The College gratefully acknowledges the contribution and assistance given by the members of Course Advisory Committees. The members of these Committees are recognized authorities in their respective fields, giving their whole-hearted support to these educational programs.

This Calendar is issued under the authority of the Minister of Education, Government of Manitoba. The College reserves the right to make changes, without notice, in the information contained in this publication.

Red River Community College is a member of the Association of Canadian Community Colleges.
Minister's Message

This calendar outlines the many programs that are available to those wishing to extend their education at Red River Community College. It also indicates a growth and expansion of the programs offered by the College.

It is an important objective of the college to provide courses that are related very closely to the job market. Students can be assured that the staff have this objective in mind and that the many course advisory committees which include labour and management representatives are continually reviewing programs to ensure their practicality and relevance to employment.

The Hon. Keith A. Cosens
Minister of Education

Ronald A. MacIntosh
Deputy Minister
Department of Education

P.F. Penner
Assistant Deputy Minister
Community Colleges Division

The Hon. Keith A. Cosens
Minister of Education
Assiniboine Community College
1430 Victoria Avenue East
P.O. Box 935
BRANDON, Manitoba
R7A 5Z9
Telephone: 725-4350

Assiniboine Community College (ACC) is located in the eastern end of Brandon, Manitoba. It is responsible to the Minister of Education for the provision of educational and community services to a very large area of Western Manitoba.

To meet the needs of this community, a flexible program of technical and occupational education is provided through on and off-campus training courses, varying from five month certificate courses to two-year diploma courses.

Courses may be offered on a full or part-time basis, and may be carried out in any suitable location, on or off-campus.

Courses may provide pre-employment training, opportunities for upgrading previously acquired skills and knowledge, or retraining in a different occupation. In addition, apprenticeship courses, adult basic education classes, agricultural programs, special programs and a wide variety of evening programs enhance the ability of the College to serve the south-western Manitoba community.

These programs, plus facilities such as cafeteria, bookstore, library, classrooms, workshops, lecture theatre and gymnasium combine to make ACC a good environment in which to learn.

Approximately 50% of the on-campus full-time students come from outside the Brandon area.

ACC enrolment, including full-time day courses, extension services programs and evening programs, is approximately 5,000 students yearly.

Business Administration
Commercial Art
Correctional Officer, Pre-Employment
Hairdressing
Practical Nursing
Public Administration
Social Services
Stenography
Typing

Industrial and Technical Department
Agricultural Mechanics
Architectural Drafting
Carpentry and Woodworking
Electrical
Electronics Technician
Heavy Duty Mechanics
Machine Shop
Motor Vehicle Body Repair
Motor Vehicle Mechanics
Piping Trades

Technologies:
Computer
Electrical
Electronic
Instrumentation
Welding

Apprenticeship Training:
Construction Electrician
Heavy Duty Equipment Mechanics
Industrial Instrument Mechanics
Motor Vehicle Mechanics
Plumber

Extension Services Division
Adult Basic Education
Agricultural Training Program
Farm Maintenance Program
Farm Management Program

Evening Programs

Keewatin Community College
Box 3000
The Pas, Manitoba
R9A 1M7
Telephone: 623-3416

Keewatin Community College had its beginning in 1966 as the Northern Manitoba Vocational Centre. Now more than 10 years later, it continues to grow offering a greater variety of courses both in The Pas and in other communities in Northern Manitoba.

The main campus is in The Pas with courses being offered in communities as far south as Mafeking to Churchill in the north. Although most full time courses are located in The Pas, courses are conducted in 30 other communities in the north.

You may be a high school student in the process of exploring different avenues of post-secondary education or someone who did not complete high school who wishes to further your education. If you are interested in developing a marketable skill or trade, we have a vocational course for you. If you are a person who has not completed high school, we offer a program of Academic Upgrading. Evening school, Special and part-time programs are available to students who feel that the normal workload may be more than they wish to take.

For further information feel free to visit the College or write or phone our Counsellors or Registrar at (204) 623-3416.

Adult Basic Education
Motor Vehicle Mechanic
Building Maintenance
Carpentry and Woodworking
C.B.O.M. Accounting
Clerk Typist
Cooking
Basic
Commercial
Hairdressing
Dental Assisting
Electrical (Construction/General)
Heavy Duty Mechanics
Heavy Equipment Operators
Hospitality
Practical Nursing
Pre-Trades Training
Small Motor Repair
Stenography
Survey Technician
Welding

Apprenticeship Training
Carpentry
Industrial Electrical
Industrial Mechanics
Mining
Welding
The Director's Message

Your interest in Red River Community College is appreciated and we trust that this publication will provide you with the information you are seeking.

Red River Community College takes pride in the reputation which the College enjoys. It is a College that is very much 'with the times.' It is an exciting place to be where one can feel, let alone see and here, the pulsating vibrancy of its atmosphere of learning.

In terms of 'training-to-job match' for those who have moved on into their working lives following their learning experience at the College, the record is an enviable one which is demonstrated year after year by carefully done student follow-up studies.

Whatever course or career you may choose, we feel sure that you will find your learning both stimulating and meaningful. We further believe that when you have successfully completed your educational objectives at the College, you will join the countless thousands who have gone on before you who attest to the College's value and who, as mentioned, take pride in having been here.

Sincerely,

Brian Angood
Director
College Executive

E. Brian Angood  Director

C.H. Howard  Principal
Continuing Education & Support Services

R.A. Dunham  Principal
Industrial & Technology

B. Barnard  Principal
Health Sciences

Principal
Applied Arts & Business

R.H. Newman  Supervisor
Student Services

D.O. Lussier  Supervisor
Administrative Services
Calendar of Events

1979

September
4 — Registration  
   September entry date
5 — Student Orientation Day
10 — Registration — Teacher Education  
   — Advertising Art
11 — First trimester Teacher Education begins
18 — Evening classes commence — Fall trimester

*Registration Adult 5-10 ABE continuous intake will start September 4 and every two weeks thereafter.

October
1 — First date for receipt of applications for courses beginning September 1980
8 — Thanksgiving Day (College closed)
22 — Entry date — Welding
29 — Registration — Audio Servicing Course  
   Entry date — Commercial Cooking

November
20 — Exams — Business Division
23 — First trimester ends

December
3 — Second trimester begins  
   Entry date — Computer Analyst/Programmer
21 — Second trimester ends — Teacher Education  
   — Advertising Art
25 — Christmas Day (College closed)
26 — Boxing Day (College closed)
27 — Offices re-open

*December 24 — Offices close 13:00 hrs and re-open December 27

1980

January
1 — New Year’s Day (College closed)
2 — Registration — Teacher Education  
   — Advertising Art
   Entry date — Radio Operating  
   — Welding
   — Classes re-commence
15 — Evening classes commence - Winter trimester
16 — Exams — Industrial and Technology
22 — Exams — Nursing
25 — First term ends

February
4 — Second semester begins and new registration
25 — Entry date — Welding

March
3 — Business Division — Exams
7 — Second trimester ends
17 — Third trimester begins
21 — Second trimester ends — Teacher Education  
   — Advertising Art
24 — Registration — Dental, Expanded Duties
31 — Third trimester begins — Teacher Education  
   — Advertising Art
   Registration — Audio Servicing Course

April
4 — Good Friday (College closed)
7 — Easter Monday (College closed)
18 & 20 — Open House

May
19 — Victoria Day (College closed)

June
1 — First date for issue of entry acceptance letters for September
9 — Exams — Business Division
13 — Third trimester ends
16 — Exams — Nursing
20 — Exams begin
26 — Semester ends  
   Graduation

July
2 — Summer Session — Teacher Education
15 — Transcripts of final marks due for conditionally accepted applicants

August
4 — Civic Holiday (College closed)
# Table of Contents

- Admissions Policies and Procedures
- Academic Policies and Procedures
- Financial Policies and Procedures
- Scholarships and Awards
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## Continuing Education and Support Services Division
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- Employment Orientation for Women
- Career Opportunities for Women on Mother's Allowance
- Correspondence Courses
- Resource Centre for Handicapped Students
- Evening Program

## Applied Arts and Business Division
- Advertising Art
- Barbering
- Business Accountancy
- Business Administration
- Chef Training
- Clerical Bookkeeping
- Clerk Typist
- Commerce/Industry Sales and Marketing
- Commercial Baking
- Commercial Cooking
- Computer Analyst/Programmer
- Creative Communications
- Graphic Arts
- Hairdressing
- Health Record Technician
- Hotel and Restaurant Administration
- Library Technician
- Meatcutting
- Photographic Technician
- Stenography
- Secretarial Science
- Teacher Education — Business
  - Industrial
  - Vocational Industrial
- Watch Repair

## Health Science Division
- Child Care Services
- Dental Assisting — Chairside — Expanded Duty
- Medical Laboratory Technology
- Medical Radiological Diagnostic Technology
- Medical Radiological Technology with Laboratory Assistance
- Medical Radiology Technology
- Nuclear Medicine Technology
- Nursing One and Nursing Two
- Nursing — Refresher
- Nursing — Completer

## Industrial and Technology Division
- Architectural Drafting — Electrical
  - Mechanical
- Carpentry and Woodworking
- Diesel Mechanics — Transport
- Domestic Electronics
- Electrical Course
- Industrial Electronics
- Machine Drafting
- Machine Shop Practice
- Major Appliance Service Technician
- Masonry
- Motor Vehicle Body Repair
- Motor Vehicle Mechanics
- Painting and Decorating
- Piping Trades
- Radio Operating & Electronic Communications
- Refrigeration & Air Conditioning
- Sheet Metal
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- Welding
- Truck Driver Training
- Pre-Trades Training for Women
- Apprenticeship

## Biochemical Technology
- Chemical Technology
  - Biological Technology
  - Civil Technology
  - Building
  - Structural
  - Design and Drafting

## Computer Technology
- Electrical Technology
- Electronic Technology
- Instrumentation Technology
- Mechanical Engineering Technology
- Power Engineering

## Staff and Faculty Listing

*First issue: Sept. '79*
How To Use This Calendar

The new Red River Community College Calendar is designed to help us respond to the rapidly changing trends in the industrial and educational communities.

As industry responds to technological development, the emphasis and content of our College courses must necessarily change with them. Thus, a new Calendar format was conceived to provide flexibility in updating and immediate distribution of current information.

Likewise, as our youth and representatives of the educational community become more aware of the right to obtain high quality, relevant training, our Calendar must respond by providing accurate and complete College information.

With this in mind, we have made extensive changes to our Calendar format and content.

The Calendar is comprised of individual information sheets describing each course. The information sheets have not been assigned page numbers as each sheet is also a course brochure. You may wish to keep the information sheets in the mailing folder provided. However, the calendar has been designed to be placed in a three-ring binder. For this reason, each sheet has been three-hole punched. The Calendar course brochures may be duplicated to provide immediate information to applicants should your supply of College brochures be exhausted. The Calendar's Table of Contents will also serve as a checklist of courses for ordering individual brochures as they are required. Consistency in information will be maintained as Calendar information is now identical to that contained in all brochures.

We have divided the Calendar according to College division. Courses are listed in alphabetical order under their respective division. Each information sheet bears the date of this first issue. As changes in information occur, revisions will be sent to you. Please complete and return the enclosed Calendar Revision Request form in order that your name be placed on our permanent mailing list for calendar revisions. Original pages can then be discarded, and revisions simply inserted in their place. A new table of contents will accompany all revisions.

Although this new format will require some “getting-used-to” we believe this Calendar will be valuable in serving the needs of our counsellors and those they serve.

We welcome and appreciate your comments and suggestions.

Jeayn Pickering-Fahey
ADMISSIONS OFFICER
Janet Walker
COMMUNITY LIAISON
Manitoba Community Colleges

Admissions Policy

Age Requirement
1. Applicants must be 16 years of age or over.
   (a) High school students are encouraged to remain in high school to obtain the best basic education possible;
   (b) Colleges reserve the right to reject the application of a person who is eligible to enroll in an equivalent course at a public high school in the province.

Definition of An Applicant
2. An applicant is someone who has applied to a College on an official College application form.
   (a) Only applicants will be processed for admission;
   (b) An applicant must have an acceptance letter, signed by the College Admissions Officer, in order to register for a course;
   (c) The Department of Education is the only body which can determine an applicant's eligibility for admission;
   (d) An applicant's acceptance by the College for training does not imply acceptance by an external agency for sponsorship.

Authorizing Body
3. Applicants who are being sponsored by the Canada Employment and Immigration Commission or by any other sponsoring agency must be documented by the sponsoring agency prior to registration day or in accordance with agreements made with the College.

Physical/Health Requirement
4. Applicants must be physically qualified in reference to the type of course selected.

Academic Requirement
5. Applicants must hold at least the minimum academic prerequisite listed under each course in the College Calendar or be accepted as a mature student.

Mature Student Admission
A mature student is a person 20 years of age or older by September 30 of the year in which he/she registers for a course.
(Mature Student Admission - Mature student applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects will likely be necessary.)

Academic Documentation
6. Applicants must submit official transcripts or other documentation showing academic qualifications. (Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.)

Admissions Preference
7. Admissions preference will be given to applicants in the following order:
   — Canadian citizens and landed immigrants resident in Manitoba
   — Canadian citizens and landed immigrants from other provinces
   — Other applicants. (The College accepts a limited number of applications from student visa applicants. Applications from out-of-country are not accepted due to high demand from Manitoba and Canadian applicants.)

Sponsored Applicants
8. Applicants for most courses are accepted on a “first-come, first-served” basis. Any applicants not accommodated will be so informed by the College. (Acceptances are made in the order in which completed applications are received. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.)

Special Selection Courses
9. Courses that do not admit applicants on a purely first-come, first-served basis are noted in the calendar.
   (a) These courses sometimes require additional documentation, testing, interviews, or screening;
   (b) For these courses, the criteria applied are based on additional skills and abilities needed to succeed in the course;
   (c) For those applicants who meet these criteria, the first-come, first-served policy will continue to apply;
   (d) Information on the criteria used for these special selection courses is available from the admissions office of the College;
   (e) Applicants not accepted (due to oversubscription) may reapply for the following year; or if there is more than one entry date in the year, the admissions committee may accept them for a later date in that academic year.

Date & Time of Application
10. Early application for admission is advised since the date of application is a determining factor in gaining admission.
   (a) College calendars indicate earliest possible application and deadline dates for each course.
       (October 1 of the preceding year) is the first date for receipt of applications for courses with a September entry date. Applicants applying for courses with more than one entry date may apply at any time.

Second-Language Applicants
11. Applicants whose native language is other than English may be asked to submit results of the Test of English as a Foreign Language (TOEFL).

G.E.D. Applicants
12. Applicants who have written the General Educational Development (G.E.D.) tests and who have
Red River Community College

Application Procedures

1. An application form may be obtained by writing the Admissions Office, Red River Community College, Room C-212, 2055 Notre Dame Avenue, Winnipeg, Manitoba R3H 0J9 or by telephoning 632-2327.

Applications should be submitted to the same address, and completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

2. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

3. October 1 is the first date for receipt of applications for courses with a September entry date.

Additional entry dates have been established in some courses to accommodate high demand. For these courses, applicants who cannot be accommodated at the September entry date will be placed on a Wait List for the following intake(s) in the order in which completed applications are received. Applications will be considered throughout the year.

For all high demand courses where wait lists develop, the course wait lists are continually updated, with wait listed applicants being surveyed to determine if they wish to be considered for the following entry date.

4. Upon acceptance, the applicant will be required to pay a portion of the course tuition fee as a pre-registration payment. The pre-registration payment is non-refundable should the applicant decide not to register. The pre-registration payment is confirmation for the accepted applicant that a place has been reserved in the course. The reservation will be held only until time of registration in the course for which acceptance has been issued (as outlined in the Acceptance Letter).

Admissions Information

Entrance Requirements

Entrance requirements stated for each course represent the minimum prerequisites, and it is to an applicant's advantage to gain as good an education as possible prior to entering the College.

Evaluation of Transcripts for Admission

The Manitoba standings acceptable for admission are outlined within each course brochure of this Calendar. Educational documents originating outside Manitoba will be evaluated at time of application by the College Admissions Officer.
Falsified Admissions/Education Documents
Any applicant submitting falsified (altered, forged or fraudulent) documents will be referred to the appropriate authorities for prosecution under the Criminal Code of Canada. Forgery can lead up to a fourteen-year prison sentence.

Mature Student Admission
Mature students must be 20 years of age on or before September 30 in the year or registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects will likely be necessary.

Special Selection Courses
Some courses at the College admit applicants on the basis of a Selection Committee interview and/or tests or other prescribed requirements. In these cases, the course Selection Committee reviews each application on an individual basis and selects those applicants whom the Selection Committee deems best suited for the course. All other entrance requirements must be completed to the acceptance of the Admissions Officer before the Selection Committee will consider the application.

The criteria used by the Selection Committees are given within each course Calendar brochure. Requests for further information or clarification should be directed to the Admissions Officer.

All applicants will be notified of the results of their interview/test.

When an applicant is refused admission to a course based on tests and/or interview with a Selection Committee, a suitable upgrading or career alternative is recommended or suggested.

Special Selection courses are as follows:
- Advertising Art
- Computer Analyst/Programmer
- Creative Communications
- Chef Training
- Commercial Cooking
- Graphic Arts
- Hotel & Restaurant Administration
- Library Technician
- Photographic Technician
- Business Teacher Education
- Industrial Arts Teacher Education
- Vocational Industrial Teacher Education
- Medical Laboratory Technology
- Medical Radiological Diagnostic Technology
- Medical Radiological Technology with Laboratory Assistance
- Medical Radiotherapy Technology
- Nuclear Medicine Technology
- Nursing One
- Child Care Services
- Dental Assisting

Medical/hospital Coverage
Out-of-Country applicants (VISA students) are required to obtain adequate medical and hospital coverage acceptable to the College for the period of attendance at Red River Community College. Proof is required prior to Registration day.

Occupational High School Program
Students who have completed an Occupational High School program will be eligible to apply for College courses. Such applicants (as a rule) will be subject to testing in the required subjects.

Part-Time Students
Providing space is available, subjects within a course are open to part-time students who have the prerequisites. Persons interested in taking partial courses must have the approval of the appropriate department head.

Advance Standing/Subject Credit
Credit for work completed prior to enrolling in any course at R.R.C.C. may be considered by the departmental Selection Committees on a subject-by-subject basis. It is the responsibility of the student to: (1) make written request for credit prior to or within three weeks of the commencement date of the course; and (2) provide suitable documentation of subject content and the grade received for the work to be evaluated.

Experiential Learning
Any person with occupation (on-the-job) experience related to an existing R.R.C.C. course may be eligible to apply for experiential learning credit.

The fee for a challenge is $25.00 per subject and is not refundable. Applicants obtaining partial standing in a course may be able to complete their training depending upon space availability.

For information on Experiential Learning procedures and subjects available for challenge, contact the Admissions Officer, Red River Community College, Room C-212.

Transfer Programs & Agreements
A special transfer agreement exists between the universities - the University of Winnipeg, the University of Manitoba and Brandon University. This agreement allows graduates from specified programs at the College to complete degree requirements at the universities in a reduced period of time. The specifics of these arrangements can be discussed by contacting the university Director of Admissions and/or with the College Admissions Officer.
Winnipeg Bible College Integrative Vocational Degree Program includes both a specified two-year Winnipeg Bible College course of studies and one of the following Red River Community College two-year vocational diploma courses: Business Administration, Creative Communications, Nursing Two, and Child Care Services.

A student in the Integrative Vocational Degree Program is expected to meet normal entrance and application requirements of each institution for the particular course or program that the student desires.

Students desiring further information regarding the Winnipeg Bible College Integrative Vocational Degree Program should check the detailed description of this program in the current Winnipeg Bible College catalogue available from the Registrar, Winnipeg Bible College, Otterburne, Manitoba R0A 1G0.

College Admissions Committee

This committee is a sub-committee of the Academic Council. All admissions policies affecting Red River Community College will be reviewed by this Committee prior to implementation of policy changes. The Committee derives its mandate from the Academic Council, and reports to the Executive Committee of the College for final College approval of its policies. Membership consists of the Admissions Officer as Chairperson, representative Chairpersons from each Division, a Counselling representative, a representative from Planning, Development and Evaluation (ex-officio), and two representatives from Academic Council, one being a student, the other an instructor.

Financial Aid

The main sources of aid open to College applicants are listed below. If applicants are having difficulties in obtaining assistance and need advice, they may discuss the problem with a College counsellor.

Manitoba Student Aid Program

This program is a source of financial assistance for any Manitoban who wants to obtain an education and whose finances are not adequate. It is intended to supplement, but not to replace, your own resources and those of your immediate family.

A basic requirement for assistance is complete information about your financial situation.

Applicants should note that it takes a minimum of 6 weeks to process applications and therefore should apply immediately. If applicants wait until August or September, they can expect further delays in the processing of applications (e.g., 2 - 3 months or more).

Contact:
Student Aid Office
Room C-116
Red River Community College
Winnipeg, Manitoba R3H 0J9
Phone: 633-6621

Canada Employment and Immigration Commission Training Program (C.E.I.C.)

C.E.I.C. sponsorship covers course costs plus an allowance and is not available for courses of more than one year's duration. Applicants must have been out of school for at least a year. Apply as soon as possible to your local Canada Employment Centre. Final decision for sponsorship is authorized by C.E.I.C. Manitoba offices are located at:

<table>
<thead>
<tr>
<th>Winnipeg</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>344 Edmonton St.</td>
<td>Brandon</td>
</tr>
<tr>
<td>1354 Main St.</td>
<td>Dauphin</td>
</tr>
<tr>
<td>1822 Portage Ave.</td>
<td>Flin Flon</td>
</tr>
<tr>
<td>170 Marion St.</td>
<td>Gimli</td>
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<tr>
<td>220 Hespeler Ave.</td>
<td>Lynn Lake</td>
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<tr>
<td>1048 Pembina Hwy.</td>
<td>Morden</td>
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</tbody>
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| Portage La Prairie | Neepawa |
| Selkirk | Steinbach |
| The Pas | Thompson |

Social Allowances (Department of Health & Community Services)

Applicants must prove that they have applied for other forms of assistance first, before they will be considered.

Contact:
Health & Community Services
693 Taylor Avenue
Winnipeg, Manitoba R3N 3T9
Phone: 284-8220

Department of Indian Affairs & Northern Development

Sponsorship covers costs of course plus a living allowance. Treaty Indians are eligible.

Contact:
Department of Indian Affairs and Northern Development
1100 - 275 Portage Avenue
Winnipeg, Manitoba R3B 3A3
Phone: 949-2482

Canada Pension Plan Aid

For children who have lost one or both parents, or whose parent(s) has qualified for disability pension.

Contact:
Canada Pension Plan
191 Pioneer Avenue
Winnipeg, Manitoba R3C 3N8
Phone: 949-3774
Academic Policies and Procedures

General

Security of Academic Records
Guidelines on the disclosure of student records information are intended to protect the individual's right to privacy and the confidentiality of the academic records throughout the College. A student's academic record does not include Health, Counselling and Disciplinary records and such records should be kept separate from the academic records. If a student is suspended or expelled only the fact of his/her suspension or expulsion will appear on the academic record for as long as the suspension or expulsion is in force.

Class Hours

Timetabling
— Day classes for all College courses are held five days per week (Monday through Friday) throughout the academic year.
— Classes for full-time day courses are generally in session between 8:00 a.m. and 6:00 p.m. Monday through Friday. (These hours may be altered in accordance with training requirements and facilities and may continue into evening hours.
— Each student's timetable will indicate when and where each class will be held.

Course Content
The course content listed herein is intended to provide information for the guidance of applicants in the selection of appropriate courses. It is not intended to be so rigid and inflexible that it restricts the initiative of teachers and students. In general, the courses will be conducted in accordance with the curriculum outlines but may, through consultation between Red River Community College authorities and the advisory committees, be subject to revision to meet special educational needs as they arise.

Curricula details and subject descriptions are available on request from the Admissions Officer or Community Liaison Clerk.

Definition of Full-time Student
A full-time student is defined as one enrolled for a minimum of 60% of the credit hours for the semester or trimester as outlined in the College calendar.
Full-time students may continue into the following term as full-time students provided they have met all prerequisites required for the subjects of that term.

Definition of Part-time Student
A part-time student is defined as one enrolled in less than 60% of the credit hours in a term.

Illness, Accidents and Injuries
The College reserves the right to call a physician in case of illness, the expenses to be borne by the student. The College has exerted and will continue to exert every effort to avoid accidents, but incorporates the following statement as part of the understanding between the College and its students:

"The Province of Manitoba, its offices, agents, or employees assume no liability, expressed or implied for the result of sickness or accidents involving personal injury to any student, whether in connection with the Red River Community College's instruction program wherever conducted or incidental to other activities on the College's properties or elsewhere."

Canada Employment & Immigration Comm. sponsored students (C.E.C.) and apprentices, and students who, as part of their training, are working away from the College, in trade or business, and are injured, may have coverage under the Worker's Compensation Act.

Filing an application when applying for a course carries with it approval and consent with respect to this Red River Community College policy governing accidents or illness.

Student Responsibilities

Attendance/Absence from Class
Regular attendance is required by students in all courses. Students are responsible for notifying the Office of the Principal or Department Head of reasons for absence. When a student remains away from College classes for five consecutive days without notifying the College, they shall be considered to have discontinued their courses and will be terminated from the course.

Students should not leave their labs or classrooms without notifying the instructor in charge.

Students are subject to the rules and regulations of the College and may be suspended or dismissed if their conduct, progress, attendance or attitude proves unsatisfactory. Disciplinary problems of an extreme or persistent nature will be dealt with by the Disciplinary Board of the College. Students causing damage to facilities, property or equipment will be dealt with immediately by administrative personnel, College security or the police, as the case may be. Penalties will range from a minimum of financial reparation to dismissal from the College, or both.

Students are expected to dress in a manner appropriate to the classroom, laboratory or workshop environment.

Dress

Safety Requirements
Students are expected to dress in a manner appropriate to the classroom, laboratory or workshop environment.

Providing space is available, many subjects are open to part-time students who have the prerequisites. Persons interested in taking partial courses must have the approval of the appropriate department head.

Providing space is available, many subjects are open to part-time students who have the prerequisites. Persons interested in taking partial courses must have the approval of the appropriate department head.
in which they are working. In some shops, special protective clothing must be worn. Special items such as goggles and gloves are available from the R.R.C.C. bookstore. Many employers consider acceptable dress as a factor related to performance. Students are responsible for use of protective clothing required by departments.

### Change of Address

**Personal Particulars**

It is the students' responsibility to notify the Registrar of any change of name, address, marital status, educational particulars, etc. Because mark statements, diplomas, certificates and income tax deduction certificates, etc. are mailed to students at their last known address, it is important that students notify the Registrar of any of these changes.

### Transfer Between College Courses

Students wishing to transfer should contact their Department Head. An enrolled student may be permitted to transfer from one course to another provided:

(a) there is space available in the course for which transfer is requested;

(b) the student has the prerequisite for the transfer course; and

(c) the transfer is approved by the in-coming and out-going Department Heads.

### Advance Standing Subject Credit

Credit for work completed prior to enrolling in any course at R.R.C.C. may be considered by the departmental selection committees on a subject-by-subject basis. It is the responsibility of the student to:

(a) Make written request to the Chairman or Principal for credit prior to or within three weeks of the commencement date of the course;

(b) provide suitable documentation of subject content and the grade received for the work to be evaluated.

### Progression in Course Progress of Students Scholastic Progress

Students must maintain a satisfactory scholastic standing in order to progress from term-to-term in a course. ("Satisfactory scholastic standing" is determined by individual departments.) See individual course requirements for progression requirements.

A student whose progress is unsatisfactory will be placed on probation or dismissed.

### Method of Evaluation

It is the responsibility of students to check the method of evaluation in each and every subject with course instructors. **Not all courses have supplemental privileges.**

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**Grading System**

The Grading System applies to all subjects offered for credit in full-time day programs at the College.

**THE QUALITY OF A STUDENT'S WORK IN EACH SUBJECT OF A PROGRAM SHALL BE DENOTED BY A LETTER GRADE @ AS FOLLOWS:**

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Point Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td>Exceptional</td>
</tr>
<tr>
<td>B +</td>
<td>3.5</td>
<td>Outstanding</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>Very Good</td>
</tr>
<tr>
<td>C +</td>
<td>2.5</td>
<td>Above Average</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td>Average</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
<td>Marginal</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>Failure</td>
</tr>
<tr>
<td>N/A</td>
<td></td>
<td>Pass</td>
</tr>
</tbody>
</table>

*For some subjects which carry no credit hours, a grade of Pass (P) is given.*

The letter grades appearing in Part 2 apply to those subjects where achievement is measured in terms of attendance. **Grade points are not awarded for these subjects.**

### Credit Awarded

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMP</td>
<td>Completed</td>
</tr>
<tr>
<td>NC</td>
<td>Not Completed</td>
</tr>
</tbody>
</table>

Each subject has a number of credit hours attached to it which reflect the general weighting of that subject within a course.

—Credit hours are used as the subject weighting when calculating the grade point average.

**Calculation of Grade Point Average**

A grade point average is calculated by multiplying the grade points obtained in each subject by the subject credit hours. The total product thus obtained is divided by the total credit hours for the subjects taken.

**Final Examinations**

All students are required to write all final examinations. Those who absent themselves without an acceptable reason will receive a grade classification of DNW (Did Not Write).

**Absence from Exams**

A student who is unable to write a final examination because of illness or other disability or affliction must file a formal report to the Department Head and/or Chairperson within seven days of the date of the examination and provide proper proof (Doctor's Certificate or Health Centre Certificate).
In most courses, examinations are conducted at the end of each term. Term marks based on student assignments, progress tests, etc., are incorporated with the results of these examinations to determine the final grade.

The following regulations apply to courses which have a basic prerequisite of Grade 12:

1. Students who have a Grade Point Average of 1.5 or better will be permitted to write a supplemental in the subject or subjects failed when this subject is one which permits suppleminals. These suppleminals will be written within the first week of commencement of the following semester or trimester.

2. Full-time students with a Grade Point Average of less than 1.5 will not have supplemental privileges in the subjects failed. They may repeat subjects at a later time or take them at night school, if the subjects are provided.

3. Part-time students who have failures will be permitted supplemental privileges on the same basis as full-time students. (The criterion will be the Grade Point Average based only on the subjects taken.)

4. It is recommended that students clear supplements as early as possible, since a change in the course subject content may make it more difficult for a student to pass the exam at a later date.

5. A student who does not attend a scheduled exam will receive a grade of DID NOT WRITE (D.N.W.), and will have supplemental privileges in that subject only if the absence is justified on medical grounds or on other circumstances acceptable to the Principal of the Division in which the student is registered. This regulation will apply regardless of the grade point average received in the exams which the student did attend.

The following regulations apply to one year courses:

"Students will be permitted to write a supplemental in the subject (or block of instruction) or subjects failed when the subject is one which permits suppleminals and subject to the approval of the Department Head or Chairperson involved."

Time and place for writing suppleminals are to be arranged in consultation with the Department Head. It is recommended that students clear suppleminals as early as possible, since a change in the course subject content may make it more difficult for a student to pass the exam at a later date.

Note: Where a student misses a scheduled examination or supplemental because of participation in an event which has the specific approval of the College Director, special provision will be made to ensure that such students are not denied supplemental privileges available to other students. It is understood that arrangements for such alternate arrangements would be made well ahead of the conflicting event.

Examination Appeals — Request for Re-read of Examination

Procedures

1) If a student and instructor informally wish to go over the student's examination, that is to be considered their own affair.

2) If, for some reason, the student and/or instructor cannot agree to this on an informal basis, the student may then discuss the problem with the appropriate department head;

3) If Steps 1 and 2 do not result in the student's satisfaction, the student may then discuss the problem with the appropriate chairperson or principal.

4) If the student is not yet satisfied at this point, the student may, within two weeks of receiving exam results, make a written request to the Chairman of the Academic Appeal Board to go over his or her examination with the instructor directly involved.

5) Upon receipt of such a request, the Chairman of the Academic Appeal Board (Supervisor of Student Services) will immediately contact the Principal of the Division involved so that appropriate arrangements can be made to bring the student and instructor together.

6) Following the foregoing, if the student then wishes to proceed further, the student will launch a formal appeal per Manitoba Regulation 84/78 — The Manitoba Gazette — Vol. 107, No. 20, dated May 20, 1978, and the formalized appeal procedures already laid down. Following review of an examination informally, if a student wishes to request a re-read through the formal process the following criteria must be met:

1) A written request be made by completing Section A of the "Request for Re-Read of Examination" form. Available from Students' Association, Principals, or Student Services Offices.

2) Payment of $10.00 be made in Accounts Receivable, Bldg. C, Room C-212.

3) The cash register validated request be presented to the Supervisor of Student Services within two weeks of receiving his or her examination results. In the case of June exams, the two week limit will apply following start of the next fall term.

All final exam papers and major term tests not returned to the students must be kept by instructors a minimum of one month into the next term. If any challenges are raised during this month, all papers and major term tests for that course must be retained until the challenge is resolved.

Criteria:

Retention of Exam Papers

All final exam papers and major term tests not returned to the students must be kept by instructors a minimum of one month into the next term. If any challenges are raised during this month, all papers and major term tests for that course must be retained until the challenge is resolved.
Academic Appeal Board was organized to deal with student problems which are unresolved by the standard grievance procedure.

The Board will deal with any matters related to a student's academic program which has unsuccessfully been dealt with after the student has followed Steps 1 through 4 as outlined under Procedure. Possible items include:
- Methods of Instruction
- Methods of Evaluation
- Evaluation Results

The Committee shall consist of two students selected by the Students' Association; one instructor selected by the faculty representatives on the Director's Advisory Council; one department head or chairperson elected by department heads and chairpeople.

