Use of Hand Tools and Portable Machinery"—Delmar
"Framing, Sheathing, and Insulation"—Delmar

Supplies:

2 nail sets
1 pencil
1 3' folding rule or steel tape
A wide variety of courses is offered in this department. All interested in entering training should first contact their local office of the National Employment Service to determine whether they are eligible to enter training under Schedule “M”.

Practically all of these courses are open to both male and female. Employment opportunities are promising to those successfully completing their courses.

All courses are conducted in large, well-lighted and ventilated shops. Ample modern equipment is provided to look after the training needs of each student. It might be said that this is “Where Theory and Practice are correlated to better prepare Youth for Industry.”

**Instructors**
- Mrs. Anderson
- Mr. Buchanan
- Mr. Cartwright
- Mr. Gray
- Mr. Hallas
- Mr. Round
- Miss Russell
- Miss Stevenson

**Shops**
- Hairdressing
- Watch Repair
- Cooking and Meat Cutting
- Baking
- Barbering
- Upholstery
- Practical Nursing
COURSE No. 91

Assistant Hotel Cook (12 Months)

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

This course is designed for those who desire to learn the basic knowledge and practical training to prepare themselves for employment as hotel or restaurant cooks or as institutional cooks.

Contents:

Theory: General routine of a commercial kitchen. Care and use of machines, equipment and tools of the trade. Sanitation and hygiene. Basic principles of preparing menus, ordering supplies, food storage and refrigeration. Food costing and portion control. Theory of selecting, preparing and cooking of soup stocks, soups, vegetables, meats, sauces, pies, cakes, cookies, yeast goods, and salad making.

Practical: Preparing and cooking and serving of a variety of foods, using basic recipes in soups, sauces, vegetables, desserts, pies, cakes, cookies, and yeast goods. Cutting,
preparing, cooking, and serving of meats, fish, and poultry. Some salad making and sandwiches. Selecting and costing of menus and individual dishes.

Students must attend both theory and practical classes.

Related Subjects:
Industrial Mathematics  Trade Literature

Supplies:
3 White cook’s jackets  1 Looseleaf book
2 White wedge caps  1 Mathematics book

Textbooks:
“Quantity Cookery”—Treat and Richards
“The Meat We Eat”—Ziegler

Field Trips: Selected by instructor and provided through the courtesy of the Manitoba Section of the Canadian Restaurant Association.

COURSE No. 92

**General Cooking (6 Months)**

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

This course is designed for those who have some knowledge of cooking, but desire to be employed in restaurants, institutions, or hotels, as assistant cooks, cooks, or short-order cooks.

Contents:

**Theory:** General routine of a commercial kitchen. Care and use of machines, equipment and tools of the trade. Sanitation and hygiene. Theory of selecting, preparing and cooking of soup stocks, soups, vegetables, meats, poultry, fish, and sauces. Basic knowledge of making pies, desserts, cakes, yeast goods, salads, and sandwiches. Basic principles of food storage and refrigeration.

**Practical:** Preparing, cooking and serving of a variety of foods, using basic recipes, in soups, sauces, vegetables, meats, poultry, fish. Some practical in pies, cakes, cookies,
and yeast goods, salad making and sandwiches. Portion control and some costing.

Students must attend both practical and theory classes.

Related Subjects:

- Industrial Mathematics
- Trade Literature

Supplies:

- 3 White cook’s jackets
- 1 Looseleaf book
- 3 White wedge caps
- 1 Mathematics book

Textbook:

- “Quantity Cookery”—Treat and Richards.

Field Trips:

Selected by instructor and provided through the courtesy of the Manitoba Section of the Canadian Restaurant Association.

COURSE No. 93

**Commercial Baking (8 Months)**

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.
Contents:


**Practical**: Care of tools and equipment. Receiving and dispensing stocks. The preparation of bread, rolls, biscuits, cookies, cakes, pies, pastries, doughnuts, and other bakery goods. Cake decorating. The finishing of baked items.

Related Subjects:

- Industrial Mathematics
- Trade Literature

Supplies:

- 3 White baker's jackets
- 2 White baker's caps
- 1 Looseleaf book
- 1 Mathematics book

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**COURSE No. 94**

**Meat Cutting (3 Months)**

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

This course is designed for those who wish to be employed as meat-cutters in hotels, restaurants, institutions, and meat markets.