The chairperson is selected by the director and is not a principal, chairperson or teaching staff member.

The chairperson will be appointed for a two year period. The other members shall be selected each time the board is called.

If a consensus of the Board is not reached within a week from the time at which the hearing was convened, a new Board is to be called, at which time the appeal will again be heard.

Step 1: Student must first discuss complaint with the instructor concerned with the problem.
Step 2: If Step 1 does not result in the student's satisfaction, he/she may then discuss the problem with the appropriate department head.
Step 3: If Steps 1 and 2 do not result in the student's satisfaction, he/she may then discuss the problem with the appropriate chairperson or principal.
Step 4: If the student is not yet satisfied at this point, he/she may submit a typed letter of appeal to the chairperson of the Board. He/she should also bring the matter to the attention of the Students' Association president.
Step 5: The chairperson of the Board will summon four members of the Board to a meeting within one week of receiving a written complaint. The Board shall hear from the students and the instructor involved. After the hearing, the chairperson shall instruct the Board to proceed with any appropriate investigation into the complaint. By one week following the hearing, the chairperson shall reconvene the Board to review the investigation, and to provide a decision to the concerned parties. The decision will be binding.

Appeals against examination results must be made no later than thirty days after results are received by the student.

Note: Students have the right at any time before or dur-
Students who leave the College for whatever reason (termination, graduation, withdrawal, etc.) are responsible for returning all library books to the Learning Resources Centre and paying all library fines. Transcripts of marks and/or diplomas and certificates will be withheld if these responsibilities are not carried out. Any awards or scholarships would be in jeopardy.

Request for Duplicate Transcripts

Student records are confidential; therefore, transcripts will only be issued upon written authority of the student. The transcript will be a complete and unabridged academic record of achievement at R.R.C.C. Students requiring duplicate transcripts of their educational records should complete a “Student Document Request Form” (available in Room C-212) and submit to the Registrar’s Office. Transcripts will be mailed direct to the institution (agency specified on the Request Form). There is a $2.00 fee for issuance of duplicate transcripts.

Submission for Student Aid Bursaries

Students who are scheduled to receive a regular or deferred bursary subsequent to the initial loan award, must be sure to submit, Copy No. 5 of the Canada Student Loan form, to the Student Aid Office (Bldg C-116) as soon as they have processed the loan at a bank or credit union.

Estimated Expenses Per Year

The cost of attending R.R.C.C. for an academic year (ten months) will vary with your choice of program and personal needs. In addition to tuition fees and cost of books the following additional expenses must be considered:
- Room Board
- Travel (i.e. transit to and from College each day) (monthly pass)
- Clothing and personal supplies
- Recreation and entertainment
- Health Care (if applicable)

Field Trip Expenses

Students are expected to bear their own expenses, if any, on field trips facilitated by the College to establishments related to the students’ studies.

Financial Policies & Procedures

Payment of Tuition and Students’ Association Fees.

Tuition Fees. All full-time day courses are assessed at the monthly rate of $27.00, payable by term or trimester. Fees are due on or before course registration date for the number of months for which the student is to be enrolled.

Students’ Association Fees. A Students’ Association fee based on the rate of $2.00 per month is payable with the tuition fees on or before course registration dates for the number of months for which the student is to be enrolled. (Students’ Association fees apply only to students on campus.)

Trimester Rates

Tuition Rates are scheduled as follows:
- Trimester Courses: Tuition fee = $90.00 per trimester, Students’ Association fee = $8.00 for the first trimester, $6.00 for the subsequent two trimesters, per year. Total tuition and Students’ Association fees = $290.00.

Two-Term Rates

- Two-Term Course: Tuition fee = $135.00 per term plus $10.00 Students’ Association fee for each term ($290.00 total). Total tuition and Students’ Association fees = $290.00.

One-Term Rates

- One-Term Courses: Tuition fee = $270.00 plus $20.00 Students’ Association. Total tuition and Students’ Association fees = $290.00. All rates listed above are calculated for a 10-month academic year.

Other

- Course of less than 10 months duration will be $27.00 per month plus $2.00 per month Students’ Association fee for each month of the course, all payable on entry.

Past-Due Tuition Timing & Collection of Tuition Fees

The Financial Policy of the Community Colleges Division states: “Registered students will be terminated if their tuition fees remain outstanding one week after the College Accountant has notified the Principal or Director.”

Students who do not pay their full term’s tuition on the registration date will receive only one letter requesting tuition payment and advising the student of when fees must be paid in order to avoid termination of registration. After this time, the student will be automatically terminated.

Late Registrants

A student registering into a term after the regularly scheduled date of registration shall be assessed tuition and Students’ Association fees as if the student had registered on the regularly scheduled registration date.
Sponsored Students

Where tuition fees are to be billed to a third party, a letter of commitment is to be provided to the Admissions/Registration Office before the registration date for the course.
—Tuition fees payable by a sponsor are due within 30 days from the date the sponsor is billed.
—Where tuition is billed to a third party, any refund shall be returned directly to the third party.

Refund Policy

Applicants withdrawing before course commencement will be eligible for a refund of tuition less the non-refundable $25.00 pre-registration fee.

Students terminating after course commencement will be eligible for a refund of tuition paid less the expended portion plus one month's penalty. (Example: A student who registers in September and also terminates in September will lose 2 x $27.00 = $54.00.) Thus the following refund payment schedule:

| Accepted applicants who do not register |
| Amount paid less $25.00 |
| Registered students leaving in first month |
| Amount paid less $54.00 |
| Registered students leaving in second month |
| Amount paid less $81.00 |

Refund requests are to be made through the Accounting Office, 2nd Floor, Room 212, Bldg C, R.R.C.C.

In the following circumstances tuition will be refunded in full:

1. **Course Cancellation.** In the event that a course is cancelled, a student is eligible for a full refund of tuition fees. The pre-registration fee will not be withheld.

2. **Teacher Education Special Program.** Refunds will be given in full to only those students who notify the teacher education section one week or more prior to the start of the course.

3. **Correspondence Courses.** Fees shall be refunded only if course material has not been issued.

4. **Evening Courses.** Refunds will be granted in full to students withdrawing prior to the commencement of the second class. Subsequent to this, refunds shall not be granted.

5. **Special or High Cost Courses.** Refunds will be considered on the same basis as outlined in Paragraph 4.

6. **For Courses to which the monthly certificate and diploma rate has been applied:**
   a) APPLICANTS withdrawing before course commencement will be eligible for a refund of tuition less the non-refundable pre-registration fee.
   b) STUDENTS terminating after course commencement will be eligible for a refund of tuition paid less the expended portion plus one month's penalty.

7. **Part Time Students.** Refunds of tuition fees will be considered on the same basis as outlined in Para. 6.

8. **Conditionally Accepted Applicants.** Pre-registration fees will be refunded to an applicant who has been conditionally accepted and pre-registered, but did not fulfill the specified conditions to the satisfaction of the Admissions Officer.

9. **Students sponsored by or the responsibility of other Governments:** Unless otherwise specified in an agreement, refunds shall be based on the per diem rate multiplied by the number of training days in the course remaining from the date of termination of the student, less 21 days or one month's penalty.

10. **Transfers:** If a student elects to transfer to another course offered by the College (provided space is available) the unused portion of the tuition fees already paid may be credited toward the fees prescribed for that course.

**Other Debts:** Refunds of tuition fees may be reduced by other outstanding debts, such as bookstore charges, parking fees, library fines, etc.
Scholarships and Awards

Lieutenant-Governor's Medals For Proficiency. The Lieutenant-Governor's Medals will be awarded to students in the Community Colleges of Manitoba, who, in the opinion of the selection committee, combine, to the greatest extent, in the graduating year: a) academic and technical ability, b) participation in college activities, and c) good character and personality.

The awards will be made to one student from each of the following groups at the college:

a) Diploma Course student from the science-based curricula;
b) Certificate Course student from the science-based curricula;
c) Diploma Course student from the arts-based curricula;
d) Certificate Course student from the arts-based curricula.

The Administrative Management Society Bursaries. Two at $100 each; one available to students in Secretarial Science and Business Teacher Education.

ASHRAE Bursary. The American Society of Heating, Refrigeration and Air Conditioning Engineers (Man. Chapter) awards $75 to a Term 4 Mechanical Tech. student based on achievement in Term 3 courses relating to the heating, ventilating, and air conditioning field.

Assiniboine Chapter of the Sweet Adelines Scholarship. $250 presented annually to a hearing impaired student enrolled in the preparatory course who plans to enroll in a full-time day course.

Association for Deaf and Hearing Impaired Children of Manitoba. Two awards of $100 to hearing impaired students for outstanding achievement in a college course.

Association of Manitoba Land Surveyors Scholarships. Two at $150 each to students entering the Third Term of Surveying Technology.

Birchwood Motors Ltd. and Southwood Chevrolet Ltd. Scholarships. Two $100 awards. Birchwood Motors award to top student in the January graduating class and the Southwood Chevrolet Motors award to the top student in the June graduating class in the Auto Body Repair course.

Bird Construction Company Limited Scholarships. $200 and $100 for students entering Term 3 of Building Technology.

Birds Family Foundation Bursary. Awarded by the Foundation on the recommendation of the college scholarship committee and are not restricted to a specific course and are renewable.

Bristol Aerospace Ltd. Scholarships. Two at $100 each to students entering Term 3 of Electronic and Mechanical Technology.

Building Technologists Association of Manitoba Inc. Scholarship. Two awards of $75 to students in the top of the class academically at the end of the school year in Architectural Drafting. The students chosen for this scholarship must be student members of the B.T.A.M.

CAE-Morse Ltd. Scholarship. A scholarship of $75 to be granted to a student receiving the highest combined standing in Ind. Materials TO6-M107 and TO6-M207 Production Welding of Mechanical Engineering Technology.

CBAC Scholarship. $100 plus a medallion to a student in Design & Drafting Technology with the highest overall standing at the end of the fourth term.

C.P.C.A. Concrete Technology Award. A commemorative plaque suitably inscribed and $100 will be presented annually to a student enrolled in Building, Civil, Design & Drafting or Structural Technology who has demonstrated the highest degree of excellence in concrete technology.

C.S.C.B.T. Book Award. To a student in First Year Biochemical or Chemical Technology for outstanding progress.

Chemical Institute of Canada (Manitoba Chapter) Book Award. To a student in First Year Chemical Technology for outstanding progress.

Chemical Institute of Canada Silver Medal Award. To a student in Chemical Technology with the highest standing in Term 4.

Chevron Standard Ltd. Student Scholarships. Two at $300 each to students entering the Third Term of Electrical Technology and either Civil or Structured Technology. The selection will be based on scholarship, character, personality and a potential ability for leadership.

Codville Scholarship Fund. $100 awarded annually to a student in the Meatcutting course who is making favorable progress and who requires financial assistance.

Credit Grantors Association of Winnipeg. Two bursaries of $100 each, one available in each of the Third and Fourth Term, to students in Business Administration.

Fisher Scientific Company Book Award. To a student in Term 3 of Chemical Technology who has shown outstanding performance in Organic Chemistry during the first year.

Canada Safeway Ltd. Bursary. $100 annually to an outstanding student in Meatcutting.

Canadian Information Processing Society Awards. Two $100 awards are available to students in Term 4 of the Computer Analyst/Programmer Course.

Canadian Jewellery Association Award. $100 to a superior student in the Watch Repair course.

The Canadian Restaurant Association Foundation. One bursary of $250 available to a student enrolled in the second year of Hotel and Restaurant Administration.

Certified General Accountants Association of Manitoba Award. One award of $150 given to the Business Administration student having the highest marks in Accounting subjects taken in terms 1 through 4. The award will be made in February.

Chemical Institute of Canada (Manitoba Chapter) Book Award. To a student in First Year Chemical Technology for outstanding progress.

Chevron Standard Ltd. Student Scholarships. Two at $300 each to students entering the Third Term of Electrical Technology and either Civil or Structured Technology. The selection will be based on scholarship, character, personality and a potential ability for leadership.

Codville Scholarship Fund. $100 awarded annually to a student in the Meatcutting course who is making favorable progress and who requires financial assistance.

Credit Grantors Association of Winnipeg. Two bursaries of $100 each, one available in each of the Third and Fourth Term, to students in Business Administration.

Fisher Scientific Company Book Award. To a student in Term 3 of Chemical Technology who has shown outstanding performance in Organic Chemistry during the first year.
Garland Commercial Ranges Limited Award. An annual award of $100 will be made to an outstanding student enrolled in the Cooking or Commercial Baking courses.

Gladys Bell Scholarship. The Gladys Bell Scholarship is awarded annually by her former associates and students to some deserving student in the Bookkeeping course.

Greater Winnipeg Gas Company Bursary. $750 awarded annually to a son or daughter of a G.W.G.C. employee attending Red River Community College, the University of Winnipeg, or the University of Manitoba.

Griffin Steel Foundries Scholarship. $700 to the following recipients in Term 3: $300 to a student in Instrumentation Technology, $200 to a student in Instrumentation Technology, $200 to a student in Electrical Technology.

The Grummet Memorial Fund Bursary. $125 to a Manitoba student entering a Diploma Nursing Course in the province. Applications available from the Manitoba Association of Registered Nurses.

IKOY Partnership Architects. One annual scholarship in the amount of $150 will be awarded to a Design & Drafting Technology student having the highest standing in his/her graduate thesis.

Imperial Oil Higher Education Awards. Imperial Oil Limited offers annually free tuition and other compulsory fees to all children or wards of employees and annuitants who proceed to higher education courses. Further information and application forms may be obtained from The Secretary, Committee on Higher Education, Imperial Oil Limited, 111 St. Clair Avenue West, Toronto 7, Ontario.

International Business Machines Company Limited Scholarships. Two at $100 each both available to students in the Second Term of the Computer Analyst/Programmer Course. plus one at $300 for a second year student in Electronics or Computer Technology and one at $500 for a Secretarial Science student.

The International Nickel Engineering Technology Bursaries. Six at $100 each to deserving students who are pursuing a full-time program leading to a diploma in engineering technology. They should be Canadian citizens, or possess landed immigrants status, of good scholastic record, with a demonstrated interest in extra-curricular affairs.

Kodak Canada Bursary. $150 to be awarded annually to the student in the Photographic Technician Course having the highest proficiency in photo techniques, leadership qualities, character and a potential for success in his or her chosen field.

Manitoba Association for the Education of Young Children Awards. Two at $50 each for students in the Child Care Services course.

Manitoba Association of Broadcasters Awards in Radio and Television. Two awards of $200 each will be presented to graduating Creative Communications students; one award for outstanding achievement in radio production and the other for outstanding achievement in television production.

The Manitoba Association of Registered Nurses. $100 to a student entering the 2nd year of the Diploma Nursing Course. Applications available from the M.A.R.N., 647 Broadway Avenue, Winnipeg 1, Manitoba.

Manitoba Business Teacher Education Association Awards. $25 award to a student entering the 2nd year of the Business Teacher Education course.

Manitoba Dental Association Award. Presented to a student in the Dental Assisting course.

The Manitoba Electrical Association Scholarship. $100 for a student in the Third Term of Electrical Technology.

Manitoba Electrical Association Scholarship Awards. $25 award to a student in each of the accounting, marketing and secretarial majors of the Business Teacher Education course.

Manitoba Hotel Association Bursary Award. Two awards of $250 each presented to Hotel and Restaurant Administration students on the basis of academic achievement, on-the-job performance, and financial need.

Manitoba Hydro Scholarship. $200 for a student entering Third Term of Electrical Technology.

Manitoba Jewellers Association Award. $150 for a superior student in the Watch Repair course.

Manitoba Science Fair Entrance Scholarships. Tuition fees for one year will be paid for two students entering technology courses. Application should be made to College Admissions Officer.

The Manitoba Society of Certified Engineering Technicians and Technologists Scholarships. Five at $100 each to the top student member entering Third Term in Civil, Mechanical, Electrical/Electronics Technologies.

The Manitoba Sugar Company Limited Bursary. $100 to a student entering Third Term of Mechanical Eng. Technology.

Manitoba Telephone System Scholarship. $100 to a student entering the Third Term of Electronic Technology.

Mohawk Oil Company Limited Award. $250 presented annually to Third Term Business Administration students who are in the marketing pattern.

Mutchmor Award. To a graduating student in the Industrial Arts Teacher Education Program for outstanding achievement in Industrial Arts Education.

Paul, Phelan and Perry Advertising Awards. $1,100 in awards for outstanding creative work in advertising by students in the Advertising Art and Creative Communications courses.

Press/Radio Scholarship Fund. Funds are available to enable needy students to further their education.

Pritchard Engineering Co. Ltd. Bursary. $300 to a student entering Third Term of a Mechanical Engineering Program.

Ralph Jamieson Award. Presented annually to an outstanding student in the Nuclear Medicine course.
Robin Hood Multifoods Ltd. $50 twice annually to students in Commercial Baking.

The Roning Group. $100 to a Technology student displaying the greatest proficiency in oral and written communication, and in report writing during Terms 1 and 2.

Royal Canadian Engineers Memorial Scholarships. Scholarships of up to $500 each are offered annually to students, both male and female, who are attending any educational course of study or practical training course beyond secondary school level. Scholarships are awarded on the basis of merit and need to the most suitable candidates from among those students who apply for the scholarship. A candidate to be eligible for the Royal Canadian Engineers Memorial Scholarship must be the child or grandchild of a person who served in any of the following components of the Canadian Armed Forces:

a) A Royal Canadian Engineers component of the Canadian Army during World War I, World War II, or under the United Nations in Korea, or
b) The Royal Canadian Engineers in the Canadian Army Regular or Permanent Force or Militia or Non-Permanent Active Militia for not less than three continuous years, or
c) The Military Engineers Branch of the unified Canadian Armed Forces for not less than three continuous years after the first day of February, 1966.

Sears Limited (Winnipeg Branch) Trophy. A miniature of the original trophy will be awarded annually to the student with the highest standing in the final year of the Graphic Arts course.

Shell Canada Ltd. Scholarship. Two at $200 each to students entering Term 3 of Chemical and instrumentation Technology.

Stan Helleur Memorial Awards. $100 plus a plaque to a first year Creative Communications student and a plaque to a second year Creative Communications student, both for outstanding achievement.

Society of Management Accountants Award. Three awards of $200 each to Term 4 Business Admin. students based on scholarship and need. The awards are usually made in February.

Stafford Foods Limited Award. $50 available annually to a student in the Commercial Cooking course.

Sunspun Food Service Award. $100 available annually to a student in the Commercial Cooking course.

Sybil McKay Inkster Bursary. Awarded annually to a female Metis student to enable her to further her education.

The T. Eaton Co. Canada Limited Bursaries. Two at $150 each; one available in each of the Third Term and the Fourth Term to students in Business Administration.

Templeton Engineering Scholarships. Two at $200 each to students entering the Third Term of Civil and Structural Technology.

UMA Holdings Limited Scholarships. Two at $150 each to students entering the Third Term of Civil and Structural Technology.

Winnipeg Club of Printing Craftsmen Award. $50 for proficiency in Graphic Arts.

Winnipeg Chapter of National Secretaries Assoc. (International). $100 Scholarship available to a student enrolled in the first term of Secretarial Science. Based on academic achievement in the Stenography program.

Winnipeg Community Centre of the Deaf Award. Two awards of $100 to hearing impaired students for outstanding achievement in a college course.

Winnipeg Dental Nurses & Assistants Association Award. Presented to a student in the Dental Assisting course.

Winnipeg Newspaper Guild Award. To the first year Creative Communications student achieving the highest grades in the Journalism subject.

The Winnipeg Opti-Mrs. Club. Two bursaries at $100 each available to students in Office Practices and Skills Courses under one year in duration.

The Women's Advertising and Sales Club of Winnipeg Bursaries. Two at $100 each; one available to Second Term students in each of Advertising Art and Commercial & Industrial Sales.

XANA Business and Professional Women's Association Award. $100 awarded annually to a female student in the second year of a college course.

Xerox of Canada Ltd. One $250 fellowship to a student in Electronic Technology, Industrial and Technology Division, one $250 fellowship to a student in Business Administration.

Zeller's Award. $100 to a Term Three Business Administration student who is planning to enter the marketing option in Term Four.
Student Services

Counselling

1. For students enrolled at R.R.C.C.

The Counselling Services office at the College offers a number of services which can help students gain the maximum benefit from their college experience. These services are provided to the main campus and Extension Centres, and include:

a. Personal Counselling, which gives students an opportunity to discuss, with a professional counsellor, a broad range of personal concerns. These concerns may include such things as ways of dealing with an urgent crisis, a chance to discuss health or psychological problems, a desire to become more aware of one's own lifestyle, a need to talk about academic difficulties, or a feeling that help is required in dealing with interpersonal situations or bureaucratic entanglement.

b. Vocational Educational Counselling whereby students are assisted in identifying interests and abilities pertinent to training and a career. Additionally, the Counselling Services office maintains an extensive file of occupational and educational information, including calendars from most Canadian colleges and universities. Interest and aptitude tests are available upon request. Individuals or groups of students can also receive assistance in job-seeking skills (resume writing, applications, Interview skills, etc.)

c. Financial Counselling, which can help students plan a general budget for the academic year or assist them in applying for Student Aid, Student Social Allowances, etc.

d. Referral. When a student has a problem or a concern which falls within the jurisdiction of a College office or a community agency, the Counsellors will try to help the student get to see the right person at the right place, with as few hassles as possible. Other assistance will be provided as needed.

2. For prospective students

Educational guidance and career counselling services are provided to members of the community who are interested in enrolling for courses at Red River Community College. Persons are assisted in determining interests, abilities, and goals, and in formulating plans for skill development and a career. Related concerns, such as financial assistance, academic upgrading, day care, etc. can also be dealt with.

An inter-library loan service, which enables the LRC to borrow materials from another library, is available to students. The LRC will also order books for the LRC collection at a student's request.

Tours of the LRC are generally given to classes as arranged by Instructors. A brief orientation to the LRC will be given any student on request at the reference desk.

Some phone numbers which might come in handy:
- Circulation — 632-2322 (322); Information and reference — 632-2233 (233); Audio-Visual — 632-2231 (231); Periodicals — 632-2301 (301).

The Learning Resources Centre is located in the centre of the complex. Among its facilities are: individual study carrels, leisure reading areas, group study and seminar rooms, periodical study areas, micro-film and photocopying room, an audio-visual storage room, a reference area, and a bibliography and index room.

The Learning Resources Centre is a vital resource for the support of both teaching and library research. Its comprehensive collection includes books, periodicals, newspapers, government documents, film and filmstrips, transparencies, and other audio-visual material and equipment in all major fields. Under its open-stack system, students and faculty have full access to almost all materials.

Students' marks, certificates or diplomas may be withheld until all library materials are returned, at the end of each term or trimester.

Health Services

A Registered Nurse is on duty 7:45 a.m. to 4:15 p.m. Monday through Friday. The Health Centre is located on the Mall Level between buildings "F" and "B".

The Health Services are available to all students in the College. Injuries occurring in the complex receive treatment in the Health Centre, and where medical aid is required outside the College, this is arranged. Short term care is available for ill students. Appointments are arranged with doctors, eye specialists, and dentists if these are deemed necessary.

Students who are subject to various chronic conditions such as diabetes, epilepsy, asthma,
etc., are asked to submit details to the Health Centre. This information is confidential, and does not become part of the student's permanent file. It is given voluntarily by the student. It is to his/her advantage that this information is available in the event that urgent care is required.

Physical Education and Athletic Programs

The college physical education and athletic programs will attempt to reach the following objectives:

a) to awaken an interest in a variety of activities usually associated with social and family life in our society;

b) to increase knowledge of those activities commonly found in the high schools;

c) to provide a framework of intramural competition within which each student and staff member might feel at ease competing with others of equal ability and interests; and

d) to provide, in cooperation with the Students' Association, leadership, facilities, and planning for competition against various teams from outside the college for the further education and satisfaction of the top athletes.

The college plays an active part in competition among the community colleges within Manitoba, and also among the community colleges of the western provinces. Competition in badminton, volleyball, curling, basketball, and hockey is available on an inter-provincial basis. Through the cooperation of the Student's Association, excellent coaches have been hired to coach these teams and to ensure the best possible learning situations for the players.

Credit Program in Physical Education

A maximum of two hours credit per term may be granted to students who enroll in special physical education credit classes. Courses such as Business Administration, Secretarial Science, etc., have certain optional course requirements. Physical education may be used to satisfy part or all of these requirements. One hour of credit will be granted for completing a class that meets once per week for the duration of the term. Although the optional requirements may only appear in the fourth term outline, credit hours taken in other terms may be banked and used to satisfy fourth term requirements.

Canada Employment Centre on Campus

(Room C-211 — Tower Building)

The Canada Employment Centre on Campus assists graduate and undergraduate students by providing:

- Occupational and employment counselling;
- Current labour market information and forecasts by occupation and area;
- Job information and registration for permanent, summer and part-time work;
- An "on-campus" recruitment program invites employers to interview graduating students — some employers interview undergraduates for summer employment;
- An employment library with self-help manuals and company literature;
- Assistance in resume writing, employment applications and employment interview preparations; and
- Seminars on Creative Job Search Techniques.

ALL STUDENTS, regardless of any sponsorship and including students who have enrolled on their own, are encouraged to take advantage of the services offered by contacting the office early in the academic year.
Continuing Education and Support Services Division

Adult Basic Education (ABE)
Employment Orientation for Women
Career Opportunities for Women on Mother's Allowance
Correspondence Courses
Resource Centre for Handicapped Students
Evening Program
Adult Basic Education

Purpose: To provide training in English, Mathematics, Physical Science and other subjects considered necessary to provide adequate academic upgrading or language improvement for those wishing to enter a trade or profession training program at a Manitoba community college, but who lack the necessary academic standing.

Entry Dates:
- 7-10 Upgrading Program: Continuous entry
  - Adult 11-A & Adult 11-B: September and February
  - Adult 12: April 1, 1980

English as a Second Language
- Continuous entry
- To be determined

Job Readiness Training
- To be determined

Course Length: Approximately five months

Admissions
Applicants are required to write a placement test to ensure that they will start their upgrading program at a level suitable to their skills.

Entrance Requirements
Applicants must be 17 years of age or older or by special permission.

Programs
The 7-10 Program will give you an opportunity to acquire academic and skills required to enter a course of your choice at a Manitoba community college where an adult 10 standing may be a course requirement.

Emphasis will be on mathematics and communications but science will be taught when required for occupational goals.

You will study:
1. Mathematics — problem solving using whole numbers, fractions, decimals, and percent; introductory algebra and geometry;
2. Communications — reading rate and comprehension, spelling and vocabulary, grammar, sentence and paragraph construction, and writing;
3. Physical Science — basic scientific concepts including temperature, heat, pressure, density, electricity, systems of measurement, and problem solving.

Basically, the teaching method is individualized. This method will permit you to work at your own speed through blocks of subject matter allowing you to take only those subjects necessary to pursue your occupational training goal. Instructors will be available to provide advice and assistance to students.

The 7-10 program will be approximately 20 weeks in length.

Adult 11-A (Science-Based) You will study:
1. Mathematics — algebra, trigonometry, geometry, logarithms, variation, slide rules;
2. Communications — development of writing, spelling, grammar, writing of paragraphs, letters, and research papers;
3. Reading development — speed and comprehension, vocabulary development; and
4. Physical Science — matter and energy, force, measurement, motion, atomic structure, energy and machines, etc.

The teaching method is individualized. You will work at your own speed through blocks of subject matter allowing you to take only those subjects necessary to pursue your occupational goals. Instructors will be available to provide advice and assistance to students.

The course is approximately 20 weeks in length.

Adult 11B (Arts-Based) You will study:
1. Business Mathematics — personal finance, loans and investments, taxation, business organization;
2. Communications — review of grammar, writing, and reading; writing letters, summaries, and research papers; and
3. Business and Consumer Fundamentals — levels of government, distribution of power, types of business and labour organizations, national income, supply and demand, monetary and banking systems, etc.

The teaching method is group instruction. Group instruction will allow you to follow the traditional methods of instruction with a preset pattern of learning and a planned completion date.

The course is approximately 20 weeks in length.

Adult 11C will prepare you to enter the Nursing One course at Red River Community College. Applicants must have a complete Grade 10 (or its equivalent); mature standing will be considered.

You will study:
1. Communications — grammar, usage, sentence structure, mechanics, paragraph writing, reading and spelling;
2. Mathematics — whole numbers, fractions, decimals, ratio and proportion, percent and measurement;
3. Science — Chemistry — introduction to chemistry, chemical substances, atomic organization, chemical reaction, acids and bases; physics — matter and energy, energy, heat, heat energy, mechanical energy; microbiology — introduction to microbiology; anatomy and physiology — introduction to anatomy and physiology.
Students will be required to complete a reading program and successfully achieve a minimum of Grade 10 level on the prescribed Nursing One reading test before acceptance to the Nursing One course will be granted.

Important: Applicants for Adult 11-C must also apply for Nursing One as early as possible as the Nursing course often is full months in advance of the entry date. You should apply for Nursing One before applying for Adult 11-C. Applicants are advised to check with the Admissions Office to see if the Nursing course is already full for September before enrolling in 11-C.

For further information on the 11-C program contact the Adult Basic Education Office.

**Adult 12**

This course is science-based and is a follow-up to the 11A, science-based program. It will prepare you to go into the two-year technology courses at R.R.C.C.

You will study:

i) Communications — grammar, work usage, sentence structure, mechanics, paragraph writing, vocabulary, reading and spelling;

ii) Mathematics — algebra, geometry, trigonometry, logarithms, variation, and slide rule;

iii) Physical Science — matter and energy, measurement, force, motion, energy and machines, atomic structure, kinetic theory, heat, electrostatics, etc.

The teaching method, like Adult 11A, is individualized.

**What Will I Study?**

**Occupational English** is designed to give landed immigrants or new Canadians a working knowledge of the English language. This course will give you adequate knowledge and skills in speaking, reading, and writing to enable you to obtain further educational training and/or employment. Each English level is approximately eight weeks in length.

The Basic Course will teach you the alphabet, basic vocabulary related to everyday living situations, basic grammar and mechanics, and elementary reading and writing. The Intermediate Course has two levels of training. You will learn vocabulary development, grammar and mechanics of writing, sentence construction of the words you have mastered in conversation, and newspaper and magazine reading. The Advanced Course will give you the fluency and ability to express yourself correctly in English, to develop knowledge in written composition and specific forms of writing for such things as applications, reports, and business letters. Training will be a combination of classroom instruction and work in language laboratories. The E.S.L. centre is located at 29 Des Meurons, Winnipeg.

Job Readiness Training is designed for individuals interested in gaining employment jobs which do not require extensive training. Jobs such as Sales Clerk, Building Maintenance and Janitorial Services are studied specific to the job.

You will study: (1) Work Adaptive Skills which will provide you with job attainment and retention skills; (2) Functional Skills, which will provide you with the skills necessary for entrance to a specific job; and (3) Work Experience, which will give you an opportunity to apply acquired skills and gain new experiences in a work setting.

The teaching method for the Adaptive and Functional skills will be group instruction. The Work Experience section will be individualized. Teaching techniques will involve lectures, demonstrations and work experience. Some students may obtain employment during the course.

These courses will run for approximately 8 to 12 weeks.

Contact your local Canada Employment Centre for further information on these courses.

**General Information**

**How Much Will It Cost?**

The tuition fee is $27 a month. In addition, there is a Students’ Association fee of $2 a month. Supplies for the Adult 11 and 12 courses will be approximately $65.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

**How Do I Apply?**

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

For further information and application forms contact the Adult Basic Education office, 1770 King Edward Street, Winnipeg R2R 0M5 or by telephoning 633-4570.

**By The Way . . .**

Classes are held, Monday to Friday, from 8:00 a.m. to 5:00 p.m.

ABE is offered at R.R.C.C., at extension centres at 200 Isabel Street, 29 Des Meurons, Neil Campbell School, 845 Goshple and at the Y.W.C.A., 447 Webb Place, and at various rural areas. It is also offered by Assiniboine Community College at Brandon, and Keewatin Community College at The Pas, Manitoba.

To find out more about this field of training, you should contact the ABE department or you could contact the Counselling Office, Room C-115, telephone 632-2335.
Employment Orientation for Women

Purpose: To provide women with the information, self-confidence and skills required for entering or re-entering the workforce. This course will assist clients who need to enter the labour market or who are under-employed to practice the skills required to get a job and to assess their situations in making a realistic and appropriate career decision.

Course Length: 9 weeks — Level I (Career Planning) 9 weeks — Level II (Job Search)

Am I Suited For This Course?
There is no minimum educational prerequisite, but you should be able to read and write at a Grade 8 or 9 level. This course is offered primarily for women who must seek employment as primary wage earners in their families. A general occupational or employment goal is required for Level II entrants. No prior skill training is required, but if you have had work experience and/or skill training, you may still apply. There are no restrictions because of age, marital status, education or economic status.

Entrance Requirements
Interested applicants must contact their local Canada Employment Centre, Programs Division, telephone 949-2500 or contact Adult Basic Education Extension Centre, 210-447 Webb Place (YWCA), Winnipeg (telephone 942-8981).

All applicants will be interviewed and given a course orientation. The interviewing committee will confirm your enrollment in either Level 1 or Level 2 of the program.

What Will I Study?
You will discuss and develop self-identity and confidence building skills by assessing personal interests, needs and preferences, by testing and evaluating goals, problem-solving and decision-making, and personal skill development in communication and assertiveness.

Career Exploration sections of the program will involve your gathering information about occupations, realistically appraising skills and abilities, examining the labour market to understand what is required, and making and testing your career choices.

Other topics you will study are Employer/Employee Expectations, Women in Employment, Lifestyling and Change, Understanding Yourself and Your Job and Decision Making.

What's In It For Me?
Upon completion of Level I, Career Planning, you will be prepared to make a decision for successful entry into employment or training, based on an examination of the labour market.

On completion of Level II, Job Search, you will be prepared for job searching, utilizing job search techniques and personal social skills.

By The Way...
Women's Employment Counselling Services are available as resources and support for this program and personal counselling through the course for those who require it. The Counselling Services at R.R.C.C. are also available and provide professional career and personal counselling.

There is a follow-up for all graduates after course completion.
Career Opportunities for Women on Mother’s Allowance (C.O.W.M.A.)

Purpose: To give women who are presently on Mother’s Allowance the opportunity to prepare themselves for the dual role of homemaker/employee and to assist them in selecting a career of their choice.

Entry Dates: October 1, 1979
January 7, 1980
April 21, 1980

Course Length: 12 weeks

*Contact the A.B.E. office to verify entry dates before applying.

Admissions

Am I Suited For This Course?
If you are a woman on Mother’s Allowance and want to become economically independent, you are likely a suitable applicant for this course.

What Will I Study?
The Personal Skills section of the course is designed to help you gain the confidence necessary to enter training or the labour force. You will study assertiveness training and confidence building, decision-making, values clarification, communication skills and personal barrier identification.

The Information and Issues component of the course is designed to familiarize you with your rights and to develop an awareness of protective legislation and community resources. There is discussion of issues that affect you as a woman, single parent, student and employee.

You will design a realistic vocational plan which will lead eventually to employment. The process includes self-search, occupational information, work exposure, training alternatives, job search techniques, barrier identification, goal setting and alternate routes.

General Information

How Do I Apply?
For application procedures and information contact your Employment Services Counsellor or your local Canada Employment Centre Office. Information can also be obtained by contacting the Adult Basic Education Office, R.R.C.C.

By The Way . . .
Arrangements are made with Income Security to cover the costs of child care and transportation. C.O.W.M.A. classes run Monday to Friday from 9:00 a.m. until 3:30 p.m.
Correspondence Courses

**Purpose:** To provide an alternate learning method for those individuals who are not able, or do not wish, to attend a learning institution on a full-time basis.

**Entry Dates:** Continuous entry

**Course Length:** Up to twelve months

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**Admissions**

An application form may be obtained by writing the Admissions Office, Room C-212, 2055 Notre Dame Ave., Winnipeg.

All correspondence applicants must apply for the specific correspondence subject, i.e. Correspondence: T14-C116 Communications and Report Writing, Correspondence: S02-M108 Mathematics, Correspondence: S02-C100 Communications or Correspondence: S02-S1000 Physical Science. A completed mark statement, transcript, etc. should accompany the application form. (This is for verification that prerequisites have been met.)

If you do not have the prerequisites, you may apply as a mature student.

**Mature Student Admission** — A mature student must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility.

**Program**

Each correspondence subject provides a complete independent study unit. Instructional materials for the course, including textbooks, are mailed to the student upon acceptance and payment of fee.

Each student is assigned a "tutor" who will respond to the work that is required throughout the course or subject and who will also mark the student’s final examination if an examination is required. The tutor also provides access to a convenient two-way communication and should be used to the correspondence student's advantage. Questions or concerns about the course or difficulties with the course may be discussed with the tutor. This not only assists the student, it provides the tutor with a better insight into the student's personal approach to the course and allows the tutor to tailor the course more appropriately to the student's individual needs.

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**What Will I Study?**

There are four correspondence subjects offered:

1) **T14-C116 Communications and Report Writing**
   - **Prerequisites:** English 300 or 301 (or its equivalent); mature student standing will also be considered.
   - **Fee:** $65.00
   - This course is designed to help individuals in technical occupations to communicate effectively in business and industry. Topics included are organizing one’s approach to writing; writing technical correspondence; technical writing style; informal reports; technical descriptions and instructions; formal reports; illustrating technical reports; letters of application and resumes; technical briefings and speeches; attending meetings and writing minutes.

2) **S02-M108 Mathematics**
   - **Prerequisites:** Manitoba Grade 9 or its equivalent and the ability to read and write the English language.
   - **Fee:** $50.00.
   - Development of problem-solving skills using whole numbers, fractions, decimals and percent; ratio and proportion; positive and negative numbers; square root; introductory algebra and geometry.

3) **S02-C100 Communications**
   - **Prerequisites:** Manitoba Grade 9 or its equivalent and the ability to read and write the English language.
   - **Fee:** $50.00.
   - Reading speed and comprehension development; spelling and vocabulary development; grammar; usage and mechanics; sentence and paragraph construction; expository paragraph writing.

4) **S02-S1000 Physical Science**
   - **Prerequisites:** Manitoba Grade 9 or its equivalent and the ability to read and write the English language.
   - **Fee:** $50.00.
   - Basic scientific concepts; measurement of forces; temperature; heat; pressure; density; work; electricity; systems of measurements; anatomy and physiology; problem-solving.
General Information

The fees for correspondence courses cover notes, assignments, textbooks and postage. The fees are payable upon registration in cash, by money order, or by certified cheque and may vary from course to course to allow for courses of a more complex nature, additional or more expensive textbooks, etc. In addition, courses are generally subject to fee increases each year to help offset increased administration costs and may be changed without notice.

Students are allowed six weeks from the date the course material is mailed to notify their tutor of their intention to withdraw from the course. Upon receipt of the course notes and text(s) intact, the student who withdraws will receive a refund for the course fee less a $10.00 administration charge.

Upon registration, the student will receive a package containing the course notes, assignments, and textbooks as applicable.

The student will have a period of twelve months to complete all correspondence subjects not on a specified time frame. If an extension is required, the appropriate department should be contacted and arrangements made.

When a student is ready to write a final examination, where required, the examination may be written in the student’s locality or at the College on a specified date. When the examination is written in the student’s locality:

1. the student must secure the help of a responsible person (e.g. teacher, lawyer, clergyman, etc.) who will agree to act as the student’s examination supervisor. This person must be approved by the Department Head of the subject area in which the examination is being written.

2. the student must complete an “Application for Examination” form and mail it to the appropriate department. The examination will then be sent to the student’s chosen supervisor at the time specified.

Red River Community College correspondence courses may be taken individually and generally may be recognized for subject credit in a specified program offered by the College on a full-time basis.
Support Services for the Hearing Impaired

The Hearing Impaired Program offers a Preparatory Program for deaf and hard-of-hearing students registered in both day and evening courses.

The program consists of 16 weeks of evaluation, career selection and academic preparation. Following this orientation, students who have selected the more challenging technical courses may continue academic upgrading in the Adult Basic Education courses.

Other services include interpreting, tutoring, notetaking, vocational counselling, personal and social counselling, vocational placement, speech and hearing services, manual communication training for students, manual communication training for instructors and limited supervised housing. Subjects available for these students are listed below.

Communications E11-C102

The subject is designed to assist the student and improve his communication skills. The course includes grammar, reading, and vocabulary development. Speech and auditory training are available to students upon request. The course is individualized to the student's needs.

Mathematics E11-M101

The subject is designed to develop mathematical skills related to the student's training course.

Science E11-P105

The subject is designed to introduce students to the basic concepts of science related to the student's training course.

Career Exploration and Life Skills E11-P103

The subject is designed to assess the student's aptitudes and vocational interests. By attending classes and receiving counselling services, the student goes through a process of evaluation, exposure and information gathering, job sampling and career assessment, and decision making and preparation into a training course.

Personal and Community Skills E11-P104

The subject is designed to give the student the opportunity to develop knowledge and skills necessary in daily community life. The course offers skills in personal budgeting and record keeping, personal financing, nutrition, insurance, law, etc.

Students are placed in individualized programs after a series of academic and vocational tests.

Student progress is evaluated in an on-going assessment of daily work, instructor observations and tests.

Support Service for the Physically Handicapped

The College offers support services to all physically handicapped students. Training courses may be altered to meet the individual needs of students.

Other services provided by the Resource Centre for the physically handicapped include personal, career and academic counselling, special assistance and tutoring, notetaking, typing services, special equipment, liaison with off-campus services, assistance with job search and life skills, and orientation.

For further Information on the Resource Centre for Handicapped Students contact:
Coordinator
Resource Centre for Handicapped Students
Red River Community College, D-102A
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone: (204) 632-2362
(204) 633-6329 TTY
Evening Program

Over 200 courses and over 500 subjects are offered in the evening program. These courses are available in the following areas:

Business and Administrative Studies
Computer Sciences
Applied Arts
Industrial and Technology
Health and Personal Care Services
Management Development
Special Courses/Subjects

See evening program calendar for a list of subjects.

Courses in the above areas are designed for the following purposes:
1. Credit courses on a limited basis for the Day Program.
2. Upgrading to the journeyman level and beyond.
3. Upgrading to meet the prerequisite of credit courses.
4. General interest courses.
5. Courses which will help the community keep abreast of technological changes.
6. Senior Citizens courses.

Courses are available three times during the academic year: Fall, Winter and Spring Trimesters.

Spring Trimester — 1980
—During regular office hours 9:00 a.m. - 4:00 p.m. through Friday, up to and including April 9, 1980. A special evening registration will be held Tuesday April 8, 1980, from 7:00 p.m. to 8:30 p.m. Spring Trimester classes start April 14, 15 and 19, 1980.

Winter Trimester — 1980
—During regular office hours 9:00 a.m. - 4:00 p.m. Monday through Friday up to and including January 9, 1980. A special evening registration will be held Monday January 5, 1981 from 7:00 p.m. to 8:30 p.m. Winter Trimester classes will start January 12, 13 and 17, 1981.

Spring Trimester — 1981
—During regular office hours 9:00 a.m. - 4:00 p.m. Monday through Friday, up to and including April 8, 1981. A special evening registration will be held Monday, April 6, 1981. Spring Trimester classes will start April 14, 15 and 18, 1981.

Fall Trimester — 1981
—During regular office hours 9:00 a.m. - 4:00 p.m. Monday through Friday, up to and including September 10, 1981. A special evening registration will be held Tuesday, September 8, 1981 from 7:00 p.m. to 8:30 p.m. Fall Trimester classes will start September 14, 15 and 19, 1981.

Winter Trimester — 1982
—During regular office hours 9:00 a.m. - 4:00 p.m. Monday through Friday, up to and including January 6, 1982. A special evening registration will be held Monday, January 4, 1982 from 7:00 p.m. to 8:30 p.m. Winter Trimester classes will start January 11, 12 and 16, 1982.

For detailed information concerning courses, diplomas or certificates request an Evening Program Calendar by phoning 632-2332 or writing Evening Program, Red River Community College, 2055 Notre Dame Avenue, Winnipeg R3H 0J9.
Applied Arts and Business Division

- Advertising Art
- Barbering
- Business Accountancy
- Business Administration
- Chef Training
- Clerical Bookkeeping
- Clerk Typist
- Commerce/Industry Sales and Marketing
- Commercial Baking
- Commercial Cooking
- Computer Analyst/Programmer
- Creative Communications
- Graphic Arts
- Hairdressing
- Health Record Technician
- Hotel and Restaurant Administration
- Library Technician
- Meatcutting
- Photographic Technician
- Stenography
- Secretarial Science
- Teacher Education — Business
  — Industrial
  — Vocational Industrial
- Watch Repair
Advertising Art

Purpose: To develop innovative and creative ideas in design and illustration for the print media, with reference to strict advertising and promotional guidelines.

Entry Date: September
Course Length: Two academic years (ten months each)

Am I Suited For This Course?
You should be a versatile artist with good manual dexterity, be able to produce drawings and sketches to requirements, have keen eyesight and a good imagination. Persistence is a virtue for advertising artists. You should also be able to work as part of a team and handle the pressures of the competitive world of advertising/marketing and creative design.

Entrance Requirements
A — 20 high school credits (Manitoba Grade 12 or equivalent);
   or
   — the equivalent of the above standing gained through an adult education program;
   and
B — A specified portfolio of art work; (Portfolio requirements are sent to the applicant after submission of application and academic requirements.) Portfolio specifications are changed annually.
   and
C — An interview by the Advertising Art Selection Committee.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their application, information on related experience which might assist the Admissions Officer in determining eligibility. All mature students must complete entrance requirements (B) and (C) above.

This Is a Special Selection Course. The Selection Committee interviews those applicants whose portfolios are considered acceptable to the Committee. (Applicants must have successfully completed entrance requirements A and B.) The Committee selects applicants who have the ability to express themselves in graphic form, (people who can draw) and who are interested in earning their living through advertising.
Course Outline

Term 1
B01-A101 Basics of Form
B01-A102 Principles of Drawing
B01-A104 Interpersonal Communications Ad Art
B01-A105 Art & Design History
B02-P118 Introduction to Fundamentals of Photography
B10-C109 Introduction to Advertising
T03-R163 Mechanical Drawing for Advertising Art

Term 2
B01-A201 Analysis of Form
B01-A202 Life Drawing
B01-A206 Advertising Design
B01-A207 Graphic Design
B01-A208 Reproduction Methods & Materials
B02-P217 Fundamentals of Photography
B10-C209 Intro to Advertising

Term 3
B01-A306 Advertising Design (Optional)
B01-A307 Graphic Design
B01-A308 Reproduction Methods & Materials
B01-A310 Sketching for Illustration
B02-P220 Advertising Photography I
B10-C308 Intro to Advertising
T03-R263 Mechanical Drawing for Advertising Art

Year 2

Term 4
B01-A406 Advertising Design (Optional)
B01-A407 Graphic Design
B01-A409 Advertising Illustration (Optional)
B01-A411 Rendering Techniques
B01-A413 Advertising Production
B02-P120 Advertising Photography
B13-S332 Human Relations

Term 5
B01-A506 Advertising Design (Optional)
B01-A507 Graphic Design
B01-A509 Advertising Illustration (Optional)
B01-A510 Rendering Techniques
B01-A513 Television Production (Optional)
B01-A515 Audio Visual Production (Optional)
B14-M231 Basic Marketing

Term 6
B01-A606 Advanced Advertising Design (Optional)
B01-A609 Advanced Advertising Illustration (Optional)
B01-A611 Advanced Rendering Techniques
B01-A613 Television Production (Optional)
B01-A614 Portfolio
B01-A615 Audio Visual Production (Optional)

What's In It For Me?
Upon successful completion of the Advertising Art course you will receive a Diploma from Red River Community College.

Graduates of this course have found employment as production artists, designers, illustrators, and art directors in retail stores, advertising agencies, design and production studios and newspapers. Others are working in television and film studios, and some are employed as free-lance artists.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies are approximately $600 for the first term and $200 for each of the subsequent five terms.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc., must accompany the application form before processing will begin. October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. A completed application is one for which all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the advertising field.

For information on Advertising Art and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

A one year Commercial Art course is offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Barbering

Purpose: To develop the skills, techniques and knowledge to meet the requirements of the provincial Department of Labour and Manpower and successfully obtain a Manitoba Barbering Licence. Skills and techniques include haircutting and styling, razor cutting, shampooing, shaving, facial massage, cold waving, colouring and the fitting of hairpieces.

Entry Date: September
Course Length: Ten months

Admissions

Am I Suited For This Course?

You should have well-coordinated hand and finger dexterity. Any feet, leg or back ailments would be a hindrance, since barbering requires that you stand for long periods of time. Good eyesight is an asset. You should have a pleasant personality and enjoy dealing with people. Work is indoors in clean, generally temperature controlled settings. Applicants must be prepared to work safely with toxic chemicals on occasion.

Entrance Requirements

A — 7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101, or 103 and Mathematics 100, 101, 102 or 103;

or

— the equivalent of the above standing gained through an adult education program;

and

B — good general health substantiated by recent medical, dental and chest x-ray certificates.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature students must complete entrance requirements B above.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course includes 400 hours of theoretical and 100 hours of practical training which will prepare you for the government exams necessary to obtain a barbering licence.

This course covers all aspects of hairstyling practiced in shops today. Men's styling is emphasized, but some techniques are suitable for both men's and women's styling.

The Barbering course has an Advisory Committee which includes shop owners and operators, former graduates, representatives from the Manitoba Master Barber-Stylist Association, the government and the College. Through this committee the College keeps in contact with the latest trends in industry.

What Will I Study?

You will be given lectures supported by audio-visual presentations, in haircutting, personal hygiene and sanitation. Several demonstrations on live models will be made by the instructor with student practice periods following the demonstrations. Fundamental cutting and shaving techniques are practiced on wooden model heads. This includes clipper over comb and shears over comb techniques. From here, you will practice on mannequins with hair and you will learn to work with the public in the College's barber styling shop. You will do conventional and long style haircuts, styling, shaving, facials, permanent waving, colouring and hairpiece fitting.

As a part of the course, you will attend hairstyling workshops and seminars and observe guest artists at work in the barber styling shop.
Course Outline

B07-B101 Hygiene and Sanitation
B07-B102 Barber Implements and Shaving
B07-B103 Conventional Hair Cutting
B07-B104 Men’s Hairstyling — MOD Trends
B07-B105 Skin & Hair — Disorders & Treatments
B07-B106 Cold Waving
B07-B107 Shop Management & Sales — Barbers’ Act
B07-B108 Men’s Haircoloring
B07-B109 Hairpieces
B07-B110 Final Grade in Theory
B07-B111 Final Grade in Practical Tests

What’s In It For Me?
Upon successful completion of the Barbering course, you will receive a Certificate from Red River Community College.

Graduates are qualified to work as hairstylists, hair colouring technicians, permanent wave technicians, scalp and hair specialists and facial experts.

As a graduate of the Barbering course, you will be required to write provincial government theory and practical examinations to receive a professional Improver’s Licence. One year of experience in a barber or style shop will automatically qualify you for a Journeyman’s Licence. An additional two years are required before you can obtain a Master’s Licence. Once a Master’s Licence in theory and practical has been obtained, you will be eligible to own and operate your own shop.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students’ Association fee of $2 a month. Books and supplies will cost approximately $250.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-115, telephone 633-8821.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the barbering field.

For information on Barbering and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

A Hairdressing course is offered at Assiniboine Community College, Brandon, and at Keewatin Community College, The Pas, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Business Administration

Purpose: To train students in a variety of subjects such as accounting, economics, statistics, marketing, law and data processing, and to provide graduates with the knowledge and skills needed to enter management training programs in industry and commerce.

Entry Date: September
Course Length: Two academic years (ten months each)

Admissions

Am I Suited For This Course?
You should have an interest in mathematics, statistics and accounting; enjoy working with people; and be able to solve both conceptual and personnel-related problems. Business Administration requires an above-average ability to learn, reason and make decisions. Verbal and written communication skills are also important. Applicants should enjoy working indoors in an office environment. Since this course is academically demanding, you should be willing to spend an average of two hours a night — in addition to your eight hours of daily class time — on assignments.

Entrance Requirements

— 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301 and Mathematics 300 or 301; or
— the equivalent of the above standing gained through an adult education program; or
— complete standing in the Adult 12 or Adult 11-B enriched programs at R.R.C.C. with the required subjects.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course is set up under the direction of a Course Advisory Committee which includes representatives from business, industry, government and the College. Through the Advisory Committee the College keeps in contact with the rapidly changing trends in industry.

What Will I Study?
Your first term will introduce you to the basics of business and will help you choose your optional subjects for the second year of training. You will be able to choose the administrative, accounting or marketing option. (The accounting option has proved to be the most academically demanding.)

During your first three terms of training, you will be required to study all subjects listed in the Course Outline.

Group projects will be emphasized during your second year. During your final two terms, you will take a subject called Business Seminar for which you will be required, together with other students in your group, to create a business.

You will propose a business enterprise, investigate it, accumulate statistics and other information and then actually make the company work. The project is as real as it can be without actually starting the company. After you have collected all your information and have tried to make your company work, you will be required to present your project at a public seminar at the College. This project will not only introduce you to the actual operation of a company, but it will give you the opportunity to make numerous contacts with people in industry.

Course Outline

Year 1
Term 1
B11-A191 Introductory Accounting A
B12-E171 Economic Principles I
B13-M612 Introduction to Business
B13-R710 Business Mathematics I
B13-R711 Business Mathematics II
B13-R712 Business Mathematics III
B14-M101 Basic Marketing
B16-E102 Study Skills
B16-E121 Oral Communications
Term 2
B11-A291 Introductory Accounting B
B12-A272 Economic Principles II
B13-R703 Financial Mathematics
B13-S501 Introduction to the Social Sciences
B14-M202 Basic Marketing
B16-E221 Basic Business Communications

Term 3
B11-A391 Introductory Accounting C
B12-E273 Economics III
B12-L360 Business Law
B13-R706 Statistics I
B13-S513 Human Behavior in Organizations
B16-S501 Introduction to Data Processing

Year 2
Term 4
Required Subjects
B13-R707 Statistics II
B16-E312 Report Writing
Optional Subjects
Students must elect any 4 of the following:
B11-A491 Intermediate Accounting A
B12-E471 Economic Issues in Canada
B12-E472 International Economics & Business
B12-L466 Business Law II
B13-R708 Business Finance
B13-S517 Introduction to Political Science (BA/SS)
B14-C401 Consumer Behavior
B14-S401 Personal Selling

Term 5
Required Subjects
B13-M615 Business Seminar I
Optional Subjects
Students must elect 5 of the following:
B11-A505 Cost Accounting A
B11-A591 Intermediate Accounting B
B12-E580 Labour Economics & Industrial Relations
B12-I491 Risk and Insurance
B13-M613 Personnel Studies
B13-R701 Production Management
B13-R705 Quantitative Methods
B13-R709 Securities Investment
B14-A502 Retail Accounting & Financial Management
B14-R602 Marketing Research
B15-S501 Computer applications in Business

Term 6
Required Subjects
B13-M602 Management
B13-M618 Business Seminar II
Optional Subjects
Students must elect 4 of the following:
B11-A605 Cost Accounting B
B11-A891 Intermediate Accounting C
B12-E670 Public Finance
B12-G889 General Studies
B13-M602 Management
B13-M614 Canadian Real Estate
B13-M616 Business Seminar II
B13-M618 Credit Management
B13-S515 Contemporary Issues in Canadian Society (BA/SS)
B14-A501 Advertising
B14-M601 Merchandising
B15-S601 COBOL Programming

What's In It For Me?
Upon successful completion of the two-year course, you will receive a Diploma from Red River Community College.

Credit Transfer. A graduate of R.R.C.C. with a diploma in Business Administration may complete the requirements for a Bachelor of Arts in Administrative Studies at the University of Winnipeg in approximately two additional years (1 1/2 additional credits). A graduate of the University of Winnipeg with an Administrative Studies major may complete the requirements for a diploma in Business Administration in just over the equivalent of one additional year at R.R.C.C. At the University of Manitoba, you will require approximately one year additional credit toward the 3-year program, depending on your academic standing.

You may also transfer credits to either the Certified General Accountant or the Registered Industrial Accountant programs.

There are at least four broad categories of management available in the labour market for Business Administration graduates. Personnel management is concerned with the selection, coordination and direction of employees; technical production management is responsible for the efficient production of goods and services; financial management involves raising, utilizing, and controlling the monetary capital of firms; and commercial management is involved with obtaining the materials for processing and subsequently selling the goods or services produced.

If you are interested in real estate, the course will give you enough background knowledge to enable you to write the Winnipeg Real Estate Board examinations.

Many graduates have been accepted into management training programs with department stores, banks, insurance companies and financial institutions. Graduates of the accounting option have found work in federal and provincial finance and taxation departments.

General Information
How Much Will It Cost?
The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $200 a year.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
For information on Business Administration and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

Business Administration and Public Administration are offered at Assiniboine Community College, Brandon, Manitoba.
Business Accountancy

Purpose: To develop a thorough working knowledge of double entry bookkeeping and accounting. Graduates are capable of maintaining a complete set of books for most businesses.

Entry Date: September
Course Length: Ten months

Admissions

Am I Suited For This Course?
You should have a good command of the English language and well developed communication skills. You should find problem solving enjoyable, have initiative, be able to persevere in detailed work and be at ease with numbers.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201 and Mathematics 200, 201 or 202;
- or
- the equivalent of the above standing gained through an adult basic education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course is set up under the direction of a Course Advisory Committee which includes representatives from business, government and the College. Through the Advisory Committee, the College keeps in contact with the rapidly changing trends in the accounting field.

What Will I Study?
Emphasis is given to the core subjects of accounting, mathematics, and business communications since such basics are of major importance in related areas of employment. Approximately 50 percent of your course time will be spent on accounting subjects. Emphasis will also be placed on data processing, business communications, mathematics, business skills, business law and management training. A considerable amount of time will be spent solving problems to test your understanding of theories and concepts.

The course will provide you with a thorough working knowledge of double entry bookkeeping and accounting. You will learn how to maintain a complete set of records for most kinds of businesses.
Course Outline

Term 1
B11-A101 Business Mathematics C
B11-A161 Financial Accounting A
B12-L159 Business Law I
B15-S102 Introduction to Data Processing
B17-E841 Business Communications

Term 2
B11-A204 Cost Accounting A
B11-A261 Financial Accounting B
B12-L269 Business Law II
B17-E852 Business Communications

Term 3
B11-A304 Cost Accounting B
B11-A361 Financial Accounting C
B12-O333 Principles of Organization & Management
B17-E843 Business Communications

What's In It For Me?

Upon successful completion of this course, you will receive a Certificate from Red River Community College.

Types of jobs available will vary depending upon your personal preferences, ability and previous job experience.

Some graduates have found employment as accountants in wholesale, retail or manufacturing firms, financial departments of banks and trust companies, private clubs, schools or professional sports associations. Public accounting offices accept graduates and there is a demand for well trained accountants.

Graduates may be eligible to receive some advanced standing in programs offered by The Society of Management Accountants or The Certified General Accountants' Association (Manitoba).

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee $2 a month. Books and supplies will cost approximately $150.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the accounting field.

For information on Business Accountancy and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

Bookkeeping is offered at Assiniboine Community College, Brandon. Clerical Bookkeeping, Office Machines (CBOM) Accounting is offered at Keewatin Community College, The Pas, Manitoba.
Chef Training

Purpose: To provide training beyond the basic level of food preparation and to provide advanced cooking skills. The graduate will have knowledge of nutrition and pastry work on an advanced level, buffet work, gourmet cooking, meatcutting, menu planning, and cost accounting.

Entry Date: September
Course Length: Eight months

Admissions

Am I Suited For This Course?
You must have completed a basic cooking course or have had two years of general cooking experience in industry. You will also be required to pass a written achievement test before being admitted to this course. Sanitation regulations require individuals who will be working with food to provide proof of good health. Therefore, a medical and dental certificate as well as a chest x-ray will be required before your training commences. As a chef, you will be required to work evenings and holidays.

Entrance Requirements
A — 7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101, or 103 and Mathematics 100, 101, 102 or 103, and Science 100, 101;

or

— the equivalent of the above standing gained through an adult education program;

and

B — completion of a basic cooking course or a minimum of two years of general cooking experience in the industry;

and

C — successful completion of the prescribed written achievement test;

and

D — submission of acceptable medical and dental certificates attesting to good health.

Although a Selection Committee interview is not a standard requirement, most applicants will be asked to attend an orientation/interview.

If you do not have the academic requirements, you may qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability.

Program

The course is set up under the direction of a Trade Advisory Committee which includes representatives from industry, labour, government, and the College. Through the Advisory Committee, the College keeps in contact with the rapidly changing trends in industry.

What Will I Study?
Most of your training will take place at the College in the College's baking or cooking kitchens and meatcutting shop where you will gain valuable practical experience. The academic skills acquired will be related directly to the industry. Your theory will be geared to cover the essentials and provide sufficient information to allow you to upgrade and advance to other areas of the food services field. In this course, you will have a certain amount of freedom in suggesting topics for your work. On-the-job training of up to four weeks is provided.

Chef Training, or Advanced Cooking, as it is commonly called, will give you training beyond the basic skills of cooking. It has also been designed to train you to hold a position which deals with the supervision of other staff members. You will learn nutrition and pastry work, buffet work, gourmet cooking, meatcutting, menu planning, and cost accounting.
Course Outline

Term 1
B11-A218 Accounting Chef
B13-S602 Introduction to the Social Sciences (HRA)
B30-A301 Kitchen Management
B30-A302 Garde Manger
B30-A303 Patisserie
B30-A304 Practicum
B30-A305 Nutrition

What's In It For Me?
Upon successful completion of the Chef Training Course you will receive a Certificate from R.R.C.C.
Restaurants, hotels, institutions, specialty houses, chain stores, catering companies, resorts, clubs, lodges are able to provide year-round employment to the qualified and motivated graduate.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $100.
Applicants may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-115, telephone 632-2335.
The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

By The Way . . .
To find out more about this occupation, you could contact people in the food services industry. For information on Chef Training, and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.
Other courses of interest to you might be Commercial Cooking, Commercial Baking or Meatcutting. These courses are all offered at R.R.C.C.
R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.
Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.
Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.
Clerical Bookkeeping

Purpose: To develop business skills and a knowledge of office procedures with emphasis on bookkeeping, the operation of business machines, and typing.

Entry Date: September
Course Length: Ten months

Am I Suited For This Course?
A pleasant temperament and a willingness to meet the public are important assets for this course. You should be able to follow directions and work with limited supervision.

Finger dexterity is necessary since typing, keypunching, and the use of a calculator are required. Because Clerical Bookkeeping emphasizes accounting, the ability to solve problems, use mathematical skills, and give attention to detail, is essential.

Entrance Requirements
— 14 high school credits (Manitoba Grade 11 or equivalent) including English 200, 201 or 203 and Mathematics 200, 201 or 203;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College is required for subjects (English and Mathematics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

What Will I Study?
The emphasis during training is on bookkeeping. Other subjects you will study are Typing, Business Machines, Business Communications, Office Procedures, and Business Mathematics.

The course includes the development of speed and accuracy in the operation of calculators, accounting machines, and data entry equipment.

All your training will take place at the College. R.R.C.C. has a model or simulated office where you will be exposed to a regular office environment. It will be similar to the experience you would gain if placed in industry for on-the-job training.

Program
Clerical Bookkeeping has two methods of instruction—individualized or group. Individualized instruction is especially suited for the person who has had previous business training and wishes to complete the course in a shorter time. Group instruction will follow the traditional methods of instruction with a preset pattern of learning and a planned completion date.

The Business Education Section has an Advisory Committee with representatives from business and professional organizations, such as the National Secretary's Association and the Association for Administrative Assistants. Through this committee and instructor contact with business, the College keeps up to date with the current standards required in the business community.
Choose one of the following optional subjects
B18-D533 Machine Transcription
B17-K551 Keypunch
817-C551 Consumer Education

What's In It For Me?
Upon successful completion of this course you will receive a Certificate from Red River Community College.

Employment opportunities are available in the accounting departments of large business firms where work is of a specialized nature. You could be employed in accounts receivable, accounts payable, payroll, invoice or data processing, bookkeeping, or accounting equipment departments.

You may also find work in a small business firm where you would perform a variety of functions including preparing and typing monthly statements to customers, operating adding or calculating machines, handling cash, preparing the company's payroll, and paying accounts.

Course Outline

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Textbooks and supplies could cost approximately $160.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the bookkeeping field.

For information on Clerical Bookkeeping and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

Assiniboine Community College in Brandon offers a Bookkeeping course and Keewatin Community College in The Pas offers a Clerical Bookkeeping — Office Machines, Accounting course.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Clerk Typist

Purpose: To develop proficient typing and basic clerical skills which will enable the graduate to function in an office situation.
Entry Date: September
Course Length: Six months

Admissions

Am I Suited For This Course?
A pleasant temperament and a willingness to meet the public are important assets for this course. Finger dexterity is necessary since typing is a major subject in this course. Neatness, organization, good grammar and accurate spelling are essential. You should be prepared to follow directions and be able to work with limited supervision.

Entrance Requirements
— 7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101 or 103 and Mathematics 100, 101, 102 or 103;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the entrance requirements, you may qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

Students can choose one of two methods of instruction — individualized or group. Group instruction follows the traditional method whereby students follow a preset pattern and completion date. In the individualized classroom, students proceed according to their own rate of learning and can complete the course in a shorter time.

The Business Education section has a Course Advisory Committee which includes representatives from business and professional organizations such as the National Secretary’s Association and the Association for Administrative Assistants and the College. Through this committee and instructor contact with business, the College keeps up to date with the current standards required in the business community.

What Will I Study?
Emphasis during training will be on typing. Other subjects studied will be Business English, Office Procedures, and Business Mathematics (with the use of calculators).

About 75 percent of your time will be spent on practical work and the remainder on theory.

All your training will take place at the College. R.R.C.C. has a model or simulated office where you will be exposed to a regular office environment. It will be similar to the experience you would gain if placed in industry for on-the-job training.
The following may be available as additional subjects in either term:
B17-K551 Keypunch
B18-D533 Machine Transcription

What's in It For Me?
Upon successful completion of this course you will receive a Certificate from Red River Community College.

Previous graduates of the Clerk Typist course have found employment in a variety of jobs, from receptionists or filing clerks to straight copy typists.

You may also find employment in a small office where you would be expected to perform a number of general office duties.

If you wish to further your training, you may be able to transfer some credit to the Stenography or Clerical Bookkeeping courses.

Course Outline

Term 1
B16-T401 Basic Typing
B17-E551 Communications
B17-M451 Maths/Machines
B18-F331 Filing

Term 2
B16-T402 Intermediate Typing
B17-E452 Communications
B17-M452 Maths/Machines
B16-O531 Office Procedures

The following may be available as additional subjects in either term:
B17-K551 Keypunch
B18-D533 Machine Transcription

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $100.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-118, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the typing field.

For information on Clerk Typist and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

Bookkeeping, Stenography, and Typing courses are offered at Assiniboine Community College, Brandon. Clerk Typist is offered at Keewatin Community College, The Pas.