Contents:

**Theory**: Sanitation and hygiene. Care and use of refrigerators, freezers, equipment, tools of the trade. Displaying meats, weighing meats, selling technique, wrapping meats, meat storage. Principles of meat cookery.
COURSE No. 65

Stationary Engineering (6 to 8 months)

Pre-Requisites: A minimum of a complete Grade X and over 18 years of age.

Contents:

Theory: (third class steam course). Steam Boilers, Steam Boiler details, Boiler fittings, Strength of materials, Combustion, Heat and work, Piping, Feed water treatment, Coal, Gas and Oil Burners, Automatic Controls, Steam Engine, Steam Turbines, Air Compression, Refrigeration, Heating and Ventilating, Air Conditioning, Electricity, Electric Motors and Starters, Science as applied to Power Engineers.

Practical: Related Subjects

Machine Shop
Gas Welding
Industrial Mathematics
Blueprint Reading and Sketching
Mechanical Drawing
Electric Welding

NOTE: Students completing course must receive the approval of the Chief Boiler Inspector, Department of Labour, to write Provincial examinations.
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The Electric Arc Welding Shop consists of two rows of booths which contain independent units both portable and stationary of various makes. The student is given the opportunity of becoming familiar with the different types of equipment.

The student is expected to develop his ability as a gas or arc welder in flat, vertical, and over-head positions on low-carbon steel, and must be able to make a good weld on cast iron.

Courses in the Metalwork Department are open under Schedule “M” to students qualifying for training through the National Employment Service.

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COURSE No. 71

**Machine Shop Practice (10 Months)**

Pre-Requisites: A minimum of a complete Grade X.

Contents:


Related Subjects:

- Industrial Mathematics
- Trade Literature
- Trade Science
- Shop Drawing and Blueprint Reading

Textbooks:

- "Machine Tool Operation"—Burghardt and Axelrod
- "Workbook on Machine Tool Operation"—Burghardt and Axelrod
COURSE No. 72

General Sheet Metal Course (10 months)

Pre-Requisites: A minimum of a complete Grade X, and over 21 years of age.

Contents:


Practical: Work on projects to develop skills in the use of measuring instruments, hand tools, and hand and power operated tools and equipment. Forming, edging, reinforcing, grooving, beading, punching, riveting and drilling. Use of solders and soldering equipment. Single, double, dovetail, and flanged seams, slip seams, standing seam, Pittsburgh lock, drive cleats, etc. Above seams applied to tees, mitres, gutters and downspouts, air-conditioning fittings, etc. Safety habits.

Related Subjects:

Industrial Mathematics
Trade Science

Textbooks:

"Sheetmetal Pattern Drafting and Shop Problems" — Daugherty

"Sheetmetal Shop Practice"—Bruce
COURSE No. 73

Oxy-Acetylene Welding Course (3 Months)

Pre-Requisites: A complete Grade X, or consent of the Principal

Contents:


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading
Trade Science

Textbook:
"The Oxy-Acetylene Handbook."

NOTE: All students will provide themselves with suitable goggles, tip cleaners, gauntlets, aprons, etc.

Special Fees:
Special registration and laboratory fees are as follows:
Resident of Manitoba .............................................$ 50.00
Non-Resident ..........................................................$100.00
COURSE No. 74

Electric Arc Welding Course (3 Months)

Pre-Requisites: A complete Grade X, or consent of the Principal.

Contents:


Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading
Trade Science

Textbook:

NOTE: All students will provide themselves with suitable goggles, gauntlets, aprons, etc.

Special Fees:
Special registration and laboratory fees are as follows:
Resident of Manitoba ........................................ $ 50.00
Non-Resident .................................................... $100.00
COURSE No. 75

Pipeline Welding Course (2 Months)

Pre-Requisites: Must be young and agile, maximum age 30.
Preference will be given to those with previous pipeline experience.

Contents:

Supplies:
Each student must supply himself with a hood, gloves, goggles, and suitable work clothing.

NOTE: Only students authorized under Schedule "M" will be admitted to this course.
VII BUILDING CONSTRUCTION

Persons not eligible for Apprenticeship training may apply for the following course. Students should enquire at their local office of the National Employment Service concerning their eligibility to enter training under Schedule “M”.

**Instructor**
- Mr. Redhead
- Mr. Stark

**Shop**
- General Woodworking
- General Woodworking
COURSE No. 81

General Woodworking (8 Months)

Pre-Requisites: A minimum of a complete Grade X, and over 21 years of age.