Other courses of interest to you might be Clerical Bookkeeping, Business Accountancy, or Stenography. These courses are all offered at R.R.C.C.
Commerce/Industry
Sales & Marketing

Purpose: To develop the knowledge and skills necessary to become a successful salesperson. The graduate will be able to deal effectively with people and to understand, organize, and solve sales problems in marketing programs and situations.

Entry Date: September
Course Length: Ten months

Admissions

Am I Suited For This Course?
It is important that you enjoy working with people since selling is a people-oriented career. You should be a self-motivator and be interested in helping people solve problems. You should have the ability to communicate effectively, both verbally and in writing.

Entrance Requirements

— 20 high school credits (Manitoba Grade 12 or equivalent);

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course is set up under the direction of a Course Advisory Committee which includes representatives from commerce and industry, government and the College. Through the Advisory Committee the College keeps in contact with the rapidly changing trends in the industry.

What Will I Study?

The ten-month course is divided into three terms (trimesters) and stresses various aspects of the marketing process. The first term emphasizes the organization of business as a fundamental groundwork. Priority during the second term is on skill building, so that by the end of Term 2, you will have basic selling skills. At the completion of Term 3 you will have reached the “creative” selling stage. Creative selling requires the salesperson to solicit new business for a company. Training emphasizes the solving of a client’s problems through the sale of products and/or services using a customer-oriented approach.

Practical subjects such as business mathematics and accounting will broaden your scope of learning, and communications and human behavior will help you in understanding how to relate to people. Merchandising, advertising and promotion are stressed since these subjects must be understood by every salesperson and are essential in any marketing program. Business training sessions and simulation exercises on decision making in business are used to help students apply theory to the work environment.

There are different levels of skills required in the sales field — from taking orders in a store to acting as a regional representative for a company. For this reason, each term is essentially a comprehensive course in itself and is organized so that a student may complete one term and return sometime in the future to complete other terms of the course.

Included in the course are basic and advanced in-service training. One afternoon a week is devoted to special films, guest speakers from industry and tours of manufacturing plants and business firms. You will spend one week in the second term and another week in the third term with companies, familiarizing yourself with business procedures. In the third term, special projects will require contact with companies for information about a product or service which you will use frequently in a simulated sales situation.
The resource material used in the course includes professionally designed training programs which companies buy and use to update the skills of their own sales force.

Although emphasis is on practical training, this is an academically demanding course which requires assignments such as case studies, reports and presentations. Preparation of these and other assignments will require time after class hours.

Course Outline

Term 1
- B13-S508 Human Behavior for Salesmen (C&I)
- B14-A115 Accounting
- B14-B116 Business Mathematics
- B14-C114 Basic Marketing and Customer Behavior
- B14-T118 "In Business" Training
- B16-E123 Sales Communications

Term 2
- B12-E292 Economics
- B13-S509 Psychology of Selling (C&I)
- B14-M213 Advanced Marketing
- B14-S211 Basic Salesmanship
- B14-T218 Advanced "In Business" Training
- B16-E202 Advanced Sales Communications

Term 3
- B14-M313 Marketing Management
- B14-P319 Advertising and Promotion
- B14-R312 Merchandising
- B14-S311 Advanced Salesmanship
- B14-T318 "In Business" Sales Training
- B14-D300 Marketing Decision Simulation

What's In It For Me?

Each term of the course is a comprehensive program in itself, but represents a different level of achievement. A weighted grade point average of 2.0 is required in Term I and II for progression to subsequent terms. Students who pass all subjects in Term I but are not continuing in Term II are eligible for a Basic Business Certificate. Similarly, a pass in all Term II subjects earns a Basic Sales Certificate for students not entering Term III. Graduation from the complete course will give you a Commercial and Industrial Sales Certificate.

Previous graduates have worked for engineering companies, pharmaceutical houses, manufacturers of industrial equipment and suppliers of raw materials. Other graduates are selling and appraising real estate, selling office equipment, working in large retail stores at the merchandising level and working in newspaper circulation departments.

For advanced training, you could take evening classes to further develop your background as a managerial candidate. There are programs at R.R.C.C. or at a university which will advance your training in accounting, business administration or creative communications.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Textbooks and supplies will cost approximately $210.

Students may apply for financial aid as available from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2955 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the sales and marketing field.

For information on Commerce/Industry Sales & Marketing and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

By The Way -

To find out more about this occupation, you could contact people in the sales and marketing field.

For information on Commerce/Industry Sales & Marketing and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

Red River Community College is operated by the

MANITBA
DEPARTMENT OF EDUCATION
with financial assistance provided by the
Government of Canada
Commercial Baking

Purpose: To develop basic skills in the use of tools and machinery, knowledge and understanding of sanitation requirements, storage of ingredients and temperature control used in commercial baking.

Entry Dates: September and February

Course Length: Five months

Am I Suited For This Course?

You should enjoy working with your hands and have good manipulative skills. Since you will have to stand on your feet most of the day and provide proof of good health as required by sanitation regulations, you must be in good physical health. Commercial Baking can be very demanding as it involves working long hours, working evenings and holidays and dealing with a variety of people.

Entrance Requirements

A — 7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101 or 103, Mathematics 100, 101, 102 or 103, and Science 100, or 101; or

— the equivalent of the above standing gained through an adult education program;

and

B — submission of chest x-ray and medical and dental certificates indicating proof of good health.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admissions — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Communication, science and the basics of baking will also be studied.

Program

This course has a Course Advisory Committee which includes representatives from the food services industry and instructors from the College. Through this committee the College keeps up to date with the current standards required by the industry and prospective employers.

What Will I Study?

Approximately 75 percent of your learning experience will be spent gaining practical experience. The academic skills acquired will be related to the commercial baking industry.

Most of your training will take place at the College in the College's baking shop where you will gain practical experience. However, you will also spend up to four weeks on-the-job training where you will gain actual job experience. You will not be paid for this job placement in industry, but students have found this valuable in making employment contacts.

You will receive knowledge and develop skills related to breads, rolls and sweet dough, plain and sweet pastry, Danish and puff pastry, sanitation, safety equipment usage and inspection, cookies and short breads, and cake making. Communication, science and the basic of baking will also be studied.
Course Outline

Term 1
B31-B111 Commercial Baking On-The-Job Training
B31-B112 Breads, Rolls & Sweet Dough - Practicum
B31-B113 Breads, Rolls & Sweet Dough - Theory
B31-B114 Plain and Sweet Pastry Practicum
B31-B115 Plain and Sweet Pastry Theory
B31-B116 Danish and Puff Pastry Practicum
B31-B117 Danish and Puff Pastry Theory
B31-B118 Intro to Sanitation, Safety, Equipment Usage
B31-B119 Cookies and Short Breads Practicum
B31-B120 Cookies and Short Breads Theory
B31-B121 Cake Making Practicum

What's In It For Me?
Upon completion of this course, you will receive a Certificate from Red River Community College. You will begin your employment as a baker's helper and may advance to a position as a competent tradesperson within approximately one year. Opportunities for employment exist at corner store bakeries and in-store bakeries of small stores or larger food store chains.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $100.
The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.
Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.
Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the baking field.
For information on Commercial Baking or other College courses, contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.
R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Commercial Cooking

Purpose: To provide training in the basic skills necessary to function at an entrance level in the field of cooking through a blend of classroom instruction and off-campus work experience.

Entry Dates: September, October, January, February

Course Length: Twelve months

Am I Suited For This Course?
You should enjoy working with your hands and have good manipulative skills. Because you will have to stand on your feet most of the day and provide proof of good health as required by sanitation regulations, you must be in good physical health. Commercial Cooking can be very demanding as it involves working long hours, working evenings and holidays and dealing with a variety of people.

Entrance Requirements
A — 7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101, 102 or 103, Mathematics 100, 101, 102 or 103, and Science 100 or 101;

or

— the equivalent of the above gained through an adult education program;
and

B — submission of chest x-ray and medical and dental certificates indicating proof of good health;
and

C — an interview by a special selection committee.

If you do not have the academic requirements you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and science) will likely be necessary. All mature student applicants must complete entrance requirements B and C above.

Admissions

This is a Special Selection Course. The committee looks for applicants who want to work in the hospitality industry, know what is involved in terms of hours and days worked, have some working or vocational experience in the field, and meet the minimum grooming requirements set down in government health by-laws.

Eligible applicants are admitted on a first-come, first-served basis.

Program

The Commercial Cooking course is designed in cooperation with the hospitality industry and strives for an effective blend of classroom instruction and off-campus work experience. Cooperative education goes beyond the traditional on-the-job training programs in that the student spends alternate periods in the work force and is paid a salary by the participating company. You will spend four two-month terms in the College and two alternate two-month terms working in industry.

This course has an Advisory Committee composed of representatives from the food services industry and the College. Through this Committee the College keeps up to date with the current standards required by the industry and prospective employers.

What Will I Study?
As a Commercial Cooking student, you will spend two-thirds of your learning experience at the College, where you will attend classes as a full-time student. You will spend the balance of the course hours as a full-time employee in Manitoba restaurants, gaining work experience and course credit.

You will be instructed in the basic skills necessary to function at the entrance level in the field of cooking. You will study menu planning; measures — recipes and food costing; cooking methods for stocks, soups and sauces; the preparation of vegetables, sandwiches, salads, appetizers, meats and buffets; baking of breads, pastries, pies, cakes, cookies and desserts; breakfast cookery; beverages; nutrition and communication.
Course Outline

Term 1
B32-C101 Aspects of Kitchen Mgmt
B32-C104 Basic Cooking Theory
B32-C105 Basic Cooking Practicum
B32-C205 Gardemanger Theory
B32-C206 On-The-Job Training
B32-C207 On-The-Job Training
B32-C208 Restaurant Cooking
B32-C210 Restaurant Cooking
B32-C211 Gardemanger Practicum
B32-C212 Pastry Shop Theory
B32-C213 Pastry Shop Practicum
B32-N507 Nutrition
T14-C502 Communication

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Uniforms, books, and supplies will cost approximately $90.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the commercial cooking field.

For information on Commercial Cooking and other College courses, contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

Upon successful completion of this course you will receive a Certificate from Red River Community College.

Being part of a huge, ever-expanding service industry and being among the nation's biggest employers, this field provides a high level of employment. Because a great deal of work is done evenings or weekends, a graduate must be prepared to work all hours. Employment may be found in restaurants, hotels, institutions, specialty houses, catering companies, resorts, clubs or lodges.

What's In It For Me?

To find out more about this occupation, you could contact people in the commercial cooking field.

For information on Commercial Cooking and other College courses, contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

First Issue: Sept. 79

Red River Community College

MANITOBA DEPARTMENT OF EDUCATION

with financial assistance provided by the Government of Canada
Computer Analyst/Programmer

Purpose: To provide students with training in problem recognition, analysis and solution as applied to business data processing. The graduate will be familiar with a variety of computer languages, the principles of accounting and advanced topics of data processing.

Entry Dates: September and December

Course Length: Two academic years (ten months each)

Admissions

Am I Suited For This Course?

You should have a sound aptitude for logical reasoning, mathematical ability and analytical thought. Patience and persistence are two traits necessary for success as an analyst/programmer while keypunching requires manual dexterity.

Entrance Requirements

A — 20 high school credits (Manitoba Grade 12 or equivalent) including Mathematics 300 or 301 and English 300 or 301;

or

— the equivalent of the above standing gained through an adult education program;

and

B — successful completion of the course entrance test (Computer Programmer Aptitude Battery).

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature student applicants must complete entrance requirement (B) above.

Program

The course is designed to train you to become proficient in computer programming and systems analysis.

This course is set up under the direction of a Course Advisory Committee which includes representatives from industry, government and the college. Through the Advisory Committee the college keeps in contact with the rapidly changing trends in business.

What Will I Study?

Because computers cannot operate by themselves, people are trained to program them. This will be your job as a computer/analyst programmer.

The computer languages you will learn will be Assembler, COBOL, FORTRAN and RPGII. Other important subjects will be systems analysis and design and advanced computer topics such as operating systems, telecommunications and data base.

In order to understand the business applications for which you will be writing programs, subjects such as economics, accounting, business management, communications and financial mathematics have been integrated into the course.

Before actually programming a computer, you will learn how to utilize your analytical skills. There are several steps which you will follow. First, you must recognize that there is a problem using a computer. Next you must analyze the problem and explore every possible condition that may arise. A solution for each condition must be formulated and then you will translate your solution into a set of computer instructions in one of the computer languages you will learn. You will then have a written program and this program will then be fed into the computer. Your problem will be solved on the basis of a computerized analysis of the data compiled and programmed into the machine. You will then interpret the results and write reports where necessary.
Course Outline

Year 1

Term 1
B11-A191 Introductory Accounting A
B13-M611 Introduction to Business (CAP)
B15-C101 Data Processing I
B15-M102 Maths of Finance
B16-E129 Communications I

Term 2
B11-A291 Introductory Accounting B
B12-E278 Economics Principles I
B13-S505 Humanistic Psychology (CAP)
B13-C201 Data Processing II
B16-E289 Advanced Communication I

Term 3
B11-A392 Introductory Accounting C (CAP)
B12-E377 Economic Principles II
B15-C301 Data Processing III
B15-C303 Operating Systems
B15-C307 Systems Analysis and Design I

Year 2

Term 4
B11-A681 Managerial Accounting (CAP)
B15-C401 Fortran
B15-C402 Report Program Generator A
B15-C403 Disk File Concepts
B15-C407 Systems Analysis and Design II
B15-M301 Statistics

Term 5
B15-C501 Report Program Generator B
B15-C505 Computer Topics I
B15-C508 Co-operative Project in Industry I
B15-C507 Business Applications
B15-M501 Quantitative Methods I

Term 6
B15-C503 Data Structures
B15-C605 Computer Topics II
B15-C608 Co-operative Project in Industry II
B15-C607 Data Base
B15-M601 Quantitative Methods II

What’s In It For Me?

Upon successful completion of this course you will receive a Diploma from Red River Community College.

Job opportunities are available in many aspects of computer programming or systems analysis. Previous graduates are employed with computer manufacturers, government and many other areas which require computers for business purposes such as accounts payable, accounts receivable, payroll, inventory, general ledger, sales order forecasting and credit authorization.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Student Association fee of $2 a month. Books and supplies will cost approximately $150 for each year.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way ...

To find out more about this occupation, you could contact people in the computer field.

For information on Computer Analyst/Programmer and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Admissions

Am I Suited For This Course?
You will need to be talented and motivated in the area of creative writing. Your talent need not be fully developed, but you should have a flair for expressing yourself in writing. You must be physically mobile as you will be sent out on reporting assignments to school boards, the Legislature, City Hall and police court.

Entrance Requirements
A — 20 high school credits (Manitoba Grade 12 or equivalent);
or
— the equivalent of the above standing gained through an adult education program;
and
B — Submission of a two-page autobiography and samples of extracurricular writing, published or unpublished;
and
C — An interview with the Creative Communications Selection Committee;
and
D — An entrance test (This test is given immediately after the interview.);
and
E — Completion of a home assignment.

This Is a Special Selection Course. The Selection Committee selects applicants on the basis of writing talent, motivation and suitability for the kinds of creative communication careers available in the labour market. Applicants will be given a home assignment (Entrance Requirement E) at the time of their interview. This assignment must be submitted within two weeks from the date of the interview.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College may be necessary. All mature student applicants must complete Entrance Requirements B, C, D and E above.

Program
This course is set up under the direction of a Course Advisory Committee which represents employers, the media, government and the College. Through the Advisory Committee the College keeps up to date with the changing trends in the media.

What Will I Study?
This course is designed to train you as a generalist in many areas rather than as a specialist in one area of writing.

Emphasis during your two years of training will be on advertising, public relations, journalism, television and radio. Support subjects such as creative writing, editing, design and layout, oral communications and photography will broaden the skills you will require for a career in the communications industry. Cultural history, economics, psychology, sociology and political science provide the background information necessary for a writer in any field.

The course is practical, and you will be doing projects similar to those you can expect to do when employed in the industry.

You will develop total advertising campaigns, from research to analysis and strategy and finally to the preparation and production of copy for the advertising campaign. Public relations will require that you research, plan, implement, and evaluate practical projects; you will write journalism articles, editorials, news items and scripts for radio and television productions. The work with television and radio will be conducted at the College television studios; work in this area outside the College will be done using portable videotape equipment. You will also visit various radio stations in Winnipeg to gain on-the-job experience.

During your second year you will spend two two-week periods in on-the-job training.
Course Outline

Year 1

Term 1
B10-C121 Creative Writing
B10-C122 Introduction to Journalism
B10-C123 Introduction to Marketing and Advertising
B10-C124 English and Composition
B10-C125 Oral Communications
B13-S518 Introduction to Political Science (Cr Comm)
B16-E151 American Literature

Term 2
B01-A209 Design & Graphics for Creative Communication
B10-C221 Creative Writing
B10-C222 Journalism
B10-C224 Advertising
B10-C225 Oral Communications
B10-C226 Introduction to Television
B13-S519 Introduction to Sociology (Cr Comm)
B16-E251 English Literature
B16-E252 Canadian Awareness

Term 3
B10-C321 Creative Writing
B10-C322 Journalism
B10-C324 Advertising
B10-C332 Introduction to Public Relations
B10-C338 Television Workshop
B12-E375 Economics
B13-S524 Canada and the World
B16-E351 Canadian Literature

Year 2

Term 4
B10-C422 Journalism
B10-C424 Copywriting
B10-C432 Public Relations
B10-C435 Introduction to Radio
B10-C438 Television
B13-S520 Introduction to Psychology (Cr Comm)
B16-E451 Manitoba Literature

Term 5
B02-P218 Photo Journalism Optional
B10-C511 Film Optional
B10-C540 Advanced Writing Project
B10-C542 Business Practice
B10-C566 Journalism Option
B10-C577 Advertising Option
B10-C588 Broadcast Option
B10-C590 Public Relations Workshop Optional
B10-C593 Free Lance Writing Optional
B10-C594 Mass Media & Society Optional
B16-E553 Theatre Arts Optional
B16-E552 Children's Literature Optional

Term 6
B10-C611 Film-Making Optional
B10-C640 Advanced Writing Projects
B10-C666 Journalism Option
B10-C677 Advertising Option
B10-C688 Broadcasting Optional
B10-C690 Public Relations Workshop Optional
B10-C693 Free Lance Writing Optional
B10-C694 Mass Media and Society Optional
B13-S516 Contemporary Issues in Canadian Society (Cr Comm) Optional
B16-E612 Report Writing
B16-E652 Children's Literature
B16-E653 Theatre Arts Optional

What's In It For Me?
Upon successful completion of this course you will receive a Diploma from Red River Community College.
Past employment records show that a high percentage of graduates are working in course-related fields in Manitoba and other Canadian provinces.
Graduates of this course have found employment as reporters for daily and weekly newspapers; copywriters for advertising agencies, radio stations and television stations; and public relations personnel for various companies and government agencies.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $160 for the second academic year.
Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.
Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the creative communications field.
For information on Creative Communications and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.
R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

First Issue: Sept 79
By (C)
Fees & Content subject to change without notice
Red River Community College is operated by the
MANITBA
with financial assistance provided by the Government of Canada
Graphic Arts

Purpose: To develop a working knowledge of the printing trade. The graduate will be skilled in the following operations and processes — camera and paste up, typography and phototypesetting, and presswork and bindery.

Entry Date: September
Course Length: Ten months

Admissions

Am I Suited For This Course?
You should be mechanically inclined and have good eyesight and manual dexterity. Although you may require some artistic ability to look at printed materials and know that it is well produced, this is not an Art course. This is a course which will train you to work in the printing industry. You will require a solid background in mathematics and English grammar and usage in order to successfully complete the entrance tests and the course.

Entrance Requirements
A — 14 high school credits (Manitoba Grade 11 or equivalent) including English 200, 201 or 203 and Mathematics 200, 201, 202 or 203;

or

— the equivalent of the above gained through an adult education program

and

B — Successful completion of the Graphic Arts test with a minimum of 60 percent;

and

C — An orientation session with Graphic Arts staff members.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the requires subjects (English and mathematics) will likely be necessary.

All applicants must complete entrance requirements B and C.

Note: Although September is the primary entry date, small numbers of students may enter the course (space permitting) at the commencement of second and third terms (December and March). Students entering at these times will complete the course in the following academic year.

Program

Course delivery follows a block system in each of the three specific areas of instruction: Camera and darkroom, typography and typesetting, and presswork and bindery.

This course will be set up under the direction of an Advisory Committee composed of representatives from management and labour in the printing industry and from the College.

What Will I Study?

During the camera block of instruction, you will learn to organize written, drawn and photographic material to make it ready for camera reproduction. You will learn to photograph the material, produce a negative, and then to produce a plate from the negative for reproduction on the printing press.

In the paste-up section, you will learn how to prepare mechanical artwork consisting of type blocks, pictures, ruling, etc.

Typography involves designing and typesetting of written material. You will learn the hot metal casting systems and the advanced methods of typesetting photographically (computerized).

Prior to learning presswork, you will learn how to assemble negatives, layout the forms, and make plates for the press. During the presswork block you will learn how to reproduce good printed copies of written, drawn, or photographic material. Bindery will teach you to put together and collate the printed material.

Approximately 85 percent of your class time will be spent doing practical work with the remainder spent on theory.

You will also study the English language, punctuation and word division, so you will be able to proofread, set copy and correct errors in copy submitted to you for printing. Typing is also taught so you will be able to manipulate a keyboard for phototypesetting.
Course Outline

Upon successful completion of the course you will receive a Certificate from Red River Community College.

Past employment records show that a high percentage of graduates are working in course-related fields. Previous graduates have found jobs as typesetters, paste-up artists, presspeople, salespeople, production controllers, and cost estimators. Others have found employment in allied service industries such as paint and ink companies, machinery suppliers, and advertising departments. Jobs are available in printing/publishing shops. Financial growth and technical progress have made the graphic arts industry the fourth largest employer in Manitoba.

What's In It For Me?

How Much Will It Cost?

Tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $100. Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way

To find out more about this occupation you could contact people in the graphic arts field. For information on Graphic Arts and other College courses, contact the Counselling Office at R.R.C.C., Room C-111, telephone 632-2335. R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Hairdressing

Purpose: To develop the skills, techniques, and knowledge to meet the requirements of the provincial Department of Labour and Manpower and successfully obtain a Manitoba Hairdressers licence. Graduates are able to style, shape, colour and wave hair, apply makeup and perform facials.

Entry Date: September

Course Length: Ten months

RED RIVER COMMUNITY COLLEGE
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone (204) 632-2311

Admissions

Am I suited for this course?

The industry

The beauty salon is a dynamic and lively place. You will work in various fields and jobs. You will be in contact with people and you will enjoy the fast pace of the job. You will need good coordination and good physical condition.

What will I study?

First semester:

The students will complete the required curriculum.

The course covers all aspects of hairdressing theory.

What is included in the course?

The course covers all aspects of hairdressing practice.

Eligible applicants are admitted on a first-come, first-serve basis.

Entrance Requirements

A—7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101, or 103 and Mathematics 100, 101, 102, or 103; or

— the equivalent of the above standing gained through an adult education program;

and

B—good general mental and physical condition.

If you do not have the academic qualifications, you may be able to qualify for admission to this course as a mature student.

Mature Student Admissions—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience that might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature students are required to have a current medical, dental, and chest x-ray certificate.

Eligible applicants are admitted on a first-come, first-serve basis.

Program

Hairdressing

The course covers all aspects of hairdressing practice.

What is included in the course?

The course covers all aspects of hairdressing practice.

Eligible applicants are admitted on a first-come, first-serve basis.

Entrance Requirements

A—7 high school credits (Manitoba Grade 10 or equivalent) including English 100, 101, or 103 and Mathematics 100, 101, 102, or 103; or

— the equivalent of the above standing gained through an adult education program;

and

B—good general mental and physical condition.

If you do not have the academic qualifications, you may be able to qualify for admission to this course as a mature student.

Mature Student Admissions—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience that might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature students are required to have a current medical, dental, and chest x-ray certificate.

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Program

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Program

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— the equivalent of the above standing gained through an adult education program;

and

B—good general mental and physical condition.

If you do not have the academic qualifications, you may be able to qualify for admission to this course as a mature student.

Mature Student Admissions—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience that might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature students are required to have a current medical, dental, and chest x-ray certificate.

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If you do not have the academic qualifications, you may be able to qualify for admission to this course as a mature student.

Mature Student Admissions—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience that might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature students are required to have a current medical, dental, and chest x-ray certificate.

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and

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Program

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— the equivalent of the above standing gained through an adult education program;

and

B—good general mental and physical condition.

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Mature Student Admissions—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience that might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English and mathematics) may be necessary. All mature students are required to have a current medical, dental, and chest x-ray certificate.

Eligible applicants are admitted on a first-come, first-serve basis.
Course Outline

What's In It For Me?

Upon successful completion of the Hairdressing course, you will receive a Certificate from Red River Community College. Graduates are qualified to work as hairstylists and may work towards being a colour specialist, facial expert, make-up artist, or manicurist.

As a graduate of the Hairdressing course, you will be required to successfully complete a provincial government regulated theory and practical examination to receive a Professional Operator's Licence. After working under supervision in a salon for two years, you are eligible to apply for a Salon Licence. This licence entitles you to own and operate your own shop.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $200.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early.

By The Way...

To find out more about this occupation, you could contact people in the hairdressing field. For information on Hairdressing and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 632-2335.

A Hairdressing Course is offered at Assiniboine Community College, Brandon, and at Keewatin Community College, The Pas, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire the academic background which may help you to complete the Hairdressing course. A brochure describing this program is available through the Adult Basic Education Office, Room C-116, telephone 632-2327.

Fees & content subject to change without notice.
Purpose: To prepare skilled health record technicians who will assist health record librarians in the preparation, analysis, and preservation of the healthcare information required by hospitals, clinics, and nursing homes.

Entry Date: September

Course Length: Ten months

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Eligibility (g) requires:

- All mature students must complete entrance requirements set by the college.
- By the college, may be necessary. By the college in determining eligibility; testing may be required. Applicants are expected to be mature, to have at least 20 years of age on or before September 1.

Admission Requirements

- A pleasant temperament and an ability to get along with others are important assets for this course.
- Maturity is essential, as you will be dealing with confidential material. Good eyesight and hearing are important, as oral and written communication is required.
- Finger dexterity is required for typing. You should enjoy routine work.
- Good health habits. You must have been free from communicable diseases.

Entrance Requirements

A—20 high school credits (Manitoba Grade 12 or equivalent); or the equivalent of the above standing gained through an adult education program, and

B—basic typing speed of 35 words per minute with a maximum of 3 errors on a 5-minute test.

If you do not have the above academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission

- Mature students must be 20 years of age or over September 30 in the year of registration.
- All mature student applications are referred to the Admissions Office to determine applicants' suitability.
- Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining applicants' eligibility. Applicants are expected to be mature, to have at least 20 years of age on or before September 1.

Program

Most of your training will take place at the College in a regular classroom or in the model hospital. In the latter part of your course, you will spend three weeks gaining practical experience in an accredited hospital.

What will I study?

- Health Record Technician students will be trained on the specialized techniques required for the compilation, filing, and utilization of health records.

Emphasis during training will be on medical records. Emphasis during training will be on medical coding, medical transcription, and medical record compilation, filing, and utilization.

Health Record Technician students will be trained in medical record compilation, filing, and utilization.

Entrance Requirements

A—20 high school credits (Manitoba Grade 12 or equivalent); or the equivalent of the above standing gained through an adult education program, and

B—basic typing speed of 35 words per minute with a maximum of 3 errors on a 5-minute test.

If you do not have the above academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission

- Mature students must be 20 years of age or over September 30 in the year of registration.
- All mature student applications are referred to the Admissions Office to determine applicants' suitability.
- Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College may be necessary.

Program

The course is designed to prepare students, who will assist health record librarians in the preparation, analysis, and preservation of the healthcare information required by hospitals, clinics, and nursing homes. The course is designed to prepare students, who will assist health record librarians in the preparation, analysis, and preservation of the healthcare information required by hospitals, clinics, and nursing homes.
Course Outline

What's In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College.

A Health Record Technician is a trained health professional who works in the medical records department of a hospital or medical clinic. The technician's chief responsibility is to prepare, analyze, and preserve health information required by patients, doctors, hospitals and the general public.

Employment opportunities are available in hospital medical records departments, clinics and other paramedical agencies. Many job opportunities are available in the rural areas of Manitoba. Some graduates are also employed at the University of Manitoba, Faculty of Medicine or in doctors' offices as medical typists.

Successful graduates write national exams to gain recognition as Associates of the Canadian College of Health Record Administrators (C.C.H.R.A).

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students Association fee of $2 a month. Books and supplies will cost approximately $200.

By The Way

...to find out more about the occupation, you could contact people in the health record field.

For information on Health Record Technician and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College admissions office.

Term 1

B19-E751
B19-M751
B19-T751
H03-L101
B13-S504
B13-R704
B19-R741

Term 2

B19-E752
B19-M752
H03-L201
B15-S105
B19-N754
B19-R752

Term 3

H03-L301
B12-L367
B19-C761
B19-N702
B13-M610

Communications
Medical Terminology
Typing
Anatomy and Physiology
Humanistic Psychology
Medical Records Science I

Communications
Medical Terminology
Anatomy and Physiology
Intro to Data Processing
Medical Transcription
Medical Records Science II

Anatomy and Physiology
Legal Aspects of Medical Records
Medical Coding
Medical Transcription
Organization and Management

Fees and content subject to change without notice.

Red River Community College
is operated by the
MANITOBA
OFFICE OF EDUCACTION
with financial assistance by the
Government of Canada.
Hotel and Restaurant Administration

Purpose:
To develop a potential for management in the hospitality industry through classroom instruction in related subjects, practical lab training, and through work experience in short-term industry employment.

Entry Date: September

Course Length: 18 consecutive months

A—20 high school credits (Manitoba Grade 12 or equivalent)
and
B—good health, substantiated by recent medical, dental and chest x-ray certificates.
and
C—Successful completion of Entrance Requirements A, B and C by the Selection Committee.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a Mature Student.

Mature Student Admission—Mature students must be 20 years of age or older by September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College will likely be necessary. All mature student applicants must complete Entrance Requirements B, C and D successfully.

Admissions

What Will I Study?

The course consists of six continuous three-week terms of alternating classroom study and work experience. A full-time student will spend two-thirds of the time in the College and one-third in the work place. The course is designed to provide the student with a broad understanding of the elements of the hospitality industry.

Program

The course leads off with introductory instruction in front office procedures, sanitation and kitchen safety, the fundamentals of food preparation and nutrition in food service. The elements of Jean's hotel, restaurant and tourism are covered.

What Will I Become?

Am I suited for this course?

Entrance Requirements:

All students must complete Entrance Requirements A and B and C.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a Mature Student.

Mature Student Admission—Mature students must be 20 years of age or older by September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College will likely be necessary. All mature student applicants must complete Entrance Requirements B, C and D successfully.
To broaden your knowledge of the operational aspects of the hospitality industry, you will take courses in purchasing, personnel, building and equipment maintenance, managerial accounting, and increasingly-sophisticated kitchen and dining room training. All of these subjects are designed to assist you when you reach an administrative position.

In the last phase of the course, the emphasis is on special management situations, sales, public relations and advertising, and financial management.

### Course Outline

#### Term 1
- **What's In It For Me?**
- Upon successful completion of the Hotel and Restaurant Administration course you will receive a Diploma from Red River Community College. Most graduates have had little difficulty in finding employment in junior-to-middle management positions in various sectors of the hospitality industry. Some graduates have found employment in hotels as front desk supervisors, coffee shop managers, food and beverage controllers, banquet managers, or sales representatives. Supervisory opportunities are available in restaurants, private clubs as well as in catering and banquet services. The level of management position attained after graduation is dependent on the individual graduate's industry employment record, attitude, motivation and maturity.

#### Term 2 and 3
- **Front Office Procedures**
- **Catering**
- **Introduction to Food and Beverage**
- **Accounting**
- **Economics**
- **Introduction to Social Sciences**
- **Oral Communications**
- **Housekeeping**
- **Front Office Management**
- **Purchasing**
- **Building Engineering**
- **Management Accounting**
- **Human Behaviour in Organizations**
- **Basic Marketing**
- **Report Writing**
- **Introduction to Data Processing**

#### Term 4, 5, and 6
- **Business Communications**
- **Cost Controls**
- **Personnel**
- **Food and Beverage Control**
- **Tourism**
- **Design and Physical Layout**
- **Seminar**
- **Cooperative Education Work Term (B09-H450)**

#### Term 7
- **Management Seminar**
- **Hospitality Sales**
- **Public Relations and Advertising**
- **Bartending and Beverage Management**
- **Gourmet Preparation**
- **Bartending Practicum**
- **Dining Room Service**
- **Financial Management**
- **Decision Making**
- **Law**

#### Fee Schedule
- **Term 1 to 6:** $27 per month
- **Students' Association fee:** $2 per month
- **Books and supplies:** $500 (includes required clothing such as a lab coat, dark pants or skirt, and white shirt or blouse)

#### Financial Aid
- Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-115, telephone 633-6621.

#### Application Process
- An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.
- Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

#### Additional Information
- October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early.
Purpose: To offer training in the basic public service and technical functions of a library, enabling the graduate to provide support and assistance to professional staff in various types of libraries.

Entry Date: September

Course Length: Ten months

Library Technician

Admissions

Am I suited for this course?

If you are seriously considering a career as a Library Technician, you should be prepared for some evening and weekend work. This applies especially to those in public libraries.

English requirements

You must have the ability to do detailed and exacting work.

About two hours every week will be spent taking notes of library work, and (c) an understanding of library work, and (d) an ability to take the course. (f) your reasons for choosing it are relevant to an interview and the application of the above standing. Which of the courses are relevant to the interview?