Contents:

**Theory:** Tools and equipment. Materials. Fastening methods. Emphasis on accuracy and correct procedure in operation of both hand and machine tools. Theory of conditioning saws, planes, knives, cutter knives, etc. Instruction in the values of woods (soft and hard.) Glues and their uses. All types of cabinet hardware and methods of fastening.

**Practical:** Common woodworking joints to be made first by hand and later by machine. Instruction in use, maintenance, operation, and safety factors of common woodworking tools and machines used in cabinet making. Instruction in blueprint reading and layout boards. Machining and assembling of all types of cabinets, built-in cupboards, mantels, etc. Elementary construction of sash, doors, window and door frames, and stairs. Elementary framing and roof construction.

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Textbooks:

- "Operation of Common Woodworking Machines"—Herman Hjorth
- "Principles of Woodworking"—Herman Hjorth
- "The Use of Hand Tools and Portable Machinery"—Delmar
- "Framing, Sheathing, and Insulation"—Delmar

Supplies:

- 2 nail sets
- 1 pencil
- 1 3' folding rule or steel tape
A wide variety of courses is offered in this department. All interested in entering training should first contact their local office of the National Employment Service to determine whether they are eligible to enter training under Schedule "M".

Practically all of these courses are open to both male and female. Employment opportunities are promising to those successfully completing their courses.

All courses are conducted in large, well-lighted and ventilated shops. Ample modern equipment is provided to look after the training needs of each student. It might be said that this is "Where Theory and Practice are correlated to better prepare Youth for Industry."

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COURSE No. 91

Assistant Hotel Cook (12 Months)

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

This course is designed for those who desire to learn the basic knowledge and practical training to prepare themselves for employment as hotel or restaurant cooks or as institutional cooks.

Contents:

**Theory:** General routine of a commercial kitchen. Care and use of machines, equipment and tools of the trade. Sanitation and hygiene. Basic principles of preparing menus, ordering supplies, food storage and refrigeration. Food costing and portion control. Theory of selecting, preparing and cooking of soup stocks, soups, vegetables, meats, sauces, pies, cakes, cookies, yeast goods, and salad making.

**Practical:** Preparing and cooking and serving of a variety of foods, using basic recipes in soups, sauces, vegetables, desserts, pies, cakes, cookies, and yeast goods. Cutting,
preparing, cooking, and serving of meats, fish, and poultry. Some salad making and sandwiches. Selecting and costing of menus and individual dishes.

Students must attend both theory and practical classes.

Related Subjects:

- Industrial Mathematics
- Trade Literature

Supplies:

- 3 White cook’s jackets
- 2 White wedge caps
- 1 Looseleaf book
- 1 Mathematics book

Textbooks:

- “Quantity Cookery”—Treat and Richards
- “The Meat We Eat”—Ziegler

Field Trips: Selected by instructor and provided through the courtesy of the Manitoba Section of the Canadian Restaurant Association.

COURSE No. 92

**General Cooking (6 Months)**

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

This course is designed for those who have some knowledge of cooking, but desire to be employed in restaurants, institutions, or hotels, as assistant cooks, cooks, or short-order cooks.

Contents:

**Theory:** General routine of a commercial kitchen. Care and use of machines, equipment and tools of the trade. Sanitation and hygiene. Theory of selecting, preparing and cooking of soup stocks, soups, vegetables, meats, poultry, fish, and sauces. Basic knowledge of making pies, desserts, cakes, yeast goods, salads, and sandwiches. Basic principles of food storage and refrigeration.

**Practical:** Preparing, cooking and serving of a variety of foods, using basic recipes, in soups, sauces, vegetables, meats, poultry, fish. Some practical in pies, cakes, cookies,
and yeast goods, salad making and sandwiches. Portion control and some costing.

Students must attend both practical and theory classes.

Related Subjects:

Industrial Mathematics
Trade Literature

Supplies:

3 White cook’s jackets
1 Looseleaf book
3 White wedge caps
1 Mathematics book

Textbook:

"Quantity Cookery"—Treat and Richards.

Field Trips:

Selected by instructor and provided through the courtesy of the Manitoba Section of the Canadian Restaurant Association.

COURSE No. 93

**Commercial Baking (8 Months)**

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.
Contents:


**Practical**: Care of tools and equipment. Receiving and dispensing stocks. The preparation of bread, rolls, biscuits, cookies, cakes, pies, pastries, doughnuts, and other bakery goods. Cake decorating. The finishing of baked items.

Related Subjects:

- Industrial Mathematics
- Trade Literature

Supplies:

- 3 White baker's jackets
- 2 White baker's caps
- 1 Looseleaf book
- 1 Mathematics book

COURSE No. 94

**Meat Cutting (3 Months)**

Pre-Requisites: A minimum of a complete Grade X, or the consent of the Principal. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

This course is designed for those who wish to be employed as meat-cutters in hotels, restaurants, institutions, and meat markets.

Contents:

**Theory**: Sanitation and hygiene. Care and use of refrigerators, freezers, equipment, tools of the trade. Displaying meats, weighing meats, selling technique, wrapping meats, meat storage. Principles of meat cookery.
Practical: Breaking quarters, sides or carcasses of beef, veal, pork, lamb, into retail cuts as roasts, chops, steaks, ground meats and stew meats. Preparation and process of curing meats for small markets. Preparing fresh sausages. Eviscerating and cutting up poultry. Preparing fish for sale. Students must attend both theory and practical classes.

Related Subjects:
Industrial Mathematics
Trade Literature

Supplies:
3 White jackets
2 Wedge caps
1 Mathematics book
1 Notebook and pencil

Textbook:
"The Meat We Eat"—Ziegler
COURSE No. 95

Barbering (8 Months — 1000 Hours)

Pre-Requisites: A minimum of a complete Grade IX. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

Contents:


Textbook:
“Practice and Science of Standard Barbering”—Thorpe.

Workbook:
“Standard Workbook for Modern Barber Science”

NOTE: Each student must provide himself with a kit of tools and two white coats.

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COURSE No. 96

Hairdressing and Beauty Culture

8 months (1000 hours)

Pre-Requisites: A minimum of a complete Grade IX. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

Contents:

**Theory:** Lectures, class discussions. Visual aids. Theoretical knowledge imparted to the student on all subjects contained in the course. Salesmanship. Shop practice. Shop management and ethical conduct.

Textbooks:

"Standard Textbook of Cosmetology"—Milady
"Safety Practices in Beauty Culture Schools"—Milady
"Science and Art of Manicuring"—Cimaglia

Workbooks:

"Hair Styling Sketch Book"
"For Hair Cutting and Styling"—Milady
"For Beauty Culture Theory"—Milady
"For Permanent Waving"—Milady
"For Hair Tinting and Bleaching"—Milady

NOTE: All students are required to purchase a fitted beauty kit, which may be purchased from the Institute Canteen. Approximate cost of books and supplies - $45.00. In addition, each student must provide herself with two white short sleeve uniforms and white low heeled shoes.

We believe this course in Hairdressing and Beauty Culture compares favourably with any such course offered in Canada. The equipment is modern and complete, and the examination at the end of the course leads to an Improver's license for the Province of Manitoba. After 12 full working months, a practical examination will be necessary to obtain an operators license. Operators must complete two full working years before they are entitled to hold a Master's license.
COURSE No. 97

**Hairdressing and Beauty Culture Refresher**

(1 Month)

**Pre-Requisites:** Applicants must be Improvers, Operators, or Master Hairdressers.

**Contents:**
- Review of Course No. 96, Hairdressing and Beauty Culture.

**Textbook:**
- "Standard Textbook of Cosmetology"—Milady

COURSE No. 98

**Manicuring (3 months) (350 hours)**

**Pre-Requisites:** A minimum of a complete Grade IX. General good health. Medical and dental certificates and a chest X-ray will be required from each applicant, prior to training.

**Contents:**
- **Theory:** Lectures, class discussions. Visual aids. Theoretical knowledge imparted to the student on all subjects contained in the course. Salesmanship. Shop practice. Shop Management and ethical conduct.

**Textbook:**
- "Science and Art of Manicuring"—Cimaglia.

Examination after completion of course leads to a license for the Province of Manitoba.

**NOTE:** All students are required to purchase their own manicuring implements, two white short sleeve uniforms, and white low heeled shoes.
COURSE No. 99

Practical Nursing (12 months)

Pre-Requisites: A minimum of a complete Grade X, or the equivalent as assessed by the Manitoba Department of Education. (Exceptions may be made for older applicants.)

General good health. Medical and dental certificates and a chest X-ray are required.

Character references will be requested from business and professional people who are not related to the applicant.

Contents:


Practical: In relation to the above, plus 7½ months training in hospitals.