Entrance requirements

You must also have the ability to do detailed and exacting work.

Program

The Library Technician course is set up under the direction of a Course Advisory Committee composed of College instructors and representatives from all types of libraries in Manitoba. This Committee has been organized to suggest course content, and to advise instructors of changing trends in library work.

What will I study?

Library Technician coursework involves the interviewing of the interview, do some research on libraries and library education background and potential suitability.

In the program, you will learn about the interview, do some research on libraries and library education background and potential suitability.

The interview is an essential part of the interview process. The interview is designed to help you make an informed decision about the interview. The interview is a special selection course. The Selection Committee chooses candidates on the basis of educational background and potential suitability for a career as a Library Technician. The interview is an essential part of the interview process.
Library Technology Diploma Program

Graduates of the ten-month Library Technician course are eligible to enroll for the equivalent of an additional 10 months in a program leading to a Diploma in Library Technology. The Diploma program provides the graduate with the opportunity to continue training in specific interest and career-related subjects. The program is optional, with subjects being offered in evening or Saturday sessions. There will be ten subjects offered at Red River on a rotating basis in the fall and spring sessions. Each will be a 40-hour credit course.

Course Outline

**Term 1**
- B07-A131 Audio Visual Materials Production
- B07-L121 Cataloguing
- B07-L122 Reference and Public Service
- B07-L123 Acquisitions
- B07-L124 Library Practicum
- B07-L125 Work Practice

**Term 2**
- B07-A231 Audio Visual Technician Typing
- B07-L211 Audio Visual Materials Production
- B07-L212 Cataloguing
- B07-L213 Reference and Public Service
- B07-L214 Acquisitions
- B07-L215 Library Practicum
- B07-L216 Work Practice

**Term 3**
- B07-A331 Audio Visual Technician Typing
- B07-L311 Cataloguing
- B07-L312 Reference and Public Service
- B07-L313 Acquisitions
- B07-L314 Library Practicum
- B07-L315 Work Practice
- B07-L316 Issues in Canadian Society
- B07-L317 Administration of Libraries
- B07-L318 Humanistic Psychology (optional)
- B07-L319 Canadian Literature (optional)
- B07-L320 Children's Literature (optional)

**General Information**

**What's In It For Me?**
Upon successful completion of the course you will receive a Certificate from Red River Community College. Former graduates have found employment in all types of libraries. In the past, about 75 percent of all graduates have found employment in public libraries, with the remainder employed in special libraries or in special libraries in government, business, or in schools and institutions. Positions are also available in academic libraries, academic and medical schools, and in corporate libraries.

**How Much Will It Cost?**
The tuition fee is $27 per month. In addition, there is a Students' Association fee of $2 per month. Books and supplies will cost approximately $120.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

By The Way...
To find out more about this occupation, you could contact people employed as library technicians. For information on Library Technician and other College courses, contact the Counselling Office at R.R.C., Room C-212, telephone 632-2335.

R.R.C. offers an Adult Basic Education (ABE) program which may help you acquire the academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

**How Do I Apply?**
An application form for this course may be obtained by writing to the Admissions Office, R.R.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed marks statements, transcripts, etc. must accompany the application form before processing will begin. October 1 is the first date for receipt of applications. The Canada Employment and Immigration Commission may sponsor applications to this program. Enquiries should be made at your nearest Canada Employment Centre.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

First issue: Sept. 79

Fees & content subject to change without notice.

Red River Community College
Meatcutting

Purpose: to develop techniques for cutting, tying and utilizing various types of meat, fish and poultry. Graduates will be able to use and care for power and hand tools, set up and operate meat-cutting machines, and perform other related tasks. Students will also be able to work under pressure and be able to follow instructions and procedures accurately.

Entry Dates: September and February

Course Length: Five months

Admissions

Eligibility Requirements

1. Graduation from a high school or equivalent with a Grade 12 or equivalent in English, Math and Science.
2. Successful completion of an entrance test, including English, Math and Science.
3. Submission of a completed application form.

Entrance Requirements

A high school diploma or equivalent is required. Students must also complete an entrance test in English, Math and Science.

If you do not meet the academic requirements, you may be eligible for the program by demonstrating your skills and experience through an entrance test or by completing an alternative program.

Mature Student Admission

Mature students must be 20 years of age or older and must meet the same admission requirements as regular students.

Am I suited for this course?

Yes, I enjoy working with my hands and have good physical fitness. I am able to lift heavy weights and have some experience with power tools. I am interested in pursuing a career in the meat-cutting industry.

If you are interested in applying for this program, please contact the Admissions Office for more information.
Photographic Technician

Purpose: To learn the fundamentals of photography and to develop the technical skills necessary to produce a finished photographic product.

Entry Date: September

Course Length: One academic year (ten months)

Admissions

Am I suited for this course? You should be able to lift heavy photographic equipment (maximum 25 kg) and be physically fit to work in a commercial photographic studio.

You may also be able to qualify for admission if:

- You have a definite interest in working as a photographic technician.
- You have a minimum of 14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201, Mathematics 200 or 201, Physics 200 & Chemistry 200, or Physical Science 201.
- You are accepted as a mature student.

Mature Student Admission—Mature students must be 20 years of age, or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility.

Entrance Requirements

A—14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201, Mathematics 200 or 201, Physics 200 & Chemistry 200, or Physical Science 201.

or

the equivalent of the above standing gained through an adult education program; and

- The completion of the Evaluation Questionnaire requesting information on interest in course, related experience, background, etc.

If you do not have the academic requirements, you may still be accepted for admission to this course as a mature student.

What will I study?

- Seventy-five percent of your course hours will be spent on practical projects. You will learn how to uselighting, to process film, to print it and retouch it, and then how to present the final product. You will also be taught the background of photography. As you progress through the course, you will gain experience in the darkroom and in the laboratory. The training facilities at the College have been set up to simulate a commercial photographic studio so you will receive hands-on practical experience at the College.

Program

This course is under the direction of an Advisory Committee composed of representatives from industry, government and the College. The Committee keeps up to date with the changing trends required by the industry.

What will I study?

- Seventy-five percent of your course hours will be spent on practical projects. You will learn how to use lighting, to process film, to print it and retouch it, and then how to present the final product. You will also be taught the background of photography. As you progress through the course, you will gain experience in the darkroom and in the laboratory. The training facilities at the College have been set up to simulate a commercial photographic studio so you will receive hands-on practical experience at the College.

Homework will vary according to your aptitude and degree of interest in the course. Other extracurricular activities include reading related books and attending art exhibitions and plays.

Entrance Requirements

A—14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201, Mathematics 200 or 201, Physics 200 & Chemistry 200, or Physical Science 201.

or

the equivalent of the above standing gained through an adult education program; and

- The completion of the Evaluation Questionnaire requesting information on interest in course, related experience, background, etc.

If you do not have the academic requirements, you may still be accepted for admission to this course as a mature student.

What will I study?

- Seventy-five percent of your course hours will be spent on practical projects. You will learn how to use lighting, to process film, to print it and retouch it, and then how to present the final product. You will also be taught the background of photography. As you progress through the course, you will gain experience in the darkroom and in the laboratory. The training facilities at the College have been set up to simulate a commercial photographic studio so you will receive hands-on practical experience at the College.

Homework will vary according to your aptitude and degree of interest in the course. Other extracurricular activities include reading related books and attending art exhibitions and plays.

Entrance Requirements

A—14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201, Mathematics 200 or 201, Physics 200 & Chemistry 200, or Physical Science 201.

or

the equivalent of the above standing gained through an adult education program; and

- The completion of the Evaluation Questionnaire requesting information on interest in course, related experience, background, etc.

If you do not have the academic requirements, you may still be accepted for admission to this course as a mature student.

What will I study?

- Seventy-five percent of your course hours will be spent on practical projects. You will learn how to use lighting, to process film, to print it and retouch it, and then how to present the final product. You will also be taught the background of photography. As you progress through the course, you will gain experience in the darkroom and in the laboratory. The training facilities at the College have been set up to simulate a commercial photographic studio so you will receive hands-on practical experience at the College.

Homework will vary according to your aptitude and degree of interest in the course. Other extracurricular activities include reading related books and attending art exhibitions and plays.

Entrance Requirements

A—14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201, Mathematics 200 or 201, Physics 200 & Chemistry 200, or Physical Science 201.

or

the equivalent of the above standing gained through an adult education program; and

- The completion of the Evaluation Questionnaire requesting information on interest in course, related experience, background, etc.

If you do not have the academic requirements, you may still be accepted for admission to this course as a mature student.
Term 2
Monochrome Materials & Processes
Technical Camera & Optical Applications
Camera Design & Applications
Laboratory Techniques, Film Processing & Retouching
Laboratory Technique, Black & White Print Production
Basic Studio Techniques
Sensitometry & Exposure of Materials
Communications for Photo Technicians
Photo Tech Science
Composition & Design for Photography
Color Photography Materials & Processes
Small Format Techniques
Color Material Techniques I
Photographic Chemistry
Laboratory Techniques — Retouching
Power Eng Science I

What's In It For Me?
Upon successful completion of this course, you will receive a Certificate from Red River Community College. Graduates have found employment doing behind-camera work or as technicians doing camera work and custom printing. Employment may be available in hospitals, audiovisual departments of colleges, universities and schools, photographic processing labs, television stations, department stores or advertising agencies. You could receive a Certificate from Red River College.

How Much Will It Cost?
The tuition fee is $30 a month. In addition, there is a Student Association fee of $2 a month. Books and supplies will cost approximately $600.

General Information
Terms:
Term 1
Term 2
Term 3

By the Way...
Application for admission to the course...
...
To find out more about this occupation, you could contact people in the photographic field.
For information on Photographic Technician and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-uS, telephone 632-2335.
The College offers an evening program for those who are interested in photography as a hobby. There is no credit transfer between the day and evening programs.

Course Outline

Course Code

General Information

Through the College Admissions Office, you may apply for the course. A personal interview should be made at your nearest Employment Centre or at R.R.C.C. Room C-115. The Canada Employment and Immigration Commission offers a variety of programs which may help you to acquire the necessary skills and knowledge to enter this course.

An evening program is offered in Adult Basic Education (A.B.E.) programs which may also help you to acquire the necessary skills and knowledge to enter this course.

When successful completion of this course, you will receive a Certificate from Red River College.

How to Apply?
Applications for admission to the course...
...
Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early.

By the Way...
To find out more about this occupation, you could contact people in the photographic field.
For information on Photographic Technician and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-uS, telephone 632-2335.
The College offers an evening program for those who are interested in photography as a hobby. There is no credit transfer between the day and evening programs.

Course Outline
Stenography

Purpose: To develop speed and accuracy in shorthand and typing and to develop the ability to transcribe notes into typewritten form. Graduates will be familiar with general office procedures including filing, accounting, correspondence, and the use of business machines.

Entry Date: September
Course Length: Ten months

Admissions

Am I suited for this course? Yes. You must have a good command of the English (f.)

Eligible applicants are admitted on a first-come, first-served basis.

Am I suited for this course? Yes. You must have a good command of the English (f.)

Be prepared to begin training on the job. Here, you will gain experience similar to that gained in the college model of an office. You will be exposed to a regular office environment. All your training will take place at R.R.C.C. Where you practice releasing dictation into shorthand.

What will I study?

Emphasis during your training is on the development of speed and accuracy in shorthand and typing skills. You may choose to learn either of the two methods of instruction - individualized or group. If you have had previous business training and wish to complete the course in a shorter time, individual instruction is especially suited for you. The College, Business Division, understands that many students are employed during this time. You will be given an office environment in which to practice your skills. You may choose to learn either of the two methods of instruction - individualized or group.

Entrance Requirements

1. A Grade 11 student (Manitoba Grade 11 or equivalent or the equivalent of the above standing gained through an adult education program). If you do not have the academic requirements you may be eligible for admission to this course as a mature student. Mature students must be 10 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office for determination of applicants suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in English and mathematics may be necessary.

The Stenography course has two methods of instruction - individualized or group. Individualized instruction is especially suited for those who wish to complete the course in a shorter time. The College, Business Division, understands that many students are employed during this time. You will be given an office environment in which to practice your skills. You may choose to learn either of the two methods of instruction - individualized or group.

Program

Am I suited for this course? Yes. You must have a good command of the English (f.)

Eligible applicants are admitted on a first-come, first-served basis.

Am I suited for this course? Yes. You must have a good command of the English (f.)

Be prepared to begin training on the job. Here, you will gain experience similar to that gained in the college model of an office. You will be exposed to a regular office environment. All your training will take place at R.R.C.C. Where you practice releasing dictation into shorthand.
Course Outline

Choose 3 credit hours or more from the following:

- 817-A452 Accounting 2 (Compulsory for admission into Secretarial Science)
- B17-C551 Consumer Education
- 817-1551 Keypunch
- 815-5404 Intro to Data Processing
- 818-0553 Dimensions in Personal Development

By the Way...

Upon successful completion of the Stenography course you will receive a Certificate from Red River Community College. Previous graduates have found employment as stenographers in small offices or in steno pools in large offices where they are available for duties throughout the company. You may find employment with the federal or provincial government or with private business. Promotion to a position as an executive secretary may be available after gaining work experience.

As a graduate, you may be eligible for admission into the Secretarial Science course offered at R.R.C.C.

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies will cost an additional $175. An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Office.

By the Way...

To find out more about this occupation, you could contact people in the stenographic field. For information on Stenography and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-307, telephone 632-2335.

A Stenography course is offered at Assiniboine Community College in Brandon, and at Keewatin Community College in The Pas, Manitoba. R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. After completing the A.B.E. program you may be eligible for admission at R.R.C.C.

Manitoba Community Colleges

First Issue: Sept 79

Fees & content subject to change without notice.

Red River Community College

MANITBA

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Purpose: To develop advanced communication, organization, typewriting, and shorthand skills and to prepare the graduate with administrative skills. Options are available in legal, medical, or marketing studies.

Entry Date: September
Course Length: Ten months

Am I suited for this course?

You must have a good command of the English language and have a shorthand speed of 120 words per minute. Good eyesight and hearing are important since effective oral and written communication skills will be required.

Admissions Requirements

Successful completion of the 10-month Stenography course at R.R.C.C. or its equivalent, with a minimum shorthand speed of 100 words per minute and a typing speed of 50 words per minute;

or

the equivalent of the above standing gained through a high school business education program, including the following subjects:

- Office Processes
- Business Arithmetic
- Office Machines ( ABI ete, Electronic Calculator)
- Business Correspondence (Spelling, Grammar)
- Grade 12 Accounting

Applicants without Grade 12 Accounting may be accepted but will be required to attend extra classes in this subject while enrolled in the Secretarial Science course.

Eligible applicants are admitted on a first-come, first-served basis.

The instructional program emphasizes a high degree of stenographic skill training, advanced office procedures, and business education. You will be trained to assume a high level of responsibility in an office situation. You will be required to achieve extra grades in a course advisory committee which includes representatives of business and professional organizations such as the National Secretaries Association, the National Association of Secretaries, and the Business Education Section of the College.

What will I study?

In addition to the subjects mentioned above, other elective subjects which might be considered are economics, law, oral communication, report writing, and management. You will be trained to assume a high level of responsibility in an office situation. You will be required to achieve extra grades in a course advisory committee which includes representatives of business and professional organizations such as the National Secretaries Association, the National Association of Secretaries, and the Business Education Section of the College.
As a graduate of this course, you could become a valuable administrative assistant to people in executive positions. You will be required to accept a great deal of responsibility and perform a wide variety of duties.

Many graduates go to private secretarial positions in large organizations. Others may find excellent positions in smaller offices where they may have greater responsibilities and a wider variety of duties. As a graduate of this course, you could become an administrative assistant to people in executive positions.

**What's In It For Me?**

Upon successful completion of the course you will receive a Diploma in Secretarial Science from Red River Community College.

**General Information**

**How Much Will It Cost?**

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $150. Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-114, telephone 633-6621.

**How Do I Apply?**

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephone 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after this date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

**By The Way**

To find out more about this occupation, you could contact people in the secretarial field.

For information on Secretarial Science and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.
Certification and Degree

Upon satisfactory completion of all program requirements, the University of Manitoba will confer the Bachelor of Education degree (B.Ed.) upon eligible students. The Bachelor of Education degree provides students with the knowledge and skills necessary to become effective educators in a variety of settings, including schools, community-based organizations, and other educational institutions. Students who successfully complete the program will receive a Bachelor of Education degree, which is recognized by various educational authorities and professional organizations around the world.

Entry Requirements

Admission to the Bachelor of Education program is highly competitive, and applicants must meet specific academic and personal criteria in order to be considered for admission. The following criteria are used in selecting students:

1. Satisfactory standing in twenty (20) credits which satisfy high school program requirements, with a minimum of three (3) subjects at the 300 level or above.

2. Five (5) of these credits held at the 3XY level, so that these subjects form a coherent, logical, and comprehensive program of study.

3. A minimum of three (3) subjects at the 300 level or above.

4. A minimum of three (3) subject areas, with at least one (1) subject in each of the following areas:
   - Language arts
   - Mathematics
   - Science
   - Social studies
   - Fine arts
   - Physical education

5. A minimum of two (2) subjects in the area of specialization selected.

6. A minimum of two (2) subjects in the area of teaching experience selected.

7. A minimum of two (2) subjects in the area of成型 selected.

8. A minimum of two (2) subjects in the area of personal development selected.

Academic Requirements

Students are expected to maintain the following academic averages throughout their studies:

- Grade Point Average: 2.0

- Grade Point Average: 2.5

- Grade Point Average: 3.0

- Grade Point Average: 3.5

- Grade Point Average: 4.0

Course Repeats

Students who achieve a grade of 'D' or lower in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing. Students who achieve a grade of 'F' in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing.

Prerequisites

Students who achieve a grade of 'D' or lower in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing. Students who achieve a grade of 'F' in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing.

Business Education Degree and Certification Program

The Bachelor of Education degree provides students with the knowledge and skills necessary to become effective educators in a variety of settings, including schools, community-based organizations, and other educational institutions. Students who successfully complete the program will receive a Bachelor of Education degree, which is recognized by various educational authorities and professional organizations around the world.

Entry Requirements

Admission to the Bachelor of Education program is highly competitive, and applicants must meet specific academic and personal criteria in order to be considered for admission. The following criteria are used in selecting students:

1. Satisfactory standing in twenty (20) credits which satisfy high school program requirements, with a minimum of three (3) subjects at the 300 level or above.

2. Five (5) of these credits held at the 3XY level, so that these subjects form a coherent, logical, and comprehensive program of study.

3. A minimum of three (3) subjects at the 300 level or above.

4. A minimum of three (3) subject areas, with at least one (1) subject in each of the following areas:
   - Language arts
   - Mathematics
   - Science
   - Social studies
   - Fine arts
   - Physical education
   - Fine arts
   - Physical education

5. A minimum of two (2) subjects in the area of specialization selected.

6. A minimum of two (2) subjects in the area of teaching experience selected.

7. A minimum of two (2) subjects in the area of成型 selected.

8. A minimum of two (2) subjects in the area of personal development selected.

Academic Requirements

Students are expected to maintain the following academic averages throughout their studies:

- Grade Point Average: 2.0

- Grade Point Average: 2.5

- Grade Point Average: 3.0

- Grade Point Average: 3.5

- Grade Point Average: 4.0

Course Repeats

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Prerequisites

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Business Education Degree and Certification Program

The Bachelor of Education degree provides students with the knowledge and skills necessary to become effective educators in a variety of settings, including schools, community-based organizations, and other educational institutions. Students who successfully complete the program will receive a Bachelor of Education degree, which is recognized by various educational authorities and professional organizations around the world.

Entry Requirements

Admission to the Bachelor of Education program is highly competitive, and applicants must meet specific academic and personal criteria in order to be considered for admission. The following criteria are used in selecting students:

1. Satisfactory standing in twenty (20) credits which satisfy high school program requirements, with a minimum of three (3) subjects at the 300 level or above.

2. Five (5) of these credits held at the 3XY level, so that these subjects form a coherent, logical, and comprehensive program of study.

3. A minimum of three (3) subjects at the 300 level or above.

4. A minimum of three (3) subject areas, with at least one (1) subject in each of the following areas:
   - Language arts
   - Mathematics
   - Science
   - Social studies
   - Fine arts
   - Physical education
   - Fine arts
   - Physical education

5. A minimum of two (2) subjects in the area of specialization selected.

6. A minimum of two (2) subjects in the area of teaching experience selected.

7. A minimum of two (2) subjects in the area of成型 selected.

8. A minimum of two (2) subjects in the area of personal development selected.

Academic Requirements

Students are expected to maintain the following academic averages throughout their studies:

- Grade Point Average: 2.0

- Grade Point Average: 2.5

- Grade Point Average: 3.0

- Grade Point Average: 3.5

- Grade Point Average: 4.0

Course Repeats

Students who achieve a grade of 'D' or lower in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing. Students who achieve a grade of 'F' in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing.

Prerequisites

Students who achieve a grade of 'D' or lower in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing. Students who achieve a grade of 'F' in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing.

Business Education Degree and Certification Program

The Bachelor of Education degree provides students with the knowledge and skills necessary to become effective educators in a variety of settings, including schools, community-based organizations, and other educational institutions. Students who successfully complete the program will receive a Bachelor of Education degree, which is recognized by various educational authorities and professional organizations around the world.

Entry Requirements

Admission to the Bachelor of Education program is highly competitive, and applicants must meet specific academic and personal criteria in order to be considered for admission. The following criteria are used in selecting students:

1. Satisfactory standing in twenty (20) credits which satisfy high school program requirements, with a minimum of three (3) subjects at the 300 level or above.

2. Five (5) of these credits held at the 3XY level, so that these subjects form a coherent, logical, and comprehensive program of study.

3. A minimum of three (3) subjects at the 300 level or above.

4. A minimum of three (3) subject areas, with at least one (1) subject in each of the following areas:
   - Language arts
   - Mathematics
   - Science
   - Social studies
   - Fine arts
   - Physical education
   - Fine arts
   - Physical education

5. A minimum of two (2) subjects in the area of specialization selected.

6. A minimum of two (2) subjects in the area of teaching experience selected.

7. A minimum of two (2) subjects in the area of成型 selected.

8. A minimum of two (2) subjects in the area of personal development selected.

Academic Requirements

Students are expected to maintain the following academic averages throughout their studies:

- Grade Point Average: 2.0

- Grade Point Average: 2.5

- Grade Point Average: 3.0

- Grade Point Average: 3.5

- Grade Point Average: 4.0

Course Repeats

Students who achieve a grade of 'D' or lower in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing. Students who achieve a grade of 'F' in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing.

Prerequisites

Students who achieve a grade of 'D' or lower in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing. Students who achieve a grade of 'F' in any subject must repeat the course in order to satisfy the program requirements. This applies to all subjects, regardless of the student's academic standing.
Red River Community College

Student Services

Telephone: 747-9301

Academic Services

Registrar's Office

Office Hours: Monday to Friday 8:00 AM to 4:30 PM

Program Organization

B22-M205 Retail Management
B22-E209 Business Law

Marketing Major

B22-E210 Intermediate Accounting II
B22-E207 Intermediate Accounting I

Accounting Major

B22-E301 Financial Accounting
B22-E302 Management Accounting

Student Services

Tel: 747-9301

Program Organization

B22-M205 Retail Management
B22-E209 Business Law

Marketing Major

B22-E210 Intermediate Accounting II
B22-E207 Intermediate Accounting I

Accounting Major

B22-E301 Financial Accounting
B22-E302 Management Accounting

Acknowledgements

We acknowledge the contribution and assistance given by the members of the Program advisory Committee. The members of the Committee are recognized authorities in their respective fields, giving their support to these educational programs.
Industrial Arts Degree and Certification Program

Purpose: To teach about the industrial technologies which are rapidly changing within our society. Technical skills, teaching skills and broad general knowledge about society are all important components in the program.

Admission Requirements. The following criteria are used in the selection of students to the program:

1. Satisfactory standing in twenty (20) credits which satisfy the entrance requirement established by the admissions committee for the integrated program. The admissions committee, jointly presented by Red River Community College and the University of Manitoba, will make the final selection of students to participate in the program.

2. All applicants will be required to take basic skill tests prior to being admitted. The results of the tests must be at an acceptable level.

3. Anyonewho does not meet these educational requirements, but is 21 years of age or before September 30 in the year of registration, may apply as a mature student. Mature students will be reviewed on an individual basis.

Selection of Students. The Teacher Education program is a four year degree program. A professional certificate is awarded by the Department upon completion of the first three years of the program. This program is offered jointly by Red River Community College and the Faculty of Education at the University of Manitoba. The Department of Education degree will be conferred by the University of Manitoba.

Entrance and Admission

Certification and Degree

The Bachelor of Education degree and Certification Program will provide all of the professional education required to become an Industrial Arts teacher. The program is endorsed by the Department of Education of the Province of Manitoba. Students must achieve a minimum grade of C” or better in all professional education courses.

Introduction

Application Procedure. Information on the program and application forms are available at the following locations:

- Red River Community College
- University of Manitoba
- Teacher Education Section
- Red River Community College, 2055 Notre Dame Avenue, Winnipeg R3H 0J9

Admission Requirements. The following criteria are used in the selection of students to the program:

1. Satisfactory standing in twenty (20) credits which satisfy the entrance requirement established by the admissions committee for the integrated program. The admissions committee, jointly presented by Red River Community College and the University of Manitoba, will make the final selection of students to participate in the program.

2. All applicants will be required to take basic skill tests prior to being admitted. The results of the tests must be at an acceptable level.

3. Anyonewho does not meet these educational requirements, but is 21 years of age or before September 30 in the year of registration, may apply as a mature student. Mature students will be reviewed on an individual basis.

Selection of Students. The Teacher Education program is a four year degree program. A professional certificate is awarded by the Department upon completion of the first three years of the program. This program is offered jointly by Red River Community College and the Faculty of Education at the University of Manitoba. The Department of Education degree will be conferred by the University of Manitoba.

Entrance and Admission

Certification and Degree

The Bachelor of Education degree and Certification Program will provide all of the professional education required to become an Industrial Arts teacher. The program is endorsed by the Department of Education of the Province of Manitoba. Students must achieve a minimum grade of C” or better in all professional education courses.

Introduction

Application Procedure. Information on the program and application forms are available at the following locations:

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Entrance and Admission

Certification and Degree

The Bachelor of Education degree and Certification Program will provide all of the professional education required to become an Industrial Arts teacher. The program is endorsed by the Department of Education of the Province of Manitoba. Students must achieve a minimum grade of C” or better in all professional education courses.

Introduction

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- Red River Community College
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- Red River Community College, 2055 Notre Dame Avenue, Winnipeg R3H 0J9

Admission Requirements. The following criteria are used in the selection of students to the program:

1. Satisfactory standing in twenty (20) credits which satisfy the entrance requirement established by the admissions committee for the integrated program. The admissions committee, jointly presented by Red River Community College and the University of Manitoba, will make the final selection of students to participate in the program.

2. All applicants will be required to take basic skill tests prior to being admitted. The results of the tests must be at an acceptable level.

3. Anyonewho does not meet these educational requirements, but is 21 years of age or before September 30 in the year of registration, may apply as a mature student. Mature students will be reviewed on an individual basis.

Selection of Students. The Teacher Education program is a four year degree program. A professional certificate is awarded by the Department upon completion of the first three years of the program. This program is offered jointly by Red River Community College and the Faculty of Education at the University of Manitoba. The Department of Education degree will be conferred by the University of Manitoba.
## Industrial Arts Social Science Option Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.123</td>
<td>Calculus for Physics and General Science</td>
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<tr>
<td>12.124</td>
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<td>Calculus for Physics and General Science</td>
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<td>12.126</td>
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<td>12.131</td>
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<td>12.132</td>
<td>Calculus for Physics and General Science</td>
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</tr>
<tr>
<td>12.140</td>
<td>Calculus for Physics and General Science</td>
<td>3</td>
</tr>
</tbody>
</table>

### Minor Area

- **Suggested Minor Areas**
- **Calculus for Physics and General Science**
- **General Physics**
- **Chemistry**
- **Elementary Theoretical Physics**
- **General Chemistry**
- **Sociology of Work**
- **Environmental Science**

### Tools and Equipment

- **Industrial Arts Social Science Option Credit Hours**
- **Educational Testing & Evaluation**
- **Educational Testing & Evaluation**
- **Educational Testing & Evaluation**
- **Educational Testing & Evaluation**
- **Educational Testing & Evaluation**

### Financial Assistance

- **Scholarships, Bursaries, and Prizes**: Contact your advisor at the University of Manitoba.
- **Tuition Fee**: $570.00 per school year. Student activity fee: $48.00 per year. Books and supplies approximately $195.00 per year.

### Off-Campus Housing

- **Red River Community College**
- **University of Manitoba**

### Other Costs

- **Fees and Other Costs**
- **Board and Room**
- **Board and Room**
- **Board and Room**
- **Board and Room**

### Administration

- **The Awards Office**
- **The Student Aid Office**
- **The Student Aid Office**
- **The Student Aid Office**
- **The Student Aid Office**

### Contact Information

- **Telephone**: 474-9531
- **Telephone**: 633-6621
- **Room**: 401, University Centre
- **Address**: R3H 0J9
- **Office**: 100 Dafoe Road
- **Telephone**: 77.120
- **Telephone**: 77.120

### Additional Information

- **University of Manitoba**
- **Red River Community College**
- **Red River Community College**
- **Red River Community College**
Purpose: To develop knowledge and skills to meet the certification requirements of the Department of Education.

Entry Date: September

Course Length: One academic year (ten months)

Entrance Requirements:

1. High school standing with a minimum of 15 credits in an academic program or 20 credits in a vocational program. Anyone not meeting the above requirements may apply as a mature student.

   Amature student is considered to be one who is at least 20 years of age or before September 30 in the year of registration. Applicants will be required to write an entrance test and to achieve an equivalent Grade 12 standing on the General Educational Development (GED) Test offered by the Department of Education. The Admissions Committee will consider each applicant on an individual basis.

2. A Journeyman's Certificate in a designated trade or evidence of satisfactory training and approved experience in a non-designated trade.

3. A minimum of three years of approved work experience after journeyman certification.

Books or fees

The tuition fee of the course is $270.00 per school year. A student activity fee of $2.00 per month will be collected at the time of registration. Books and supplies for the ten-month course will cost approximately $100.00.

Financial Assistance:

Bursaries are available on the basis of need. Students may also apply for Canada Student Loans. Applicants are advised to investigate the possibility of sponsorship through the Canada Manpower Training Program.

NOTE: Graduates from the one-year Vocational Industrial program are granted up to eight course credits in the four-year Bachelor of Education program at the University of Winnipeg.

Employment Opportunities:

There are more employment opportunities in rural areas than in metropolitan Winnipeg. Community Colleges offer minimum wage employment by high schools.

Information for loans and bursaries may be obtained from:

Student Aid Office
C-116
Red River Community College
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9

Telephone: (204) 632-2311

Student Services

Board and Room:

There are no dormitories at Red River Community College. The Student Association Office has a list of accommodations for students who wish to board and room in the city.

Dining Areas

The modern dining areas provide excellent, low-cost meals during the mid-day lunch period.

Bookstore:

Textbooks and supplies may be purchased from the college bookstore.

Tools and Equipment:

Relatively expensive tools and equipment are made available by the college. A number of items must be purchased by the student.

Employment Opportunities:

Students may be employed by a college. A number of posts are available within the college.

NOTE: Graduates from the one-year Vocational Industrial program are granted up to eight course credits in the four-year Bachelor of Education program at the University of Winnipeg.
Course Outline

B23-E104 Communication Skills
B23-E103 Audio Visual Education
B23-E201 Organizing Industrial Education
B23-E202 Principles of Industrial Education
B23-E203 Course Development in Industrial Education
B22-E204 Educational Testing & Evaluation
B22-E206 Educational Psychology
B22-E210 Classroom Counselling
B23-T202 Student Teaching
B23-V102 Trade Theory & Practice
B23-E105 General Teaching Methods I
S23-E205 General Teaching Methods II
B23-1301 Independent Study

(Optional—by arrangement)

For Further Information
Please Contact
Teacher Education Section
Red River Community College
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9

The College acknowledges the contribution and assistance given by the members of the course Advisory Committee. The members of the Committee are recognized authorities in their respective fields, giving their support to these educational programs.
Course Outline
B08-W101 Basic Exercises
B08-W102 Balance Wheels
B08-W103 Hairsprings
B08-W104 Fundamental Construction of Watches
B08-W105 Repairing Watches
B16-E503 Communications
T13-M503 Mathematics
T13-S503 Science
T04-M511 Machine Shop Theory
T04-M512 Machine Shop Practical

What’s In It For Me?
Upon successful completion of the course, you will receive a Certificate from Red River Community College. Graduates will enter the trade at the level of improver. After working at the trade for twelve months, you will be eligible to write the Canadian Jewellers’ Institute examination to qualify as a certified watchmaker. This certificate is recognized across Canada and in most states of the U.S.A.

Many job opportunities are available. Successful graduates have found employment in jewelry shops cleaning, repairing or reconditioning watches; in banks as lock experts; in aircraft factories as instrument mechanics; or in various positions as micromechanics. Many have become self-employed.

General Information
How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students’ Association fee of $2 a month. Textbooks, tools and supplies will cost approximately $400.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-115, telephone 633-2335.

The Canadian Jewellers’ Association and the Manitoba Jewellers’ Association award two bursaries yearly. These bursaries are awarded to the two students with the highest general proficiency in the Watch Repair course.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...
To find out more about this occupation, you could contact people in the watch repair field.