Remarks:

Training consists of a 4 month classroom period at the Manitoba Technical Institute, 2 weeks vacation, plus 7½ months supervised training in the hospitals before a certificate is issued.
NOTE: Apply at least four months prior to the opening date of the course to:

The Director, Central School for Practical Nurses,
Room 415, Norquay Building,
York and Kennedy Street,
Winnipeg 1, Manitoba.
(See front cover for date of course.)

Textbooks:
"Simplified Nursing"—Thompson & LeBaron
"Cyclopedic Medical Dictionary"—Taber
COURSE No. 100

Upholstery (8 months)

Pre-Requisites: A minimum of a complete Grade IX, and the consent of the Principal.

Contents:


NOTE: All the practical work throughout the course is given on the actual upholstery of foot stools, occasional chairs, bedroom chairs, hostess chairs, and chesterfield suites of various designs.
Related Subjects:

Industrial Mathematics
Trade Science

Textbooks:

"New Essentials of Upholstery"—Bast
"Practical Upholstering"—Commercial Trades Institute

Supplies:

1 magnetic hammer 1 pair of shears
1 steel measuring tape twine needles
Mathematics book note book

COURSE No. 101

Watch Repair (12 months)

Pre-Requisites: A minimum of a complete Grade IX.

Length of Course:

Students who successfully complete one year of study and who desire to enter the trade at the level of an improver will qualify for a Junior Certificate from the Canadian Jewellers Institute. They will be required to complete the senior examination within twelve months to qualify for a permanent certificate.

NOTE: This course is one of the five courses in Canada that is recognized by the Canadian Jewellers Institute.

Contents:

Theory: Lectures on the various escapements, drafting escapements, movements, etc. Springing, timing, adjusting to position, temperature compensation, and isochronism.

Practical: Lathe work is a very necessary part of watchwork, and in this section the students take up turning on a watchmaker's lathe. In acquiring the use of the lathe, the following articles are made: Center punch, round burnishers, hair spring colletter, tapers for lathe, cement chucks, drilling, large and small screws (harden and blue), square shoulders on four millimeter wire, conical pivots, large balance staffs, etc. The uses of grinding materials and color tempering processes.
Escapement work of all kinds is taken up, such as turning staffs, setting jewels, calculating size and fitting lost pinions, staking on and truing wheels, making collets, drilling and fitting pivots. Instruction is given in setting pallet stones, adjusting the banking pins, drop, let-off, locking, fork and roller action; fitting jewel pins to roller, etc.

Related Subjects:
Industrial Mathematics
Shop Drawing and Blueprint Reading
Machine Shop

Textbook:
"The Watch Repairer's Manual"—Fried
D. Teacher Training

A demand exists in almost every Canadian Province for qualified Industrial Arts Instructors. To meet this demand, licensed teachers and others who are eligible are urged to enroll in Course No. 111.

Shop experience in the various areas will be given during the ten-month course in the well equipped shops of the Institute with the professional courses being offered during the Departmental Summer School Sessions.
COURSE No. 111

**Industrial Arts Instructors Course**  
*(10 months)*

Pre-Requisites:

1. Entrance to Normal School standing  
   (Complete Grade XII).
2. Aptitude for this type of work.
3. Approval of the Department of Education.

**NOTE:** This course is open to graduates of the Provincial Normal School, with or without teaching experience. Such graduates will be given credit for professional courses already taken.

Industrial Arts Instructors are required to complete two types of training:

1. Practical courses which are offered in the shops at the Institute.
2. Professional courses which, for the most part, are offered at Summer School sessions.

Course Outline:

UNIT No. 1, Shop Courses  
Students will be required to take a minimum of forty weeks training in the following Industrial subjects:

**Required Subjects:**

<table>
<thead>
<tr>
<th>Ind.</th>
<th>Subject</th>
<th>Duration</th>
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<tbody>
<tr>
<td>1</td>
<td>Automotive</td>
<td>4 weeks</td>
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<tr>
<td>2</td>
<td>Drafting (Architectural)</td>
<td>4 weeks</td>
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<tr>
<td>3</td>
<td>Drafting (Mechanical)</td>
<td>4 weeks</td>
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<td>4</td>
<td>Electricity A</td>
<td>4 weeks</td>
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<td>5</td>
<td>Machine Shop A</td>
<td>4 weeks</td>
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<td>6</td>
<td>Sheet Metal A</td>
<td>4 weeks</td>
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<tr>
<td>7</td>
<td>Welding (Gas)</td>
<td>4 weeks</td>
</tr>
<tr>
<td>8</td>
<td>Woodwork A</td>
<td>4 weeks</td>
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Optional subjects: (2 are required to complete the 40 weeks)
Toward the end of the course, arrangements will be made for practice teaching in various schools, whenever possible.

Unit No. 2, Summer School Courses

A total of eight professional courses approved by the Department of Education must be completed at Summer School sessions. Two courses may be completed at each Summer School. The services of outstanding instructors in this field are obtained for these summer courses.

Certification:

1. For an Interim Industrial Arts Certificate, a student must complete successfully Unit 1 of the course and also must complete two summer school sessions (four professional courses.) One summer school session may be taken before commencing Unit 1 and one summer school session after Unit 1.

2. For a Permanent Certificate, two years of successful teaching experience, two further summer schools, and the recommendation of the Director of Vocational Education are required.

COURSE No. 112

Departmental Summer School for Shop Teachers

(6 Weeks) July 3rd to August 10th, 1962

Outline of courses available upon request.

Write:

Registrar,
Department of Education,
Legislative Building,
Winnipeg 1, Manitoba.
E. Evening Classes for Adults

The Evening Division of the Institute was established to provide instruction to adults employed full-time in business and industry during the regular work week. Evening Classes are designed to meet the specific needs of the group enrolled in each class. No certificates are awarded for Evening Classes.

The Institute will offer two sessions of evening classes during the fall and winter months. The first session will commence on October 2nd, 1961, for a period of ten weeks, two nights per week (Mondays and Thursdays) from 7:30 to 9:30 p.m.; the second session will commence on January 8th, 1962, for a similar length of time.

Courses will be established only when enrollment is sufficient to warrant organization of a class.

Registration is on September 27th and 28th for the Fall term, and on January 3rd and January 4th for the Winter term.

The following subjects are listed as suggestive:

Automotive (Apprentices)  Shorthand (Speed)
Diesel  Television
Drafting  Typewriting
Electricity  Welding (Acetylene)
Machine Shop Practice  Woodwork (Apprentices)
Radio  Comptometer

The Registration Fee (Not refundable) for lecture courses —$10.00. The Registration Fee (Not refundable) for other courses—$15.00.

The Registration Fee (Not refundable) for welding courses —$20.00.
F. Correspondence Courses

Those persons who wish to enroll for an approved Correspondence Course in commercial or industrial subjects should write to:

Mr. B. F. Addy,
Director of Vocational Education,
Second Floor, Vocational Branch,
116 Edmonton Street,
Winnipeg 1, Manitoba.
G. Application Form

The Principal,
Manitoba Technical Institute,
Portage Avenue at Wall Street,
Winnipeg 10, Manitoba.

I hereby make application for a ____________ month's course in
........................................ at the Manitoba Technical Institute.
Winnipeg, Manitoba, starting _______________ 19____________ with the
understanding that the first four to eight weeks is a probationary period.

Name __________________________ (Surname) PRINT (Christian Names) (Mr., Mrs., Miss)
Permanent Address
Winnipeg Address
Next of Kin __________________________ Local Telephone
Date of Birth ___________ 19________ Marital Status
What was the highest school grade you completed?
What year? ______________ Where? ________
What vocational or technical education have you had?

What trade experience have you had?
Employer Address Occupation How Long

Are you a Canadian Subject? Manitoba Resident?
Have you any physical defects? If so, what?

What type of training do you desire?
1st choice ________________________________
2nd choice ________________________________
Have you any prospects of employment when your training is completed?
If so, give details __________________________

Date of application: __________________________
Signature of applicant: __________________________

(Please have reverse side completed)
CERTIFICATE OF THE PRINCIPAL OF THE SCHOOL LAST ATTENDED

This is to certify that ___________________________ (Name of Pupil)
attended ___________________________ in ___________________________
(Name of School) (Municipality)
from ___________________________ to ___________________________
and completed Grade ___________________________ his/her final marks in the subjects
listed were as follows:

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

Signature of Principal

NOTE: —
To be completed by all applicants. Those who are attending school should present a record of the marks they obtained for their last term examinations.

THIS APPLICATION IS APPROVED for a Course in ___________________________

of ___________________________ months duration.

(Date) (Counsellor)

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<th>Amount</th>
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Enrolled (Date) (Registrar)