For information on Watch Repair and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The Canadian Jewellers’ Association and the Manitoba Jewellers’ Association award two bursaries yearly. These bursaries are awarded to the two students with the highest general proficiency in the Watch Repair course.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Admissions

Am I Suited For This Course?
You should be mechanically inclined, have an interest in and ability to do intricate and exacting work and be capable of sitting for long periods of time. Steady hands, excellent finger dexterity and good eyesight are necessary for this work. Cleanliness and orderliness would be definite assets. Employers usually require that employees be bondable.

Entrance Requirements
— 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103 and Science 100, 101, 102 or 103,

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their application, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (Mathematics and science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course has an Advisory Committee which includes representatives from the Manitoba Jewellers Association and College Instructors. Through this committee, and instructor contact with industry, the College keeps up to date with the current standards required for watch repair people.

What Will I Study?
The course has many basic projects designed to develop dexterity, coordination, exacting precision and patience.

During your first five months of training, you will learn the basic fundamentals of watch repair.

Emphasis during your second term will be on actual watch repairs. You will disassemble, repair, and renovate watches under the supervision of the course instructor. This will include activities such as examining faulty timepieces to determine malfunction; using watchmaker’s hand tools to remove defective parts; cleaning and trueing various parts, such as the balance wheel and hairspring; replacing damaged parts; reassembling and adjusting timepiece; etc.

The practical experience you will gain in the simulated shop environment will provide you with valuable practical experience you will require in industry.

Evaluation is on the basis of periodic theory tests and shop projects. Attendance, attitude and working habits are also considered.
Course Outline

Year 1

Term 1
T09-E101 Electric Circuits
T09-E102 Basic Electronics
T09-E103 Electrical/Electronic Draw
T09-E104 Basic Electrical Instruments
T10-M132 Algebra and Trigonometry
T10-R132 Physics
T14-C116 Communication

Term 2
T08-E206 Basic Electrical Instruments
T08-E201 Electric Circuits
T08-E202 Basic Electronics
T08-E206 Introductory Logic
T08-E207 Introductory Programming
T10-M232 Introductory Calculus
T10-R234 Instrumentation Physics

Year 2

Term 3
T08-J301 Fluid Mechanics
T08-J303 Industrial Electronics
T08-J304 Final Control Elements
T08-J305 Electrical Practices
T08-J306 Process Measurements
T10-M334 Calculus
T14-R216 Report Writing

Term 4
T07-C425 Chemical Instrumentation
T08-J402 Computer Control Systems (Optional)*
T08-J403 Industrial Electronics
T08-J406 Process Measurements
T08-J407 Industrial Control Applications
T08-J410 Process Analysis
T08-J413 Technical Research & Report (Optional)*
*Choose one

What's In It For Me?

If you terminate training after successfully completing one year of the course, you will receive an Electronic Technician's Certificate. Successful completion of the entire two-year course will give you an Instrumentation Technology Diploma from Red River Community College.

If you graduate as an Electronic Technician, you will have less responsibility than an Instrumentation Technologist, and you will work with less complicated technological equipment.

Job opportunities are available in designing, manufacturing, and selling of scientific, engineering, laboratory, and optical instruments for private firms, or in industries such as chemical, petroleum, paper-making, electrical, atomic energy, and air transport. Other careers available would be in the fields of mining, building, design and drafting, nuclear, aeronautical, metallurgical, and petroleum engineering, or with the Canadian Armed Forces.

If you are interested in further studies towards a degree in engineering, you may transfer credit to the University of Manitoba or to Lakehead University, Thunder Bay, Ontario. Credit will be granted on an individual basis. Information regarding the transfer of credits should be directed to the universities.

The graduate occupies a key and unique position between the engineer and the craftsperson. Trained to adapt engineering theory to industrial practice, one is limited only by one's personal horizon.

Note: If you graduate with a Certificate of Education (C.E.) from the University of Manitoba or to Lakehead University, you must register with the Manitoba Society of Certified Engineering Technicians and Technologists (MANCEET) as associate members. After completion of two years of relevant work experience, you may apply for full membership as a Certified Engineering Technologist. Members of the Society have the right to place the letters "C.E.T." after their names.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $160 for the second academic year.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Avenue, Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the Instrumentation Technology field.

For information on Instrumentation Technology, and other College courses, you may contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The first year of the Electrical Electronic Technology Computer and Instrumentation courses are also offered at Assiniboine Community College, Brandon.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

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Red River Community College is operated by the

MANITOB
DEPARTMENT OF EDUCATION
with financial assistance provided by the Government of Canada
Instrumentation Technology

Purpose: To develop an understanding of the way in which electronic, electrical and mechanical components form a controlled system. The graduate will be able to do engineering design on simple process control systems, troubleshoot and maintain most data monitoring and process control systems.

Entry Date: September
Course Length: Two academic years (ten months each)

Admissions

Am I Suited For This Course?
If you are interested in working as an Instrumentation Technologist, you should have an inquiring mind, a mechanical aptitude, and the ability to analyze problems. Manual dexterity is important as you will be working with equipment which will require hand and finger coordination. You should enroll in 300-level mathematics and physics in high school if you are planning to pursue a career in Instrumentation Technology. These 300-level subjects may enhance your likelihood for success in the course since applicants who have had a background in these subjects have been more successful in completing the two-year program. This course is academically demanding so you should be prepared to spend two to three hours outside of class time doing assignments. The workload will vary from term to term.

Entrance Requirements

— 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and Physics 300 or Physical Science 301.*

or

— the equivalent of the above gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

*The College Admissions Committee is currently reviewing the entrance requirements for all technology courses.

Program

Instrumentation is the technology that ties all the electronic, electrical, and mechanical components of a machine together to form a controlled system. These systems are used in almost every area of research, development, and industry to measure, record, analyze, and control product output.

Instrumentation Technology is a multidiscipline course encompassing electronic, electrical, and mechanical subjects. This course will include microprocessors, power electronics and control valves.

This course has an Advisory Committee which includes representatives from industry, university, government, and the College, as well as graduates of the course. Through this committee and instructor contact with industry, the College keeps up to date with the current standards required by prospective employers.

What Will I Study?
The first year of training will be common with the Electrical, Computer and Electronic Technology courses. Emphasis will be on calculus, report writing, drafting, basic electronics and electric circuits.

The following year consists of electronic, electrical, sensor, mechanical, computer engineering design, control systems, and a number of calculus and physics subjects.
### Course Outline

#### Year 1

<table>
<thead>
<tr>
<th>Term 1</th>
<th>T09-E101</th>
<th>Electric Circuits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T09-E102</td>
<td>Basic Electronics</td>
</tr>
<tr>
<td></td>
<td>T09-E103</td>
<td>Electrical/Electronic Draw</td>
</tr>
<tr>
<td></td>
<td>T09-E104</td>
<td>Basic Electrical Instruments</td>
</tr>
<tr>
<td></td>
<td>T10-M132</td>
<td>Algebra and Trigonometry</td>
</tr>
<tr>
<td></td>
<td>T10-R132</td>
<td>Physics</td>
</tr>
<tr>
<td></td>
<td>T14-C116</td>
<td>Communication</td>
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**Term 2**

<table>
<thead>
<tr>
<th>T08-E206</th>
<th>Basic Electrical Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>T08-E201</td>
<td>Telephone Systems week</td>
</tr>
<tr>
<td>T08-E202</td>
<td>Basic Electronics</td>
</tr>
<tr>
<td>T08-E206</td>
<td>Introductory Logic</td>
</tr>
<tr>
<td>T08-E207</td>
<td>Introductory Programming</td>
</tr>
<tr>
<td>T10-M232</td>
<td>Introductory Calculus</td>
</tr>
<tr>
<td>T10-R234</td>
<td>Instrumentation Physics</td>
</tr>
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</table>

#### Year 2

<table>
<thead>
<tr>
<th>Term 3</th>
<th>T09-E205</th>
<th>Manufacturing Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T09-E202</td>
<td>Electronic Devices</td>
</tr>
<tr>
<td></td>
<td>T09-E303</td>
<td>Electronic Measurements</td>
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<td></td>
<td>T09-E304</td>
<td>Linear Control Systems</td>
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<td></td>
<td>T09-E305</td>
<td>Communication Theory</td>
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<td></td>
<td>T09-E306</td>
<td>Digital Theory</td>
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<td></td>
<td>T10-M332</td>
<td>Topics in Advanced Mathematics</td>
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</table>

**Term 4**

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<thead>
<tr>
<th>T09-E401</th>
<th>Electrical Circuits &amp; Fields</th>
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<tbody>
<tr>
<td>T09-E403</td>
<td>Integrated Circuits</td>
</tr>
<tr>
<td>T09-E404</td>
<td>Radio Systems (optional)</td>
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<tr>
<td>T09-E405</td>
<td>Microwave Systems (optional)</td>
</tr>
<tr>
<td>T08-E406</td>
<td>Digital Control Systems Using Microprocessors</td>
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<td>T09-E407</td>
<td>Television Systems (optional)</td>
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<td>T08-E408</td>
<td>Audio Systems (optional)</td>
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<td>T09-E409</td>
<td>Radar Systems (optional)</td>
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<td>T09-E410</td>
<td>Business Topics (optional)</td>
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<td>T09-E411</td>
<td>Systems Project (optional)</td>
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<tr>
<td>T09-E432</td>
<td>Applications Programming for Electronics</td>
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<tr>
<td>T10-S432</td>
<td>Statistics and Quality Control (optional)</td>
</tr>
<tr>
<td>T14-R216</td>
<td>Report Writing</td>
</tr>
</tbody>
</table>

* optional — select two

### What's In It For Me?

If you terminate training after successfully completing one year of the course you will receive an Electronic Technician Certificate. Successful completion of the entire two-year course will give you an Electronic Technology Diploma from Red River Community College.

If you graduate as an Electronic Technician, you will have less responsibility than an Electronic Technologist, and you will work with less complicated technological equipment.

Your job opportunities, as a technician or a technologist, will be in research, installation, maintenance, design, production, building, testing, and industrial marketing of electronic equipment. You may also often assist a technologist.

Graduates have found employment in almost every aspect of electronic technology. The Ministry of Transport, the Department of Communications, Manitoba Hydro and Manitoba Telephone System hire people to work throughout Manitoba. Often universities and hospitals have hired graduates as maintenance or design people. You may also find employment in private industry with companies such as I.B.M. or Xerox where you would do service work. Career opportunities exist as well with the Canadian Armed Forces.

If you are interested in further studies towards a degree in engineering, you may transfer credit to the University of Manitoba or to Lakehead University, Thunder Bay, Ontario. Credit will be granted on an individual basis. Information regarding the transfer of credits should be directed to the universities.

The graduate occupies a key and unique position between the engineer and the craftsperson. Trained to adapt engineering theory to industrial practice, one is limited only by one's personal horizon.

Note: In order to obtain recognition as a Certified Engineering Technologist (C.E.T.), successful graduates must register with the Manitoba Society of Certified Engineering Technologists and Technologists (MANSETC) as associate members. After completion of two years of relevant work experience, you may apply for full membership as a Certified Engineering Technologist. Members of the Society have the right to place the letters "C.E.T." after their names.

### General Information

#### How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $280 for the second academic year.

Students may apply for financial aid from the provincial government's Student Aid program.

Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

### How Do I Apply?

An application form for this course may be obtained by writing to the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all requirements have been met, thus qualifying the applicant for admission to the course.

### By The Way...

To find out more about this occupation, you could contact people in the electronic field.

For information on Electrical Technology and other College courses, you may contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The first year of the Electrical, Electronic, Computer and Instrumentation Technology courses is also offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

### How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $280 for the second academic year.

Students may apply for financial aid from the provincial government's Student Aid program.
Electronic Technology

Purpose: To develop a knowledge of electronic fundamentals and the ability to test, repair, and develop a wide variety of electronic equipment.

Term Dates: September - May

Admission Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

Eligible applicants are admitted on a first-come, first-served basis.

Program:
The Electronic Technology program has been developed in consultation with the Manitoba Institute of Technology and the College. Through this committee, and the College's involvement in the Manitoba Institute of Technology, the program is an integral part of the current standards required by prospective employers.

What Will I Study?
Your first year will include the following courses:
- Electronics Fundamentals
- AC and DC Circuits
- Basic Electronics and Circuit Theory
- Drafting and Report Writing
- Basic Calculus
- Physics

During your second year, emphasis will be placed on practical problems in a lab environment. You will be taught to repair and develop a wide variety of electronic equipment.

Entrance Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to the course as a mature student. All mature student applications are reviewed by the Admissions Office and the Program Director.

Eligible applicants are admitted on a first-come, first-served basis.

Admissions:
Am I Suited For This Course?
- An analytical mind and the ability to logically approach and solve problems are definite assets for this course.
- You should enjoy working with people since you will have close contact with people in professional positions.
- You should enrol in 300-level mathematics and physics in high school if you are planning to pursue a career in Electronic Technology. These 300-level subjects may enhance your likelihood of success in the courses, as applicants with a background in these subjects have been more successful in completing the two-year program.

Entrance Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to the course as a mature student. All mature student applications are reviewed by the Admissions Office and the Program Director.

Eligible applicants are admitted on a first-come, first-served basis.

The College Administration Committee is currently reviewing the entrance requirements for all technology programs.

Admissions:
Am I Suited For This Course?
- An analytical mind and the ability to logically approach and solve problems are definite assets for this course.
- You should enjoy working with people since you will have close contact with people in professional positions.
- You should enrol in 300-level mathematics and physics in high school if you are planning to pursue a career in Electronic Technology. These 300-level subjects may enhance your likelihood of success in the courses, as applicants with a background in these subjects have been more successful in completing the two-year program.

Entrance Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to the course as a mature student. All mature student applications are reviewed by the Admissions Office and the Program Director.

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Am I Suited For This Course?
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- You should enrol in 300-level mathematics and physics in high school if you are planning to pursue a career in Electronic Technology. These 300-level subjects may enhance your likelihood of success in the courses, as applicants with a background in these subjects have been more successful in completing the two-year program.

Entrance Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to the course as a mature student. All mature student applications are reviewed by the Admissions Office and the Program Director.

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The College Administration Committee is currently reviewing the entrance requirements for all technology programs.

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Entrance Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to the course as a mature student. All mature student applications are reviewed by the Admissions Office and the Program Director.

Eligible applicants are admitted on a first-come, first-served basis.

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Entrance Requirements:
- 20 high school credits (Manitoba Grade 12 or 300/301 equivalent) including English, Mathematics, and Physics.
- Equivalent gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to the course as a mature student. All mature student applications are reviewed by the Admissions Office and the Program Director.

Eligible applicants are admitted on a first-come, first-served basis.

The College Administration Committee is currently reviewing the entrance requirements for all technology programs.
**Course Outline**

### Year 1

**Term 1**
- T09-E101 Electric Circuits
- T09-E102 Basic Electronics
- T09-E103 Electrical/Electronic Draw
- T09-E104 Basic Electrical Instruments
- T10-M132 Algebra and Trigonometry
- T10-R132 Physics
- T14-C116 Communication

**Term 2**
- T08-E206 Basic Electrical Instruments
- T09-E201 Electric Circuits
- T09-E202 Basic Electronics
- T08-E206 Introductory Logic
- T08-E207 Introductory Programming
- T10-M232 Introductory Calculus
- T10-R234 Instrumentation Physics

### Year 2

**Term 3**
- T08-E301 Electrical Machines
- T08-E303 Industrial Electronics
- T08-E304 Electrical Measurements
- T08-E305 Electrical Practices and Design
- T08-E307 Linear Circuit Analysis
- T10-M333 Calculus
- T14-R236 Report Writing

**Term 4**
- T08-E401 Electrical Machines
- T08-E402 Digital and Computer Control Techniques
- T08-E403 Industrial Electronics
- T08-E404 Electrical Transmission and Measurements
- T08-E405 Switchgear and Protection
- T08-E406 Manufacturing Techniques

### What's In It For Me?

If you terminate training after successfully completing one year of the course, you will receive an Electronic Technician's Certificate. Successful completion of the entire two-year course will give you a Diploma in Electrical Technology from Red River Community College.

If you graduate as an Electronic Technician, you will have less responsibility than an Electrical Technologist, and you will work with less complicated technological equipment.

Your training will prepare you to enter the electrical industry as a para-professional or engineering assistant. Previous graduates have found employment with consulting engineers, manufacturers, electric utilities, government agencies, contractors and distributors. Other job opportunities are available as maintenance people, design and draftsperson, and technical sales representatives.

If you are interested in further studies towards a degree in engineering, you may transfer credit to the University of Manitoba or to Lakehead University, Thunder Bay, Ontario. Credit will be granted on an individual basis, information regarding the transfer of credits should be directed to the universities.

Notification: In order to obtain recognition as a Certified Engineering Technologist (C.E.T.), successful graduates must register with the Manitoba Society of Certified Engineering Technicians and Technologists (MANSCETT) as associate members. After completion of two years of relevant work experience, you may apply for full membership as a Certified Engineering Technologist. Members of the Society have the right to place the letters "C.E.T." after their names.

### General Information

**How Much Will It Cost?**

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $145 for the second academic year.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6821.

**By The Way . . .**

To find out more about this occupation, you could contact people in the electrical technology field.

For information on Electrical Technology and other College courses, you may contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The first year of the Electrical, Electronic, Computer and Instrumentation Technology courses is also offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

**How Do I Apply?**

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Avenue, Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.
Electrical Technology

Purpose: To develop knowledge and skills related to the broad field of electrical engineering. The graduate occupies a key and unique position between the engineer and craftsman and is trained to adapt engineering theory to industrial practice.

Entry Date: September
Course Length: Two academic years (ten months each)

Am I Suited For This Course?
You should have a genuine interest in electrical engineering and have an aptitude for mechanics. You will require a strong science and mathematics background. You should enroll in 300-level mathematics and physics in high school if you are planning to pursue a career in Electrical Technology. These 300-level subjects may enhance your likelihood for success in the course, since applicants who have had a background in these subjects have been more successful in completing the two-year program. This course is demanding academically so you should be prepared to spend at least two or three hours an evening doing homework. The workload will vary from term to term.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and Physics 300 or Physical Science 301;
- or
- the equivalent of the above gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

The College Admissions Committee is currently reviewing the entrance requirements for all technology courses.

What Will I Study?
Your first year of training will be in common with Electronic, Computer, and Instrumentation Technology. Emphasis will be on calculus, report writing, drafting, basic electronics and electrical circuits.

The remainder of your training period will be spent on subjects such as electrical machines, electrical practices and design, transmission lines, power sources, and the basic fundamentals of instruments, circuits and control devices (logic systems and computers).

Training time is divided between classroom lectures and various laboratory projects.

Program
The Electrical Technology program has been designed to educate the students in many areas of the broad field of electrical engineering.

This course has an Advisory Committee which includes representatives from the electrical industry, previous graduates and the College instructors. Through this committee and instructor contact with industry, the College keeps up to date with the current standards required by prospective employers.

RED RIVER COMMUNITY COLLEGE
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone (204) 632-2311
Course Outline

Year 1

Term 1
- T09-E101 Electric Circuits
- T09-E102 Basic Electronics
- T09-E103 Electrical/Electronic Draw
- T09-E104 Basic Electrical Instruments
- T10-M132 Algebra and Trigonometry
- T10-R132 Physics
- T14-C116 Communication

Term 2
- T08-E206 Basic Electrical Instruments
- T09-E201 Electric Circuits
- T09-E202 Basic Electronics
- T09-E206 Introductory Logic
- T09-E207 Introductory Programming
- T10-M232 Introductory Calculus
- T10-R234 Instrumentation Physics

Year 2

Term 3
- T08-E301 Electrical Machines
- T08-E303 Industrial Electronics
- T08-E304 Electrical Measurements
- T08-E305 Electrical Practices and Design
- T08-E307 Linear Circuit Analysis
- T10-M333 Calculus
- T14-R216 Report Writing

Term 4
- T08-E401 Electrical Machines
- T08-E402 Digital and Computer Control Techniques
- T08-E403 Industrial Electronics
- T08-E404 Electrical Transmission and Measurements
- T08-E405 Switchgear and Protection
- T08-E406 Manufacturing Techniques

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $145 for the second academic year.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Avenue, Winnipeg R3J 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the electrical technology field.

For information on Electrical Technology and other College courses, you may contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The first year of the Electrical, Electronic, Computer and Instrumentation Technology courses is also offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

What's In It For Me?

If you terminate training after successfully completing one year of the course, you will receive an Electronic Technician's Certificate. Successful completion of the entire two-year course will give you a Diploma in Electrical Technology from Red River Community College.

If you graduate as an Electronic Technician, you will have less responsibility than an Electrical Technologist, and you will work with less complicated technological equipment.

Your training will prepare you to enter the electrical industry as a para-professional or engineering assistant. Previous graduates have found employment with consulting engineers, manufacturers, electric utilities, government agencies, contractors and distributors. Other job opportunities are available as maintenance people, design and draftspeople, and technical sales representatives.

If you are interested in further studies towards a degree in engineering, you may transfer credit to the University of Manitoba or to Lakehead University, Thunder Bay, Ontario. Credit will be granted on an individual basis. Information regarding the transfer of credits should be directed to the universities.

Note: In order to obtain recognition as a Certified Engineering Technologist (C.E.T) successful graduates must register with the Manitoba Society of Certified Engineering Technicians and Technologists (MANSCET) as associate members. After completion of two years of relevant work experience, you may apply for full membership as a Certified Engineering Technologist. Members of the Society have the right to place the letters 'C.E.T.' after their names.
Electrical Technology

Purpose: To develop knowledge and skills related to the broad field of electrical engineering. The graduate occupies a key and unique position between the engineer and craftsman and is trained to adapt engineering theory to industrial practice.

Entry Date: September
Course Length: Two academic years (ten months each)

Admissions

Am I Suited For This Course?
You should have a genuine interest in electrical engineering and have an aptitude for mechanics. You will require a strong science and mathematics background. You should enroll in 300-level mathematics and physics in high school if you are planning to pursue a career in Electrical Technology. These 300-level subjects may enhance your likelihood for success in the course, since applicants who have had a background in these subjects have been more successful in completing the two-year program. This course is demanding academically so you should be prepared to spend at least two to three hours an evening doing homework. The workload will vary from term to term.

Entrance Requirements
— 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and Physics 300 or Physical Science 301;
— the equivalent of the above gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

The College Admissions Committee is currently reviewing the entrance requirements for all technology courses.

Program

The Electrical Technology program has been designed to educate the students in many areas of the broad field of electrical engineering. This course has an Advisory Committee which includes representatives from the electrical industry, previous graduates and the College instructors. Through this committee and instructor contact with industry, the College keeps up to date with the current standards required by prospective employers.

What Will I Study?
Your first year of training will be in common with Electronic, Computer, and Instrumentation Technology. Emphasis will be on calculus, report writing, drafting, basic electronics and electrical circuits.

The remainder of your training period will be spent on subjects such as electrical machines, electrical practice and design, transmission lines, power sources, and the basic fundamentals of instruments, circuits and control devices (logic systems and computers).

Training time is divided between classroom lectures and various laboratory projects.
Course Outline

Year 1

Term 1
T08-E101 Electric Circuits
T08-E102 Basic Electronics
T08-E103 Electrical Electronic Draw
T08-E104 Basic Electrical Instruments
T10-M132 Algebra and Trigonometry
T10-R132 Physics
T14-C116 Communication

Term 2
T08-E206 Basic Electrical Instruments
T09-E201 Electric Circuits
T08-E202 Basic Electronics
T08-E206 Introductory Logic
T09-E207 Introductory Programming
T10-M232 Introductory Calculus
T10-R234 Instrumentation Physics

Year 2

Term 3
T08-C301 Electronic Devices
T08-C302 Control Systems
T08-C303 Computer Circuits
T08-C304 Assembly Programming
T08-C305 Computer Systems
T08-C306 Circuits Transmission Lines
T10-M335 Calculus

Term 4
T08-C401 Electronic Devices
T08-C404 Integrated Circuits
T08-C405 Computer Systems
T08-C410 Microprocessors Interfacing
T08-C411 Computer Peripherals
T14-R216 Report Writing

Choose one of the following:
T08-C412 Manufacturing Techniques
T10-M435 Numerical Methods

What's In It For Me?

If you terminate training after completing one year of the course, you will receive an Electronic Technician's Certificate. Successful completion of the entire two-year course will give you a Computer Technology Diploma from Red River Community College.

If you graduate as an Electronic Technician, you will have less responsibility than a Computer Technologist, and you will work with less complicated technological equipment.

Previous graduates have found employment working with both the hardware and software aspects of the computer industry. Jobs are available as customer engineers for installers of computer systems, maintenance people, computer application technologists with industry using computers in process control or in scientific applications, and with utilities such as telephone and hydro. Other career opportunities are available with the Canadian Armed Forces.

If you are interested in further studies towards a degree in engineering, you may transfer credit to the University of Manitoba or to Lakehead University, Thunder Bay, Ontario. Credit will be granted on an individual basis. Information regarding the transfer of credits should be directed to the universities.

The graduate occupies a key and unique position between the engineer and the craftsman. Trained to adapt engineering theory to industrial practice, one is limited only by one's personal horizon.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies are approximately $300 for the first academic year and approximately $260 for the second academic year.

Students may apply for financial aid from the provincial government's Student Aid Program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 3J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the computer technology field.

For information on Computer Technology and other College courses, you may contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The first year of the Electrical, Electronic, Instrumentation and Computer Technology courses are also offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Computer Technology

Purpose: To develop a knowledge of electronic fundamentals with an understanding of both the hardware and software aspects of computer techniques. To provide a broad background in electrical and electronic theory with supplementary training in digital electronics, logic systems, minicomputers and microprocessors.

Entry Date: September
Course Length: Two academic years (ten months each)

Admissions

Am I Suited For This Course?

An analytical mind and the ability to logically approach and solve problems are definite assets for this course. You should enjoy working with people as you will have close contact with people in professional positions. You should enroll in 300-level mathematics and physics in high school (rather than 301 subjects) if you are planning to pursue a career in Computer Technology. These 300-level subjects may enhance your likelihood for success in the course since applicants who have had a background in these subjects have been more successful in completing the two-year program.* This course is academically demanding so you should be prepared to spend two to three hours outside of class time doing assignments. The workload will vary from term to term.

Entrance Requirements

— 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and Physics 300 or Physical Science 301;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

* The College Admissions Committee is currently reviewing the entrance requirements for all technology programs.

Program

Computer Technology has been designed to provide students with a broad background in electrical and electronic theory with supplementary training in digital electronics, logic systems, minicomputers and microprocessors. This course is not a computer science or computer analyst/programmer course.

The course has an Advisory Committee which includes representatives from various firms in the electronic industry as well as graduates and instructors from the College. Through this committee and instructor contact with industry, the College keeps up to date with the current standards required by prospective employers.

What Will I Study?

The first year of training will be in common with the Instrumentation, Electrical and Electronic Technology courses. Emphasis will be on calculus, report writing, drafting, basic electronics and electric circuits.

The remainder of your training period will be spent on the in-depth study of control systems, logic computer circuits, computer programming, computer interfacing, integrated circuits, microprocessors and computer application.
Course Outline

Building Technology

Year 1

Term 1
- T05-102 Mechanics
- T05-103 Surveying
- T05-105 Strength of Materials
- T05-106 Engineering Graphics
- T10-1212 Algebra and Trigonometry
- T14-0116 Communication

Term 2
- T05-202 Mechanics
- T05-203 Surveying
- T05-205 Strength of Materials
- T05-206 Engineering Graphics
- T10-4214 Introductory Calculus

Year 2

Term 3
- T05-303 Job Control & Estimating
- T05-306 Concrete Construction
- T05-307 Testing Materials
- T05-308 Theory of Structures
- T05-311 Timber Design & Forestry
- T05-317 Soil Mechanics

Term 4
- T05-404 Construction Administration
- T05-405 Building Construction
- T05-406 Reinforced Concrete Design
- T05-407 Building Services and Specifications
- T05-410 Foundation Design
- T05-412 Estimating

Structural Technology
(Term 1, 2 and 3 are common with Building Technology)

Term 4
- T05-1406 Reinforced Concrete Design
- T05-1410 Foundation Design
- T05-1412 Structural Steel Design
- T05-1414 Bridge Design
- T05-1415 Estimating
- T05-1422 Theory of Structures

Civil Technology
(Term 1 and 2 are common with Building Technology)

Year 2

Term 3
- T05-312 Hydraulics
- T05-316 Photogrammetry
- T05-317 Soil Mechanics
- T05-320 Structural Design
- T05-321 Street and Highway Design
- T10-4239 Calculus and Statistics

Term 4
- T05-401 Job Control
- T05-402 Pavement Mix Design
- T05-419 Terrain Classification
- T05-423 Water Supply and Waste Disposal
- T05-424 Hydrology
- T05-425 Stabilization

Design and Drafting Technology
(Term 1 is common with Building Technology)

Term 2
- T05-208 Architectural Drafting
- T05-209 Structural Design
- T05-210 Materials
- T05-212 Basic Building Science
- T05-213 Machine Drafting
- T14-216 Report Writing

Term 3
- T05-309 Architectural Drafting and Design
- T05-310 Structural Design
- T05-311 Building Construction
- T05-312 Theory of Structures
- T05-313 Machine Drafting and Design
- T05-314 Materials and Specifications

Surveying Technology
(Term 1 is common with Building Technology)

Term 2
- T05-203 Surveying
- T05-204 Theory and Use of Instruments
- T05-205 Plan Preparation
- T05-206 Computer Application
- T05-215 Survey Camp
- T05-216 Photogrammetry
- T10-2317 Surveying Mathematics

Term 3
- T05-303 Advanced Surveying
- T05-304 Theory and Use of Instruments
- T05-305 Plan Preparation
- T05-306 Route Surveys
- T05-307 Photogrammetry
- T05-308 Soil Mechanics
- T10-3237 Advanced Surveying Mathematics

Term 4
- T05-402 Terrain Classification
- T05-403 Control Surveys
- T05-405 Legal Surveying
- T05-407 Town Planning
- T05-408 Astronomical
- T05-415 Survey Camp
- T05-416 Cartography
- T05-424 Hydraulics

What's In It For Me?

Design and Drafting Technology graduates are employed with architects or consulting engineers, contractors, fabricators and service industries.

Structural Technologists could find employment in structural design and analysis with consulting engineering firms, architectural firms, crown corporations or public works departments.

Job opportunities for Building Technologists are available in the fields of estimating, construction, maintenance supervision, building inspection and material testing.

Job opportunities for Surveying Technologists are available with private or legal surveyors, mines departments, resource industries, or with the federal government. A graduate of the Surveying Technology course can arrele with a land surveyor for two years and after a series of examinations can obtain a commission as a Manitoba Land Surveyor.

Civil Technology graduates are trained to assist engineers in planning, designing and constructing streets, highways, railroads, airports, drainage and flood protection facilities, sewage disposal and water supply facilities.

General Information

Tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $500.

How Do I Apply?

Application forms for these courses may be obtained by writing to the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Avenue, Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received so you are encouraged to apply early.

By The Way...

To find out more about these occupations you could visit people in any of the civil technology fields.

For information on these courses, contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

First Issue Sept 79

Fees & Content subject to change without notice.

Red River Community College
is operated for the Government of Canada

MANITBA
DEPARTMENT OF EDUCATION
Civil Technology

Purpose: The Civil Technology department consists of five separate courses — Building, Civil, Design and Drafting, Structural, and Surveying Technology. Each course is designed to prepare technologists to work in a specific field as an assistant to an engineer.

Entry Date: September

Course Length: Two academic years (10 months each)

Am I Suited For This Course?

It is important that you have good eyesight, with or without glasses, and have full use of both arms and legs. You must also be mobile as you will have to move from your office location to construction sites. You will require a strong academic background in mathematics and physics, therefore you are advised to enroll in Mathematics 300 and Physics 300 before entering the course. In the past, students who have had a strong background in these subjects have been more successful in completing these courses. These courses are demanding academically so you should be prepared to spend at least two to three hours an evening doing homework. (The workload will vary from term to term.)

Entrance Requirements

20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, Physics 300 or Physical Science 301;

or

—the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission: Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and physics) will likely be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

These courses have an Advisory Committee which includes representatives from industry, government and the College. Through this committee and instructor contact with industry, the College keeps up to date with current standards required by prospective employers.

What Will I Study?

The Design and Drafting Technology course deals with the architectural field before the actual construction begins. The course will train you to produce working drawings of a proposed building to convey information about this building from the designer to the fabricator, owner or financial agency. Emphasis during training will be on structural design, mechanical building systems and architectural detailing and design.

Building Technology has been designed to train technologists to work in the field of building construction. Emphasis will be on structural design and surveying, estimating, building management and building systems.

The Structural Technology course is allied closely with Building Technology. Rather than dealing with small construction, it deals with the design of concrete, steel and wood for commercial, industrial and large residential buildings, highway and railroad bridges, power transmission lines or any other similar construction.

In the Civil Technology course you will spend some time studying hydraulic studies, structural design and surveying. You will also learn soil mechanics, structural design, calculus and statistics as well as water supply and waste disposal.

If you choose to enter the Surveying Technology course, you will study surveying mathematics, plan preparation and theory and use of instruments; terrain classification control and legal surveying and town planning are also studied. There will be a heavy emphasis on various surveying subjects as well as the theory and use of instruments required for employment.
Course Outline

Year 1

Term 1

- T07-L102 General Chemistry
- T07-L103 Analytical Chemistry I
- T07-L107 Mechanics, Heat & Light
- T07-L108 Zoology
- T07-L109 Botany
- T10-M117 Biological Mathematics
- T14-C116 Communication

Term 2

- T07-L203 Analytical Chemistry II
- T07-L204 Organic Chemistry
- T07-L205 Ecology
- T07-L206 Entomology and Parasitology
- T07-L207 Electricity & Radiation Biology
- T07-L211 Biological Data Handling
- T14-R216 Report Writing

Year 2

Term 3

- T07-L305 Instrumental Methods of Analysis
- T07-L313 Anatomy and Physiology
- T07-L314 Biochemistry
- T07-L315 Microbiology
- T07-L316 Micro Techniques
- T07-L320 Animal Husbandry

Term 4

- T07-L405 Instrumental Methods of Analysis
- T07-L410 Biological Project
- T07-L414 Biochemistry
- T07-L415 Applied Microbiology
- T07-L417 Pathological Techniques
- T07-L423 Environmental Measurements
  (optional)
- T07-L425 Wildlife Management (optional)
- T07-L427 Clinical Chemistry (optional)

What's In It For Me?

Upon successful completion of this course you will receive a Diploma from Red River Community College.

Job opportunities are available in biological and microbiological labs, meat and food processing industries, veterinary clinics and labs, fish and wildlife services, university labs, environment and public health agencies, and federal and provincial government experimental and research stations.

If you are interested in further studies towards a Bachelor of Science degree you may be able to transfer credit to the University of Winnipeg and the University of Manitoba. Credit will be granted on an individual basis. Inquiries should be directed to the universities.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Lab coats, safety glasses, supplies and books will cost approximately $370 for the first year and $340 for the second year.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C. Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of application. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptance are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the biological technology field.

For information on Biological Technology and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Purpose: To develop a knowledge of fundamental principles and procedures of chemistry, biochemistry, biology, physics, mathematics and computer programming related to the field of modern biological technology.

Entry Date: September

Course Length: Two academic years (ten months each)

Am I Suited For This Course?

You should have an aptitude for science (especially physics and chemistry) and for problem solving. Concentration on details is an asset as you will be required to do precise and exacting work. Since biology is the science dealing with the life processes of plants and animals, you should have an interest in living organisms and the composition and chemical changes occurring in living tissues. Color blindness would interfere with your observation of test samples.

Entrance Requirements

- 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and two of Biology 300 or 301, Physics 300, or Chemistry 300; or
- 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, Biology 300 or 301, and Physical Science 301; or
- the equivalent of either of the above gained through an adult education program. (The 300-level subjects may enhance your likelihood for success in this course. In the past, applicants with a strong background in the 300-level subjects have been more successful in completing the two-year program.)

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics, biology and chemistry or physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

What Will I Study?

The course is designed to give you a broad and varied knowledge of fundamental principles in chemistry, biochemistry, biology, physics and mathematics, and computer programming as applied to a technology dealing with living systems.

Fifty percent of your course time may be spent in a laboratory doing experimentation. Course content is delivered through lectures and working laboratory situations.

You will be exposed to modern apparatus, equipment, procedures and techniques as applied to biological technology. You will also develop communication skills that include learning to interpret, analyze, and transmit data and ideas graphically, orally and in writing. You will be taught to understand and apply sanitation procedures and to carry out diagnostic tests in veterinary laboratories.

You will learn the proper use of microscopes and how to identify and dissect plants and animals. The identification and control of parasites and insects, the preparation and examination of tissues, animal care, and many other related subjects will be studied.

You will also learn to care for and maintain a genetic stock of plant material; to care for laboratory animal colony; to feed, breed, and maintain the colony under the supervision of instructors or educational assistants.

Program

The laboratories at the College have been set up to simulate the work environment in industry. This environment will provide the student with valuable practical experience.

This course has a Course Advisory Committee which includes scientists from industry and government, former graduates and College personnel. Through this committee, and instructor contact with industry, the College keeps up to date with the current standards required by prospective employers.
General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students’ Association fee of $2 a month. Lab coats, safety glasses and books will cost approximately $325 for the first year and $255 for the second year.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6821.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...
To find out more about this occupation, you could contact people in the chemical or biochemical field.

For information on Chemical or Biochemical Technology and other College courses, contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

What’s In It For Me?
Upon successful completion of the ten-month Chemical Technician course, you will receive a Certificate from Red River Community College. Upon successful completion of the two-year Biochemical or Chemical Technology courses, you will receive a Diploma from Red River Community College.

Chemical Technicians are employed in testing laboratories doing analyses that are of a routine nature. You could become employed as a chemical analyst, plant control analyst, plant control technician or in sales and service for chemical products.

Chemical Technologists are employed in positions requiring research and quality control testing and in positions requiring personal initiative and creative ability. Jobs are available as research assistants, chemical analysts, plant control chemists, laboratory experimentation specialists, salespeople and service people for chemical products and equipment or as teachers' aids.

Biochemical Technology graduates are required in medical and dental research, pharmaceutical quality control or agricultural research. Graduates have found employment in universities as biochemical research assistants or in meat and food processing industries, air and water pollution control labs, environmental and public health agencies, fish and wildlife services or in industry as sales personnel for biochemical equipment or chemicals.

Advanced courses leading to a post-diploma in Technology are offered by the Canadian Society for Chemical Biological Technology through the College’s evening program. This program is offered for areas in which extensive knowledge is required in electronics and advanced chemistry courses, including instrumentation.

Note: Graduates of R.R.C.C. with a diploma in Chemical or Biochemical Technology may transfer credit from the College to the University of Winnipeg or the University of Manitoba towards a Bachelor of Science degree. The University of Winnipeg may grant up to one year credit and the University of Manitoba may grant up to one-and-a-half years' credit. A B.Sc. graduate may complete the requirements for a diploma in Chemical or Biochemical Technology in the equivalent of one year (50 credits).

Chemical Technology — Second Year

Term 3
T07-C304 Organic Chemistry
T07-C305 Instrumental Chemical Analysis
T07-C306 Physical Chemistry
T07-C309 Industrial Chemistry
T07-C310 Chemical Instrumentation Circuitry
T10-M315 Calculus and Programming

Biochemical Technology — Second Year

Term 3
T07-B305 Instrumental Biochemical Analysis
T07-B306 Biophysical Chemistry
T07-B314 Biochemistry
T07-B315 Microbiology
T07-C310 Chemical Instrumentation circuitry
T10-M316 Calculus and Programming
T07-B405 Instrumental Biochemical Analysis
T07-B406 Biphysical Chemistry
T07-B410 Biochemical Project
T07-B414 Biochemistry
T07-B416 Biology (Optional)
T07-B417 Modern Topics in Biochemistry (Optional)
T07-B427 Clinical Chemistry (Optional)
T07-C411 Chemical Data Handling
T07-C417 Environmental Science and Resource Management (Optional)
T07-C418 Economics and Investment Decisions (Optional)
T14-R216 Report Writing
Chemical Technology

Biochemical Technology

Chemical Technician

Purpose: To develop a broad knowledge of principles and procedures in chemistry or biochemistry, physics, mathematics and computer programming related to the chemical or biochemical fields and to develop operational techniques as applied to research, production, development, testing and control. The graduate will have gained highly specialized training in modern chemical or biochemical instrumentation.

Entrance Requirements

— 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, Physics 300 or Physical Science 301 and Chemistry 300;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics, chemistry and physics) will be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

These courses have Advisory Committees which include representatives from the chemistry and biochemistry fields, as well as instructors and graduates from the College. Through these committees and instructor contact with industry, the College keeps up to date with the current standards required by prospective employers.

The main objective of these courses is to give a broad knowledge of lab equipment, procedures and techniques as well as the chemical and physical techniques required for employment in any industrial testing, production or control laboratory.

What Will I Study?

The content of the first year of training for the Chemical and Biochemical Technology courses is identical to the ten-month Chemical Technician course. During this ten-month period, you will be taught general and organic chemistry as well as heat and electricity mechanics, quantitative and qualitative inorganic analysis, optics, nuclear chemistry, electronics and a calculus course that includes basic FORTRAN computer programming.

Chemical Technology (second year) — You will learn to use modern electronic equipment to perform many of the tests which were performed chemically in your first year. Emphasis will be on subjects such as electronic instrumentation, industrial chemistry, physical chemistry and statistics. Since it will often be necessary to repair or modify lab equipment, you will learn basic glass blowing techniques as part of the laboratory techniques class.

In the final term of your second year, you will choose and complete an independent research project. You will survey scientific journals and evaluate whether your project would be practical in an industrial laboratory or as a part of an industrial production process. If your project proposal is accepted by your instructor, you will complete the necessary lab work and present the results in a written and oral report. This project will give you an insight into the type of research work you will encounter in industry.

Biochemical Technology (second year) — Your second year will be related directly to the biochemical field. Approximately half of your training will be spent doing practical work in the College laboratories. You will be exposed to modern biochemical apparatus, equipment, procedures and techniques as applied to research, production, development, testing and control. As the course progresses, you will acquire specialized training in modern biochemical instrumentation.

You will study the life processes of both plants and animals in chemical and physical terms, the analyzing of food and other material for content and purity, and the tabulation and evaluation of the results of experiments.

Eligible applicants are admitted on a first-come, first-served basis.

Admissions

Am I Suited For This Course?

You should have an aptitude for science and problem solving and have the ability to do precise, exacting work. Employment opportunities will require you to be physically mobile and have good color recognition/distinction for observing test samples. This course is academically demanding. If you are currently enrolled in or have recently taken 300-level English, Mathematics and Physics subjects your chance for success in these courses is greatly enhanced. Previous students with the 300-level prerequisites have been more successful in completing the technologies.*

It is strongly suggested that applicants enroll in 300-level Mathematics and 300-level English and Physics if they are planning to enroll in these courses.

Course Outline

Chemical Technician

Term 1
- 07-C101 General Chemistry
- 07-C103 Analytical Chemistry I
- 07-C104 Organic Chemistry
- 07-C107 Mechanics and Heat
- 10-M115 Chemical Mathematics
- 14-C116 Communication
Apprenticeship Information

An apprentice is a person at least 16 years of age who enters into a written agreement to learn a skilled trade. The apprenticeship provides for a coordinated program of practical experience and related technical instructions.

Annual training courses for indentured apprentices in the designated trades are offered by the Department of Labour in full-time day classes at Red River Community College, Industrial and Technology Division.

These courses are at graduated levels and are attended at set intervals throughout the apprenticeship term. In most trades the apprentice is required to attend three or four courses averaging six weeks in length. (Please refer to table of Apprenticeship Courses.)

The courses provide instruction in practice and theory of the trade together with necessary related subjects such as mathematics, science, blueprint reading and, in some trades, welding and machine shop.

The courses, coupled with on-the-job training, are planned to make an apprentice a fully competent male/female journeyman.

The apprentice agrees to attend regularly at the place of employment, to serve the employer faithfully, honestly and diligently and to make an honest effort to learn the trade. The apprentice also agrees to attend all classes and sit for examinations as required by the Director of Apprenticeship.

The employer agrees to provide adequate training for the apprentice in all branches of the trade. The employer agrees to keep the apprentice employed so long as work is available and also to cooperate with the Apprentice Training Division to ensure that the apprentice attends trade courses regularly.

A person who successfully completes an apprenticeship is granted a certificate of qualification in one's trade. This certification identifies the holder as a male/female journeyman and is recognized by employers and the public as a trained and competent tradesperson. In several trades the certificates are officially recognized across Canada.

For information on apprenticeship training contact the Apprenticeship Division, Department of Labour and Manpower at:
Office of Director
Apprenticeship Division
600 Norquay Building
401 York Avenue
Winnipeg, Manitoba R3C 0P6
Phone: 944-3337

Department of Labour Apprenticeship Courses
(Offered in Cooperation with
Red River Community College)

Designated Trade | Length of Course (in weeks) | No. of Levels | 1 | 2 | 3 | 4
--- | --- | --- | --- | --- | --- | ---
Red River Community College, Winnipeg
Motor Vehicle Body Repairer | 4 8 6 6 | 6 | 4 8 6 4
Motor Vehicle Mechanical Repair | 4 8 6 4 | 6 | 4 8 6 4
Bricklaying | 4 8 6 4 | 6 | 4 8 6 4
Carpentry | 4 8 6 8 4 | 6 | 4 8 6 4 8 8
Electrical Construction | 4 8 6 8 8 8 | 6 | 4 8 6 4 8 8 8
Electrical Motor Winding | 4 8 6 8 8 8 | 6 | 4 8 6 4 8 8 8
Lathing | 4 6 6 6 | 6 | 4 6 6 6
Machinist | 4 6 6 6 4 | 6 | 4 6 6 4 4 6 4
Painting & Decorating | 4 6 6 6 6 | 6 | 4 6 6 4 4 6 6 6
Plumbing | 5 10 8 6 4 | 6 | 5 10 8 6 4 8 6 4
Refrigeration & Air Conditioning | 4 8 8 8 8 | 6 | 4 8 8 8 8 8 8
Sheet Metal | 4 8 6 6 4 | 6 | 4 8 6 4 4 6 4
Steamfitting | 5 10 8 6 4 | 6 | 5 10 8 6 4 8 6 4
Boiler Maker | 3 6 6 6 | 6 | 3 6 6 6
Drywall Mechanics | 3 6 6 6 | 6 | 3 6 6 6
Sprinkler Fitter | 4 7 7 | 6 | 4 7 7
Steel Fabricator | 4 5 4 4 4 | 6 | 4 5 4 4 4 4
Assiniboine Community College, Brandon
Heavy Duty Repair | 4 5 5 5 5 | 6 | 4 5 5 5 5 5 5 5
Industrial Instrumentation | 4 8 8 8 8 | 6 | 4 8 8 8 8 8 8 8
Motor Vehicle Mechanical Repair | 4 8 8 8 8 | 6 | 4 8 8 8 8 8 8 8
Construction Electrical | 4 8 8 8 8 | 6 | 4 8 8 8 8 8 8 8
Keewatin Community College, The Pas
Industrial Electrical | 4 8 8 8 8 | 6 | 4 8 8 8 8 8 8 8
Industrial Mechanical | 4 (to be determined) | 6 | 4 (to be determined)
Industrial Welding | 3 8 8 8 | 6 | 3 8 8 8

Prerequisites: Minimum age 16 years and approval of the Director of Apprenticeship, Department of Labour.

For further information contact directly:
Department of Labour
Room 600, Norquay Building,
Winnipeg, Manitoba
R3C 0P6
Telephone: 944-3337

Apprenticeship Office
Provincial Government Bldg.
340 Ninth Street
Brandon, Manitoba
R7A 2R7
Telephone: 728-7000 (Ext. 179)
Pre-Trades Training for Women

Purpose: To expose women to as many of the trades occupations as possible in order to enable them to make educated career choices in the trades area.

Entry Dates: To be announced
Course Length: Eight weeks

Admissions

If you are interested in this course, contact your local Canada Employment Centre office. Your C.E.C. counsellor will determine if you are eligible for sponsorship in this course by the Canada Employment and Immigration Commission (C.E.I.C.). If you are eligible, your counsellor will submit a Training Demand Notice (T.D.N.).

Am I Suited For This Course?

You should enjoy working with your hands and have good manual dexterity and mechanical ability. Many trades jobs require working outside; others (such as drafting) require sitting for long periods of time. You should be in relatively good physical health as required by the trade and personal arrangements (day care, transportation, etc.) must be arranged prior to enrolling.

What Will I Study?

This course will teach you how to research various trade occupations in terms of working conditions, physical requirements, labour market conditions, wage rates, and available support services in order to help you make a career decision on whether or not you are suited for a trade occupation.

You will have the opportunity of a trial work experience in a trades area as fourteen days of your training will involve on-the-job experience.

Assertiveness sessions are also held and relate specifically to dealing with entry into a traditionally male area of training and/or employment. The course also examines labour laws, unions, and training programs.

You will gain "hands-on" experience in a broad cross-section of trades in the College shops. Such areas include electricity and electronics, small motors and auto mechanics, drafting, metals (sheet metal, auto body and welding) and construction.

This course will teach you how to realistically appraise your skills and abilities for the trade of your choice and to plan a training route to enable you to become a skilled trades person (i.e., upgrading, pre-employment training, apprenticeship, etc.).
lack of ability to read English instructions, lack of physical strength, medical problems, lack of progress, etc. However, in all such cases due consideration will be given each individual.

Course Outline

Class 5-3
T17-T101 Knowledge of Equipment, Theory
T17-T102 Practical Driver Training
T17-T103 Safety, Public & Human Relations & Commodity Hauling Theory
T17-T104 Air Brake, Practical
T17-T105 Air Brake, Theory
T17-T106 Final Driver Test (Road Test Practical)

Class 3-1
T17-T104 Air Brake, Practical (Optional)
T17-T105 Air Brake, Theory (Optional)
T17-T201 Knowledge of Equipment
T17-T202 Practical Driver Training
T17-T203 Safety and Fire Prevention
T17-T204 Final Driver Test
T17-T205 Driving Theory

What's In It For Me?
You will be tested by the Motor Vehicle Branch in order to obtain your Manitoba Class 3 licence or Class 1 licence with your Manitoba Air Brake Endorsement. Records show that most students who complete the course pass their examination on the first, or sometimes, second attempt.

Upon successful completion of the course you will receive a Certificate from Red River Community College.

You will acquire enough skill during your training to go directly into a job. Opportunities are good if you are willing to comply with the requirements. Most companies will require that you be bondable.

After successful completion of the five-week course graduates with a Class 5 to Class 3 licence are qualified to work for short-haul delivery companies and for transport companies on long-distance hauls. A Class 1 licence is required to operate tractor-trailers in Manitoba. Requirements to drive tractor-trailers may vary from province to province and state to state. For insurance reasons, many companies prefer to hire drivers with a number of years driving experience.

General Information

How Do I Apply?
This course is available through and sponsored by the Canada Employment and Immigration Commission (CEIC). Interested applicants should contact their local Canada Employment Centre office. A limited number of applicants are accepted into the course as fee-paying students. Fee-paying students are required to pay a tuition of $27 for each course. All applicants must be eighteen years of age or over and the holder of a valid driver's licence.

There are eight to ten classes held between mid-March and mid-December. The exact number of classes is determined annually. You should check with the College Admissions Office for start dates.

Driving transcripts and completed medical certificates must accompany the application form before processing will begin.

February 1 is the first date for receipt of applications. You may therefore apply on or after February 1 of the year in which you plan to take the course.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course. There is usually an applicant wait list so it may take several months before you will be accepted into a course.

By The Way . . .
To find out more about this occupation, you could contact people in the driving field.

For information on Truck Driver Training and other College courses, contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

The main contact for employment would be through a Canada Employment Centre, The Manitoba Trucking Association or transport companies.

A Heavy Duty Equipment Operators course is offered at Keewatin Community College, The Pas, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Truck Driver Training

There are two types of Truck Driver Training courses offered. Applicants with a Class 5 licence may obtain their Class 3 licence with an air brake endorsement through a five-week training program. Graduates with a Class 3 licence may drive any vehicle except motorcycles, buses over 24 seat capacity and truck tractors.

Applicants with a Class 3 licence, wishing to obtain a Class 1 with the air brake endorsement will take a four-week training program. Graduates with a first class licence may drive all vehicles except motorcycles.

**Entry Date:** Continuous intake (March - November)

**Course Length:**
- Class 5-3 licence with air brake endorsement (five weeks)
- Class 3-1 licence with air brake endorsement (four weeks)

**Admissions**

**Am I Suited For This Course?**
You must be in good physical condition, have good eyesight, hearing, strength and stamina. You must be able to read and write in order to understand work instructions. A mechanical ability is necessary to diagnose difficulties and undertake preventative maintenance of the vehicles. Since many job opportunities will be with long distance transport companies, you should be prepared to go where the job takes you, to work long hours and to drive long distances.

**Entrance Requirements**

- A — eighteen years of age or older;
- B — Manitoba Grade 9 or equivalent;
- C — Medically fit as attested by a doctor;
- D — current holder of valid Class 5 or Class 4 licence;
- E — acceptable driving record.

Eligible applicants are admitted on a first-come, first-served basis.

**Program**

The program consists of two separate courses and six months of intermediate work experience.

The first course is designed for applicants who hold a Class 5 licence and wish to obtain a Class 3 licence with an Air Brake Endorsement. This licence entitles the holder to drive vehicles of Classes 5 and 4, and trucks of more than 24,000 lbs. gross weight which are air brake equipped, but not buses and tractors. Vehicles of this type can be found primarily in the gravel hauling business. The course is five weeks long and consists of 150 hours of instruction.

The second course is designed for applicants who have six months' driving experience in the trucking industry with a valid Class 3 licence and wish to earn the Class 1 licence, air brake endorsement. The training period is four weeks long or 120 hours of which approximately one week is devoted to air brake instruction. Applicants who hold a Class 3 licence and the air brake endorsement, may be excused the first week of training and thus attempt the final examination after only 90 hours of training.

This course is set up under the direction of an Advisory Committee which includes representation from industry, labour, government, the Manitoba Truckers Association and the College. Through the Advisory Committee the College keeps in contact with the rapidly changing trends in industry.

**What Will I Study?**

The Truck Driver Training courses have been designed to train people to operate a wide range of modern equipped vehicles. Instructors will teach you to operate the three tractor-trailers, two tandem dump trucks, and one van which are available for training. Students enrolled in the five-week course (Class 5 to Class 3) will not operate the tractors with trailers attached.

These courses are essentially practical but approximately one week will be spent in classroom training which will be integrated into the overall training period. Classroom training for the five-week (Class 5-3 licence) course will include the theory of air brake operations, laws and regulations, and how to keep vehicle logs. Classroom instruction for the four-week (Class 3-1 licence) course includes public and human relations, commodity handling, documentation, and the study of laws and regulations. Truck Driver Training is no different from other College courses and difficulties can arise if you fall behind in your assignments.

Your training will take place at the Bird's Hill Recreational Area on the Oasis Road just east of the Winnipeg Floodway and a quarter mile off Provincial Trunk Highway No. 59.

Before a student may actually drive a vehicle he/she must successfully pass the theoretical examination administered by the Motor Vehicle Branch and be issued a beginner's licence. After that the student will drive the vehicles, first on the site, then on the highways and eventually in the city.

During your training, you will be given short tests in theory and in practical application and be continually informed of your progress. Due to the inherent danger involved in the program both to the public and the student there may be occasions when the staff advises a student to withdraw from the course. The reasons may be
Course Outline

T03-R033 Blue Print Reading and Sketching for Welding PE
T04-A011 Safety Precautions in Arc Welding
T04-A021 Arc Welding Theory
T04-A022 Position — Arc Welding
T04-A031 Gas Metal Arc & Tungsten Inert Gas Theory
T04-A032 Light Gauge (Sheet Metal) Welding & Arc Air Gouging
T04-A041 Review of All Chapters — Final Theory Test
T04-A042 Gas Metal Arc Welding (Semi-Automatic)
T04-A052 Tungsten Inert Gas Welding TIG.
T04-A062 Structural Welding
T04-A072 Pipe Welding
T04-A082 Special Welding Applications
T04-A092 Projects and Field Trips
T04-G011 General Principles of the Oxy-Acet. Welding Process
T04-G012 Oxy-Acetylene Welding and Brazing of Ferrous Alloy
T04-G021 Oxy-Acetylene Cutting
T04-G022 Oxy-Acetylene Cutting
T04-G031 Miscellaneous Applications (Basic)
T04-M511 Related Machine Shop Theory
T04-M512 Related Machine Shop (Practical)
T13-M504 Welding Math
T13-S504 Welding Science
T14-C531 Communication

What's In It For Me?

Upon successful completion of the course you will receive a Certificate from Red River Community College.

Graduates have found employment in the area of aircraft maintenance, in the manufacturing of farm equipment, and in heavy equipment repairs. Highway construction, northern mines and hydroelectric power plants have also been areas of employment.

After working six months in industry, you will be required by the Department of Labour and Manpower to perform practical tests in gas or oxy-acetylene, T.I.G., M.I.G. and high pressure pipe welding in order to obtain your pressure tickets. These tickets entitle you to perform those tasks for which the tickets are issued. Tickets must be renewed annually.

For further information about the apprenticeship program you should contact the provincial Department of Labour, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students’ Association fee of $2 a month. Textbooks and protective equipment such as a welder’s helmet, gloves, apron and sleeves cost approximately $100.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the welding field.

For information on Welding and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 632-2335.

A six-month Welding course is also offered at Assiniboine Community College, Brandon, and a two-month Welding course is offered at Keewatin Community College, The Pas, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Welding

Purpose: To develop the skills and knowledge to safely and efficiently perform the oxy-acetylene, arc, tungsten inert gas, and metal inert gas welding processes and related operations.

Entry Dates: September, October and January
Course Length: Six months

Admissions

Am I Suited For This Course?
You should be in good health, with good eyesight for depth perception and colour recognition. You will need steady nerves and hands, good concentration and patience, mechanical aptitude and manual dexterity. You should have no physical handicaps or respiratory difficulties. Be prepared to face some unpleasant weather conditions since work is often outdoors.

Entrance Requirements

— 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103 and Science 100, 101 or 102;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their application, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (Mathematics and science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

The Welding course has a Course Advisory Committee which includes representatives from the welding industry, the provincial Department of Labour and Manpower, course instructors and graduates. Prompted by expanding technology in our society, this committee has made many positive changes in the course content.

What Will I Study?
As a student, you will spend seven hours a day, Monday to Friday, in the College. Five hours a day are spent on practical shop work. The remaining two hours cover classroom theory in welding, mathematics, science, industrial communications and blueprint reading.

Gas or oxy-acetylene welding and drafting are the first subjects you will study. Stick electrode is the second area of welding. The last eight weeks are divided between Metal Inert Gas (M.I.G.) and Tungsten Inert Gas (T.I.G.) projects and special applications. M.I.G. is used in shipbuilding and machinery; and T.I.G. is used in the pipeline and brewery industries, as well as in the demanding area of aircraft maintenance.

You will perform calculations, interpret blueprints and sketches, lay out work, cut to layouts, assemble and weld in all positions as required in the completion of work assignments. The identification, application, care and use of welding equipment, handtools, layout tools and general shop equipment will be demonstrated continuously. Safety to self and equipment will be stressed.

Regular and prompt attendance, interest and proper work habits are essential to the student's success. Sectional theory tests in class and grading of practical work assignments to quality equaling government and industrial standards will constitute approximately 80 per cent of the course grading. A final comprehensive examination would account for the remaining twenty percent.
Course Outline

T02-U001 Basic Tools and Equipment, Theory
T02-U002 Basic Tools and Equipment, Practical
T02-U003 Spring Construction, Theory
T02-U004 Spring Construction, Practical
T02-U005 Burlap and Stuffing Up, Theory
T02-U006 Burlap and Stuffing Up, Practical
T02-U007 Trimmings, Theory
T02-U008 Trimmings, Practical
T02-U009 General Upholstery, Practical
T02-U010 Coverings, Theory
T02-U011 Coverings, Practical
T02-U012 Foam Rubber Applications, Theory
T02-U013 Foam Rubber Applications, Practical
T02-U014 Advanced General Upholstery, Practical
T02-U015 Woodworking, Theory
T02-U016 Woodworking, Practical
T02-U017 On-The-Job-Training
T02-U018 Wood Finishing, Theory
T02-U019 Wood Finishing, Practical
T13-M501 Upholstery Term 1 Math
T14-C512 Communication I

What's In It For Me?

Upon successful completion of this course, you will receive a Certificate from Red River Community College.

As a graduate, you should be able to pursue all phases of the upholstery trade in custom, production and service shops, or choose any one phase such as spring construction, trimming, covering, cutting and the assembling of small chairs in production or custom shops.

Former graduates have found employment in production shops as springers, trimmers or cutters, and in custom shops as estimators, furniture salespeople or inspectors. You could decide to open your own shop and become self-employed.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. All tools needed for training will be provided by the College.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the upholstery field.

For information on Upholstery and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Upholstery

Purpose: To prepare students to estimate covering material and to cut, sew and apply it to fine furniture. The graduate will be proficient in the use of a sewing machine and air staple.

Entry Dates: September and February
Course Length: Ten months

Admissions

Am I Suited For This Course?
You should be creative and have good colour coordination. Colour blindness and allergies to dust would be definite handicaps for this course. Quickness, good eyesight, stamina and patience are required. Manual dexterity is necessary as you will be using a sewing machine, working with power tools and lifting heavy furniture. Your work will normally require the use of both hands.

Entrance Requirements
— 7 high school credits (Manitoba Grade 10 or equivalent);

or
— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

Teaching combines lectures and practical work, including a considerable amount of time spent on constructing actual pieces of furniture.

The Upholstery course has an Advisory Committee which is made up of representatives from industry and the College. This committee reviews the course content twice annually and keeps the course up-to-date with the latest trends in industry.

What Will I Study?
The majority of your course hours will be spent doing practical work in the upholstery workshop. This practical experience will enable you to gain enough speed and background in the trade to prepare you to go directly into a job.

You will spend two weeks in the painting and decorating workshop where you will learn how to refinish furniture, and two weeks in the woodworking shop where you will learn the proper use of hand and power tools in the making of furniture frames.

All aspects of the upholstery trade are taught, including spring construction, foam rubber construction, cutting, sewing, woodworking and wood surface refinishing.

Communications, science and mathematics, as related to the upholstery trade are also required subjects in the course.

Not all of your training will take place at the College. You will spend two weeks in on-the-job training. One week will be spent in a production shop and one week in a custom shop.

You will be expected to write theory examinations and carry out written assignments. Practical tests will be given on various projects during construction. The evaluation of a student's progress is determined by objective evaluation of practical work projects during the course; unit and subject examinations in theory; unit examinations in the related subjects and comprehensive tests at regular intervals.
Course Outline

Term 1
- T12-T001 Electrical Fundamentals
- T12-T003 Semiconductors and vacuum tubes
- T12-T005 Basic Radio Receiver & Transmitters Components & P
- T13-M520 Electronics Math I
- T13-S520 Electronics Science
- T14-C512 Communication I

Term 2
- B18-T651 Telecommunications Typing
- T12-T051 Transmission Lines Antennas & Introduction to MICR
- T12-T053 Communications Receivers & Transmitters
- T12-T055 Basic Telecommunications Concepts
- T12-T057 Pulse Technique and Digital Logic
- T12-T058 Introduction to Data Transmission
- T12-T061 Circuit Reading
- T12-T059 Introduction to Data Transmission
- T12-T055 Basic Telecommunications Concepts
- T14-C522 Communication II

What's In It For Me?

Upon successful completion of the course, you will receive a Certificate from Red River Community College.

Previous graduates have found employment with telephone and telecommunication companies as installers, troubleshooters and maintenance people.

You may choose to work for a manufacturer of telecommunication equipment. In this field, you could be employed as an installer, a service technician or technical sales representative.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Textbooks and supplies will cost approximately $175.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form may be obtained by writing to the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the telecommunications field.

For information on Telecommunications and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

A Telecommunications course is offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Telecommunications

Purpose: To develop knowledge of electrical and electronic fundamentals and skills used to test equipment, fabricate electronic circuits, align and troubleshoot VHF-FM transceivers and carrier systems.

Entry Dates: September and February
Course Length: Ten months

Admissions

Am I Suited For This Course?

You should have a logical mind and be interested in science-based subjects especially physics.

Colour blindness would be a definite handicap, since all electrical cables used during training and on the job are colour coded. For this reason all students are given the Ishihara Test for Colour Blindness.

Entrance Requirements

- 14 high school credits (Manitoba Grade 11 or equivalent) including Mathematics 200 or 201 and Physics 200 or Physical Science 201;

or

- the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining their eligibility. Testing by the College in the required subjects (English, mathematics and physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course is designed to train students to responsibly and effectively install, adjust and maintain equipment in the telecommunications industry.

This course has an Advisory Committee composed of representatives from industry and the College. Through this committee and instructor contact with industry, the College keeps up to date with the current standards required by industry and prospective employers.

The Telecommunications course has been endorsed by the Manitoba and Saskatchewan Telephone Systems, CN and CP Telecommunications and Northern Telecommunications.

What Will I Study?

During your first five months of training, you will study the electrical fundamentals of AC (alternating current) and DC (direct current) and the basic electronic fundamentals of vacuum tubes, semiconductor devices, and transistors.

A great deal of emphasis will be on radio receivers and transmitters such as AM (amplitude modulation) and FM (frequency modulation), VHF (very high frequency), mobile and point-to-point. You will learn how to use test equipment, fabricate electronic circuits and also test them.

Your last five months of training will include the study of digital logic, pulse techniques, frequency and time division multiplexing, AM and FM transmitter and receiver theory, principles of data transmission, antennas, transmission lines and basic microwave theory.

Approximately 50 percent of your training will be spent on practical projects. You will align and troubleshoot VHF FM transceivers and carrier systems, and perform bench experiments on logic and pulse circuits using electronic test equipment such as oscilloscopes, multimeters and signal generators.

Other related subjects are mathematics, science, communications, and typing. This course is academically demanding so you should be prepared to spend at least two or three hours each evening on homework.

Evaluation is based upon written exams, lab assignments, performance testing (mobile transceivers) and final exams.
Course Outline
T03-R035 Blue Print Reading and Drafting for Sheet Metal PE
T04-G511 Related Gas Welding Theory
T04-G512 Related Gas Welding Practice
T04-M511 Related Machine Shop Theory
T04-M512 Related Machine Shop (Practical)
T04-S011 Sheet Metal Hand Tools, Theory
T04-S012 Sheet Metal Hand Tools
T04-S021 Hand Operated Sheet Metal Machines
T04-S022 Hand Operated Sheet Metal Machines
T04-S031 Power Hand Tools
T04-S032 Power Hand Tools
T04-S041 Power Operated Machines
T04-S042 Power Operated Machines
T04-S051 Sheet Metal Sciences & Techniques
T04-S052 Sheet Metal Sciences & Techniques
T04-S061 Pattern Development
T04-S062 Pattern Development, Article Fabrication
T13-M506 Sheet Metal Math
T13-S506 Sheet Metal Science

What's In It For Me?
Upon successful completion of this course you will receive a Certificate from Red River Community College.

The Sheet Metal course at R.R.C.C. is a pre-employment course for which credit is granted in the Sheet Metal apprenticeship program. You, as a graduate, may be granted one level of in-school training toward the four-year sheet metal apprenticeship. Time credit, diminishing the length of your apprenticeship, is at the discretion of the employer.

For further information about the apprenticeship program, contact the provincial Department of Labour and Manpower. Room 609 Norquay Building, Winnipeg, telephone 944-3337.

There are many challenging jobs related to the sheet metal trade. Heating and ventilation have been the most popular areas of employment, but recently there has been an increased demand for sheet metal workers in areas of hospital and restaurant equipment production, sign-making, shipbuilding, and aircraft maintenance and repair.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books, welding goggles and drafting supplies required by the student will cost approximately $75.

Students may apply for financial aid from the provincial government's Student Aid Program. Detailed information can be obtained at the Student Aid Office, R.R.C.C., Room C-115, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...
To find out more about this occupation, you could contact people in the sheet metal field.

For information on Sheet Metal and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Sheet Metal

Purpose: To develop skills in the manufacture, fabrication, assembly, and installation of sheet metal. The graduate will be familiar with shop/field sketches, blueprints, and patterns.

Entry Date: September and February
Course Length: Five months

Am I Suited For This Course?
It is important to have good eyesight, be in good health, and be free from most physical handicaps. Because sheet metal is a technical and exacting trade involving skilled hand operations, you should have a mechanical aptitude and good coordination.

If you are seriously considering a career as a sheet metal worker, you should be prepared for the possibility of shift work or overtime in industrial manufacturing and repair shops. Most work is indoors and may involve exposure to hot temperatures, noise and dust, as well as the expected hazard of sharp metal edges.

Entrance Requirements
— 7 high school credits (Manitoba Grade 10 or equivalent) with Mathematics 100 or 101 and Science 100 or 101;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (Mathematics and science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program
This course is set up under the direction of a Course Advisory Committee which includes representatives from industry, labour, government and the College. Through the Advisory Committee, the College keeps in contact with the rapidly changing trends in industry.

What Will I Study?
You will spend a great deal of time in the sheet metal shop at R.R.C.C. learning how to use various machines and hand and power tools, as well as the care of and safety procedures for these tools. The safe handling, settings, adjustments and operational procedures of oxy-acetylene welding equipment are taught to enable you to perform basic welding procedures. Sketching, blueprint interpretation and pattern development will be taught and will be used when transforming flat, light-gauge sheet metal into various shapes and sizes as specified by blueprints or verbal instructions. Support subjects in basic mathematics and science will deal with practical problems of the sheet metal trade.

Proper habits of safety and good work techniques will be developed. The student will be trained to understand the need for regular attendance and punctuality, and will develop a correct attitude to both work and fellow workers.

Achievement over the five-month course is continuously evaluated. Weekly examinations in trade theory and multiple testing of trade projects constitute 75 percent of the course evaluation. A final comprehensive examination would make up the remaining 25 percent of the total.
Course Outline

B14-M142 Marketing for Refrigeration  
T03-R051 Blueprint Reading & Sketching for Refrigeration PE  
T04-G521 Related Gas Welding Theory  
T04-G522 Related Gas Welding Practice  
T04-M521 Related Machine Shop Theory  
T04-M522 Related Machine Shop Practice  
T11-R001 Safety Fundamentals Theory  
T11-R003 Safety Fundamentals Practical  
T11-R005 Refrigeration Systems Theory  
T11-R007 Refrigeration Systems Practical  
T11-R009 Commercial Systems Theory  
T11-R011 Commercial Systems Practical  
T11-R013 Calculation of Heat Transfer Theory  
T11-R015 Refrigeration Piping  
T11-R017 Air Conditioning Systems Theory  
T11-R019 Air Conditioning Systems Practical  
T11-R021 Refrigeration Electrical Theory  
T11-R023 Refrigeration Electrical Practical  
T13-M516 Refrigeration Math  
T13-S516 Refrigeration P/E Science

What's In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College. The certificate may give you up to one level of in-school apprenticeship training. During your apprenticeship, you will be required by the provincial Department of Labour and Manpower to return to the College yearly for additional theoretical and practical training. Time credit, diminishing the length of your apprenticeship, is at the option of the employer.

For further information about the apprenticeship program contact the Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

Not all graduates of this course go into the apprenticeship program and become journeymen. You could find employment as refrigeration and air conditioning mechanics on maintenance crews of large buildings, with transport truck companies or with contractors who are involved with the installation and repair of equipment. You will usually be a helper under the supervision of a skilled worker, but there may be times when you work on your own. It is necessary that you develop the skills needed to diagnose equipment, locate problems, and find solutions to these problems. Much of your work will be repetitious, at least until your work record shows that you can be given more challenging jobs.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Books and supplies for this course will cost approximately $200.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the refrigeration and air conditioning field.

For information on Refrigeration and Air Conditioning and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

Other courses of interest to you might be Sheet Metal, Welding, Piping Trades, Major Appliance Servicing or Electrical.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Refrigeration and Air Conditioning

Purpose: To enable students to install, service, and repair commercial and industrial refrigeration and air conditioning equipment. Graduates will have theoretical and practical knowledge in refrigeration systems, air conditioning, piping, welding and electrical wiring.

Entry Date: February
Course Length: Ten months

Admissions

Am I Suited For This Course?
You should be prepared to move heavy machinery, climb ladders and lift heavy weights. Since most of your work will be done on the customer's premises, you must be able to deal with the public and be prepared to travel. A mechanical aptitude is necessary. Because of safety factors related to the colour coding of electrical wires, colour blindness would be a handicap in this work. Irregular hours will disrupt your social activities, since shift work or overtime may be required. Work is generally indoors and involves exposure to both hot and cold temperatures, dampness, liquids, gases, etc.

Entrance Requirements
— 14 high school credits (Manitoba Grade 11 or equivalent) including Mathematics 200 or 201 and Physics 200 or Physical Science 201;

or

— the equivalent of the above standing through an adult education program.

If you do not have the academic requirements you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (Mathematics and physics) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

You will be trained to install, service and repair commercial and industrial refrigeration and air conditioning equipment. Approximately half of your course time will be devoted to theory, with the other half being used for practical work.

This course is set up under the direction of a Course Advisory Committee which includes representatives from industry, labour, government and the College. Through the Advisory Committee, the College keeps up to date with current standards required by prospective employers.

What Will I Study?
You will learn the working principles of commercial and industrial refrigeration and air conditioning equipment through the study of various types of refrigerants, electrical theory, and the principles of air conditioning and air movement. Approximately one half of the course is spent on practical projects including welding and machine shop practice. You will be provided with a theoretical background through the teaching of basic subjects such as mathematics, science, marketing, machine shop, gas welding, related drafting, and refrigeration and air conditioning theory.

The student will be evaluated through term tests and a final exam on theory, plus practical work and projects in the shop.
Course Outline

B18-R632 Senior Radio Operator Typing
B18-R651 Junior Radio Operator Typing
T12-R010 Morse Code (Receiving and Sending)
T12-R011 Electrical Fundamentals
T12-R020 Normal Traffic Procedure
T12-R021 Basic Electronic Theory
T12-R030 Special Service Procedure
T12-R040 Toll Computation
T12-R041 Communication Receivers
T12-R051 Communication Transmitters
T12-R061 Antenna Theory and Propagation
T12-R071 Test Equipment
T12-R081 Programmed Equipment
T12-R091 Direction Finders and Emergency Equipment
T13-M519 Radio OPS Math
T13-S519 Radio OPS Science
T14-C503 Communication

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students’ Association fee of $2 a month. Textbooks and supplies will cost approximately $125.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the radio operating and electronic communications field.

For information on Radio Operating and Electronic Communications and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Radio Operating and Electronic Communications

Purpose: To develop the knowledge and skills in basic electricity and electronics needed to operate, troubleshoot, and maintain radio transmitters and receivers, direction finders, batteries, and generating systems, antenna systems, lifeboat and other emergency radio equipment.

Entry Dates: September and January

Course Length: Ten months

Admissions

Am I Suited For This Course?
You must have good voice perception and good eyesight and hearing in order to comprehend various types of radio messages. Good physical health including good eyesight and color perception are also required by the Federal Ministry of Transport. You should have good reflexes and finger dexterity plus the ability to recognize sound combinations for learning and interpreting the radio operator's language — Morse Code. Job opportunities may require that you work in remote areas on a shift basis, on ships travelling anywhere in the world or on seagoing oil drilling platforms. Shift work is a normal condition of employment. Applicants must be prepared to do tasks which are repeated regularly and often and which must be done precisely according to set standards.

Entrance Requirements

— 13 high school credits (Manitoba Grade 11 or equivalent) including Mathematics 200 or 201 and Physics 200 or Physical Science 201;

—or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (Mathematics and physics) may be necessary. Eligible applicants are admitted on a first-come, first-served basis.

Program

The instructional program provides a good grounding in the use of radio equipment. While the course is primarily intended to impart fundamental knowledge and skills, it is also concerned with accuracy in the handling and typing of messages.

This course has been set up with guidelines from officials of the Federal Department of Communications and the Ministry of Transport.

What Will I Study?
As a student, you will be trained in fundamental electricity and electronics and will eventually learn how to operate basic specialized marine equipment. The objectives of your training will be to prepare you to write the D.O.C.'s examinations for your second class Commercial Radio Operator's Certificate. This certificate will allow you to act as a ship's radio officer anywhere in the world.

Specifically, you will learn how to send and receive Morse Code at a minimum speed of 20 words a minute in plain language and up to 15 words a minute in cipher (code). You must be able to send messages on a hand telegraph key and produce legible handwritten copy. You will also be required to understand international operating procedures and regulations for distress and normal message handling in ship/shore and ground/air services and be able to accurately calculate toll charges for wireless and cable messages.

You will learn how radio waves are propagated and how this affects radio communication on a daily and seasonal basis. A thorough theoretical knowledge will be given in order for you to operate, troubleshoot and maintain antenna systems, radio transmitters and receivers, direction finders, batteries and generating systems, life boat and other emergency radio equipment.

The amount of work you will need to do outside of class hours will depend on your progress in the course; however, it is important to remember that you are expected to work up to the D.O.C. standard for your Class II Certificate. If this standard is not met, you will be dismissed from the course.
Course Outline

T03-R013 Blue Print Reading & Sketching for Plumbing PF
T04-G521 Related Gas Welding Theory
T04-G522 Related Gas Welding Practice
T04-M511 Related Machine Shop Theory
T04-M512 Related Machine Shop (Practical)
T13-M513 Plumbing P/F Math
T13-S513 Plumbing Science
T14-C502 Communication
T15-P001 Introduction to the Piping Trades and General Info.
T15-P002 General Shop Work, Practical
T15-P003 Piping Materials and Pumps — Theory
T15-P004 Piping Materials and Pumps — Practical
T15-P005 Regulations and Project Installations — Theory
T15-P006 Project Installations — Practical
T15-P007 Hot Water Heating — Theory
T15-P008 Hot Water Heating — Practical

What’s In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College.

Many graduates have found employment with plumbing or heating contractors or in industrial plants as maintenance people. Some graduates have found employment with plumbing and heating wholesale or retail outlets.

You may decide to take an apprenticeship program in one of the piping trades — plumbing, steamfitter or sprinkler and fire protection installation. Graduates of this course may be granted one level of in-school training towards the apprenticeship. Time credit, diminishing your apprenticeship, is at the discretion of the employer. For the remaining period of the apprenticeship, you will be required by the provincial Department of Labour and Manpower to return to the College for additional practical and theoretical training. You will also be required to pass an inter-provincial examination in order to obtain your journeyman’s certificate.

Job opportunities at the journeyman level are as plumbers, steamfitters or sprinkler and fire protection installers. After gaining work experience, you could find employment as a foreman, estimator, plumbing contractor or building inspector. You could also become self-employed.

For further information about the apprenticeship program, contact the provincial Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students’ Association fee of $2 a month. Textbooks, supplies and personal tools could cost approximately $90.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the piping trades field.

For information on Piping Trades and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

Other courses of interest to you might be Carpentry and Woodworking, Masonry or Painting and Decorating.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Piping Trades

Purpose: To develop skills in assembling and repairing piping and fixtures used for water and steam distribution and waste disposal. Students will become knowledgeable in using the tools and materials of the piping trades, will learn pertinent plumbing and related industrial codes, and will develop an understanding of heating and piping principles.

Entry Dates: September and February
Course Length: Ten months

Admissions

Am I Suited For This Course?
A mechanical aptitude and an interest in mathematics and science would be assets for this course. You should be in good physical condition as you will often have to move and lift heavy equipment. Many job opportunities exist in rural areas, so you should be prepared to move out of Winnipeg after completing your training. Applicants should be prepared to work safely in the presence of dampness, noise, fumes, odours, etc. Overtime may be required periodically to meet emergencies or construction schedules on the job. Work is both indoors and outdoors.

Entrance Requirements

— 7 high school credits (Manitoba Grade 10 or equivalent) with Mathematics 100, 101, 102 or 103 and Science 100, 101, 102 or 103;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their application, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (mathematics and science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

This course is set up under the direction of a Course Advisory Committee which represents industry, labour, government and College instructors. Through the Advisory Committee, the College keeps in contact with the rapidly changing trends in industry.

What Will I Study?
Emphasis during training will be on the efficient and safe use of tools and materials required for plumbing, heating and pipefitting. You will be instructed on the installation of water and waste disposal systems and equipment in residential and commercial buildings; hot water heating systems and their related piping and the assembly of most piping systems used today.

You will do practical installations of piping systems under the supervision of an instructor. You will install and sometimes repair plumbing fixtures, water meters, hot water tanks, hot water boilers and other equipment related to the piping trade. In the classroom you will learn about materials and installation methods, how to layout sanitary drainage, venting and storm drainage systems, and how to interpret the plumbing code. The skills involved will include blueprint reading; measuring, cutting, bending and threading pipe to specifications; assembly and installation of valves, pipes, and fittings made of metal, plastic or vitrified clay; setting fixtures and the location and installation of connections in walls and floors.

You will also study mathematics, communications and science as related to the piping trades.

All your training will take place at the College. The work environment will provide you with the practical experience you will need.
Course Outline

T02-P001 Introduction, safety, history, tools and equipment
T02-P002 Tools and equipment — practical
T02-P003 Basic components of paint, theory
T02-P004 Basic components of paint, practical
T02-P005 Preparation & application of coating
T02-P006 Repainted surfaces, theory
T02-P007 Repainted surfaces, practical
T02-P008 Paint failures, causes, remedies, theory
T02-P009 Paint failures, causes, remedies, practical
T02-P010 Wood finishes, theory
T02-P011 Wood finishes, practical
T02-P012 Basic colour theory and mixing, theory
T02-P013 Basic colour theory and mixing, practical
T02-P015 Paper hanging and wall coverings, theory
T02-P016 Paper hanging and wall coverings, practical
T02-P017 Spray painting, theory
T02-P018 Spray painting, practical
T03-R015 Blue print reading for painting and decorating
T13-M507 Painting & decorating math
T13-S507 Painting & decorating science
T14-C504 Communication

What's In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College.

Many graduates are employed by painting or home improvement contractors, the civil service, public utilities and manufacturing companies. Some have found employment refinishing furniture or working as paint and wallpaper salespeople. You may choose to become self-employed or to become an apprentice painter.

This course may be used for credit toward the apprenticeship program. As a graduate, you may be granted one level of in-school training towards the four-year painting and decorating apprenticeship. Time credit, diminishing your apprenticeship, is at the discretion of the employer. For the next three years of the apprenticeship program, you will be required by the provincial Department of Labour and Manpower to return to the College for a six-week period each year for additional theoretical and practical training. For further information about the apprenticeship program, contact the provincial Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3037.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students’ Association fee of $2 a month. Protective clothing, textbooks and other supplies cost approximately $30. When you enter the trade, you will be required to purchase a set of tools which will cost approximately $30.

Students may apply for financial aid from the provincial government’s Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .

To find out more about this occupation, you could contact people in the painting and decorating field.

For information on Painting and Decorating and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Painting and Decorating

Purpose: To develop knowledge and skill in application of paints, lacquers, and varnishes. The graduate will be familiar with paperhanging, wood finishing and spray painting techniques, in addition to regular interior and exterior painting methods.

Entry Dates: September and February

Course Length: Five months

Admissions

Am I Suited For This Course?
You must be able to tolerate working at heights and be able to work with the strong smell of paint and solvents. You should have good physical health, manual dexterity and colour discrimination.

Entrance Requirements
— 7 high school credits (Manitoba Grade 10 or equivalent);

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

The instructional program provides a good grounding in basic skills. You will study modern developments in tools, materials and procedures, and learn their adaptation to construction.

While the course is primarily intended to impart fundamental knowledge and skills, it is also concerned with maintaining standards of skill and craftsmanship, and strives to instill the traditions of integrity and pride of craft.

This course is set up under the direction of a Course Advisory Committee which includes representatives from industry, labour, government and the College. Through the Advisory Committee the College keeps in contact with the rapidly changing trends in industry.

What Will I Study?
As a student you will learn to apply different materials to interior and exterior surfaces as well as to some pieces of furniture. You must also learn colour theory and the mixing of paints, stains and varnishes, as well as the methods used to prepare surfaces for refinishing. The reasons for paint failures and how to prevent these failures will also be taught. This knowledge will probably help you to save money on supplies when you are working in industry.

You will work in rooms in the shop area where projects are started and completed under the supervision of instructors. Here you will learn the techniques of hanging wallpaper and other wall coverings and will be able to experiment with colour schemes.

The care of tools and equipment and the understanding of safety precautions, as related to the painting and decorating trade, are taught. Trade-related mathematics, science, drafting, and communications will help to broaden your scope of learning.

Marks are based on student assignments, practical tests, and final examinations at the end of the course.

RED RIVER COMMUNITY COLLEGE
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone (204) 632-2311
Course Outline

What's In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College.

Graduates of this course have found employment in service stations, dealerships, large corporations, farming communities and allied industries where they may work in service/repair, sales or parts distribution.

You may decide to take an apprenticeship program in motor vehicle mechanics. As a graduate, you may be granted up to one level of in-school training towards the four-year apprenticeship. Time credit, diminishing the length of your apprenticeship is at the discretion of the employer. During the next three levels of the apprenticeship program you will be required by the provincial Department of Labour and Manpower to return to the College for additional theoretical and practical training.

For further information on the apprenticeship program, contact the provincial Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

People who reach journeyman level may find employment as a journeyman mechanic, shop foreman, service manager, parts manager, machine operator or service station operator.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month. Overalls, books, protective eyeshields, and welding goggles will cost approximately $85.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2337.

Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the motor vehicle mechanic field.

For Information on Motor Vehicle Mechanics and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

A Motor Vehicle Mechanic course is offered at Assiniboine Community College, Brandon and at Keewatin Community College, The Pas, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

Course Outline

T01-T011 Shop Practice & Hand Tools
T01-T012 Shop Practice & Hand Tools
T01-T013 Engine I & II
T01-T014 Engine I & II
T01-T015 Electrical Systems
T01-T016 Electrical Systems
T01-T017 Fuel Systems
T01-T018 Fuel Systems
T01-T019 Tune-up
T01-T020 Tune-up
T01-T021 Std Transmissions
T01-T022 Std Transmissions
T01-T023 Rear Axles & Drivelines
T01-T024 Rear Axles & Drivelines
T01-T025 Brakes — Hydraulics
T01-T026 Brakes — Hydraulics
T01-T027 Steering & Suspension
T01-T028 Steering & Suspension
T01-T029 Automatic Transmissions
T01-T030 Automatic Transmissions
T01-T031 Engines
T01-T032 Fuel Systems — Repairs & Adjusting
T01-T033 Fuel Systems — Repairs & Adjusting
T01-T034 Tune-up
T01-T035 Transmission Overhaul Std
T01-T036 Rear Axles & Drivelines
T01-T037 Rear Axles & Drivelines
T01-T038 Brakes — Hydraulic & Disc-Power
T01-T039 Brakes — Hydraulic & Disc-Power
T01-T040 Automatic Trans Repairs
T01-T041 Automatic Trans Repairs
T01-T042 Air Conditioning
T01-T043 Oscilloscope, Dyno & Emission Controls
T04-G511 Related Gas Welding Theory
T04-G512 Related Gas Welding Practice
T04-M521 Related Machine Shop Theory
T04-M522 Related Machine Shop Practice
T13-M508 Motor Vehicle Mechanic Technician
P/E Math
T13-S508 Power Mechanics Science
T14-C604 Communication
Motor Vehicle Mechanic

Purpose: To gain an understanding of the basic principles, functions, and operations of component parts and assemblies of an automobile; and to develop the necessary skills required to disassemble, inspect, machine, calibrate and reassemble motor vehicle units or components.

Entry Dates: September and February
Course Length: Ten months

Admissions

Am I Suited For This Course?
Good hearing, eyesight and physical coordination of the whole body and some strength are necessary for automotive mechanical work. Because the work can be intricate, you should be mechanically inclined and have finger dexterity. If you are seriously considering a career as an auto mechanic, you should be prepared for some shift work and be able to work under some supervision. Reading comprehension is also important in order to successfully complete the related subjects (English, mathematics and science) required in this course. You must be able to tolerate working with lubricants (grease and oil) and being exposed to various levels of exhaust fumes, dust, and dirt.

Entrance Requirements
— 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103 and Science 100, 101, 102 or 103;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicant suitability. Applicants should include with their applications, information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (Mathematics and science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis.

Program

Instruction consists of lectures in theory, demonstrations, and practical work application on both shop models and running vehicles.

This course is set up under the direction of a Course Advisory Committee which includes representatives from industry, labour, government and the College. Through the Advisory Committee, the College keeps in contact with the rapidly changing trends in industry.

What Will I Study?
Emphasis during your first term of training will be on the theoretical aspects of the trade. The second term will cover the practical application of your training. You will study internal combustion engines, automatic and standard transmissions, brakes, steering, electrical circuits, wiring and fuel systems.

Theory grades are determined by an exam on each subject, with approximately 20 percent of the grade mark adjusted for assignments which must be submitted.

Practical marks are graded separately. Each project is given a letter grade based on a step by step evaluation as to procedures, cleanliness and functional workability, with the final project mark being given upon completion of the assigned jobs or tasks.

All your training will take place at the College in the auto mechanics workshop.
Child Care

Program

Purpose:
To develop an understanding of the importance and effective utilization of children's literature, music, creative activities, and a variety of learning materials; to understand child behavior and development; to learn the value of play; and to understand the management and operation of a center.

Entry Date:
September

Course Length:
Two academic years (ten months each)

Admissions

Am I suited for this course?

You should be in good general health and have experience working with children.

Am I suited for this course?

You should be in good general health and have experience working with children.

Entrance Requirements:
- Interview by a selection committee.
- Sheet of additional information and submission of two letters of reference.
- Completion of additional information sheet prior to their interview.
- Applicants will be asked to observe children in the College Day Care Centre and complete a peer evaluation sheet. The evaluation sheet will be returned to the instructor for the child's file. The instructor will make notes on the child's performance and return the form to the student. The instructor may also ask the student to observe children in the College Day Care Centre and complete a peer evaluation sheet. The evaluation sheet will be returned to the instructor for the child's file. The instructor will make notes on the child's performance and return the form to the student.
- The instructor will make notes on the child's performance and return the form to the student. The instructor may also ask the student to observe children in the College Day Care Centre and complete a peer evaluation sheet. The evaluation sheet will be returned to the instructor for the child's file. The instructor will make notes on the child's performance and return the form to the student.
What's In It For Me?

If you wish to terminate training at the end of the first year you will receive a Certificate of Attainment. Graduation from the complete course will give you a Diploma in Child Care Services.

Opportunities for employment are expanding as the need for child care centres increase. Positions are available in day care centres or nursery schools and in lunch and after-four programs. You might also find a job in a play therapy or child development room in hospitals. With experience, you could reach the position of director of a day care centre. You will not be qualified for a teaching certificate in the public school system.

There is a transfer of credit system set up between the University of Winnipeg and R.R.C. After graduation, if you are interested in further studies, you may transfer credit from Child Care Services towards the four-year Developmental Studies course at the University of Winnipeg. Or, a person with a degree in Developmental Studies may transfer credit towards Child Care Services. Graduates of both courses will receive a Diploma in Child Care Services and a degree in Developmental Studies.

General Information

HOW Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Student Association fee of $2 a month. Books and supplies will cost approximately $220. Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C., Room C-116, telephone 633-6621.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcript, etc. must accompany the application form before processing will begin. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application form for the course may be obtained by writing the Admissions Office, R.R.C., Room C-116, telephone 633-6621.

October 1 is the first date for receipt of applications. You may then apply for admission at the college.

By the course...

The course...

...is also an evening-exemption program.

Course Outline
Dental Assisting
Chairside Expanded Duty

Purpose: To develop a knowledge of instruments and materials used by a dental assistant and to develop skills in the preparation, procedures, and techniques used in dental offices. The graduate of Expanded Duty will have the ability to practice preventive procedures and the knowledge to give preventive advice in oral hygiene. The graduate of Expanded Duty will have the ability to practice preventive procedures and the knowledge to give preventive advice in oral hygiene. The graduate of Expanded Duty will have the ability to practice preventive procedures and the knowledge to give preventive advice in oral hygiene. The graduate of Expanded Duty will have the ability to practice preventive procedures and the knowledge to give preventive advice in oral hygiene. The graduate of Expanded Duty will have the ability to practice preventive procedures and the knowledge to give preventive advice in oral hygiene. 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through the College Admissions Office.

and seek advice from their instructor at the college.

Revised Sept. 79

General Information

How Much Will It Cost?

by the way

How Do I Apply?

An application for admission to the course must accompany the application form before the student is considered for admission.

The Canadian Employment Counselling and Information Centre, Room C-116, can be of great assistance.

A Schedule of Information Session is a must in addition. There is

Expanded Duties

How much will it cost?

Fees & Content subject to change without notice.

Red River Community College

in the province of Manitoba.

ed in the public interest and are ex-

Open to the general public. You may need to be a resident of

Your main responsibility would be to keep a record of

the child's dental records.

The Canada Employment and Immigration Com-

mission may sponsor students to take this course.

Enquiries should be made at your nearest

Canada Employment Centre.

The Canadian Employment Counselling and Information Centre

Term 1

H07-E201 Developmental Psychology

H07-E205 Preclinical and Clinical Practice A

H07-E206 Intro Oral Techniques for Dental Assistants

What's in it for me?

After successful completion of the first 26 weeks of training, you will receive a Certificate in Dental Assisting — Chairside. Successful completion of Dental Assisting — Expanded Duty will qualify you for a Certificate in Dental Assisting — Expanded Duty.

You could find employment in private dental offices, large clinics, hospital dental clinics or dental research.

Employment opportunities also exist with the Province of Manitoba in public health programs. Your main responsibility would be to teach preventive dental measures to school children.

Opportunities in the public service area are expanding as the children's Dental Plan is introduced.

In Expanded Duty you will study Developmental Psychology, Community Dental Health and Oral Techniques for Dental Assistants.

Course Outline

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $52.00.

General Information

What's in it for me?

By the way

How much will it cost?

Expanded Duties

How do I apply?

General Information

How much will it cost?

Expanded Duties

What's in it for me?
**Medical Laboratory Technology**

**Purpose:** To prepare students through academic study and practical experience to examine and analyze body fluid specimens using various chemical, microscopic, and bacteriological tests by applying techniques from the sciences of histotechnology, microbiology, clinical chemistry, hematology, and immunohematology.

**Entry Date:** September

**Course Length:** 22 months (10 months at R.R.C.C. plus 1 year at a hospital)

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**Admissions**

Are you suited for this course?

You should have a strong scientific background and an interest in the sciences, especially in the areas of mathematics and chemistry. You should be able to handle body fluid specimens without being squeamish.

**Entrance Requirements**

A—20 high school credits (complete Manitoba Grade 12) including English 300 or 301, Mathematics 300 or 301, Chemistry 300 and one of Biology 300 or 301, Physics 300, or one of Ecology 302 or Biology 302, or complete Manitoba Grade 12, including English 300 or 301.

and

B—Completion of hospital training preference and applicant information sheet.

and

C—Interview by hospital and applicant information sheet.

and

D—Submission of immunization record.

There is no minimum student admission to this course. If you do not have the academic requirements, there is no minimum student admission. There is no maximum student admission.

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**Special Application Procedures for the Course**

Special application procedures for this course are explained under General Information.

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**Program**

The goal of the course is to train students to work in a hospital or a hospital laboratory. You will have the opportunity to work in a variety of settings, including hospitals, clinics, and laboratories. You will learn the techniques of these various sciences. You will learn to examine specimens and prepare them for further analysis. You will also learn to handle body fluid specimens without being squeamish.

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**What Will I Study?**

The goal of the course is to train students to work in a hospital or a hospital laboratory. You will have the opportunity to work in a variety of settings, including hospitals, clinics, and laboratories. You will learn the techniques of these various sciences. You will learn to examine specimens and prepare them for further analysis. You will also learn to handle body fluid specimens without being squeamish.

---

**Entrance Requirements**

A—20 high school credits (complete Manitoba Grade 12) including English 300 or 301, Mathematics 300 or 301, Chemistry 300 and one of Biology 300 or 301, Physics 300.

and

B—Completion of hospital training preference and applicant information sheet.

and

C—Interview by hospital and applicant information sheet.

and

D—Submission of immunization record.

There is no minimum student admission to this course. If you do not have the academic requirements, there is no minimum student admission. There is no maximum student admission.

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**Special Application Procedures for the Course**

Special application procedures for this course are explained under General Information.
At the end of your training, and with the hospitals’ recommendation, you will write the Canadian Society of Laboratory Technologists’ (C.S.L.T.) national examinations which will lead to a certificate as a Registered Medical Laboratory Technologist (R.T.). Successful completion of these exams qualifies you for membership in the C.S.L.T. Your Canadian certification is recognized anywhere in Canada.

Job opportunities are available in hospital laboratories, medical clinics, research agencies, and veterinary and pharmaceutical laboratories. As a graduate, you will aid the medical practitioner in the diagnosis and subsequent treatment of the patient.

Further training and experience can lead to an Advanced Registered Technologist (A.R.T.). A licentiate may be achieved after writing a thesis and passing an advanced oral examination.

To find out more about this field of training, you should visit labs at hospitals or clinics, or you could contact the Counselling Office at the College, Room C-115, 2055 Notre Dame Avenue, Winnipeg R3H 0J9.

By the Way...

To apply, complete the application form before the application closes on...
Purpose: To provide an academic foundation and supervised practical experience to develop proficiency in the management of patients and the safe operation and manipulation of x-ray equipment.

Entry Date: Mid-August

Course Length: 2 years (29 weeks at R.R.C.C.)

Medical Radiological Diagnostic Technology

Admissions

Am I suited for this course?

- You should have a strong academic background, especially in the sciences.
- You should be able to communicate well and enjoy working with people, as you will be in constant contact with doctors and patients.
- A mechanical ability is necessary, as you will be required to move equipment and handle it efficiently.
- You should be prepared to spend two to three hours each evening on homework while you are at the College and approximately one to two hours during your training at the hospital.
- Although work hours are usually regular, you should be prepared to be on call or on duty some evenings and weekends.

Entrance Requirements

A — 20 high school credits (Manitoba Grade 12 or equivalent) including English 300, Mathematics 300 or 301, and one of Physics 300, Chemistry 300, Biology 300 or 301, or Physical Science 301;

and

B — completion of hospital application form, training preferences sheet, and autobiography of 1-1 ½ pages;

and

C — an interview by the hospital training centre.

If you do not have the academic requirements you may be eligible to apply for admission to the course as a mature student.

Mature Student Admissions

Mature students must be 20 years of age or older by September 1 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' eligibility. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing in required subjects (English, mathematics and the sciences) will be necessary. All mature student applicants must complete Entrance Requirements B and C.

Eligible applicant must complete Entrance Requirements B, C, and D.

Eligible applicants are admitted on a first-come, first-served basis.

This is a Special Selection course. After fulfilling the academic requirements, the application will be forwarded to the hospital training centre for consideration. The Selection Committee of the hospital looks for candidates who have strong academic backgrounds who are interested in radiology. The Selection Committee will also consider the applicant's personal qualities and abilities.

Program

The role of a radiological diagnostic technician, or x-ray technologist, is to take x-rays of diseased or injured areas of the human body. As a technologist, you should be able to position the patient on the x-ray table in such a way that it will not cause them discomfort. At the same time, you should be able to produce a good-quality x-ray on film of the diseased or injured area.

You will spend the first four weeks of the course at a hospital to familiarize yourself with the routine of the hospital and the x-ray department and to learn how to deal with patients in a hospital setting. The next 22 weeks will be spent at the College, where you will be learning the theoretical aspects of the subject. As a result of your studies, you should be able to explain the role of x-ray technologists to take x-rays of diseased or injured areas of the human body.

Admissions

C — an interview by the hospital training centre.
What Will I Study?

**Radiology**

Technicians.

Course Outline

### Year 1

- **Basic Sciences**
- **Anatomy & Physiology**
- **Radiographic Positioning**
- **Film Processing**
- **Medical Radiation Protection**

### Year 2

- **Apparatus & Accessory Equipment**
- **Image Recording in Radiography**
- **Radiation Physics, Radiobiology**
- **Apparatus and Accessory Equipment Regulation**

### How Much Will It Cost?

- **Fees:**
  - Basic Sciences: $27 per month
  - Apparatus & Accessory Equipment: $27 per month
  - Image Recording: $27 per month
  - Radiation Physics, Radiobiology: $27 per month
  - Apparatus and Accessory Equipment Regulation: $27 per month

- **Supplies:**
  - Soaks and supplies will cost approximately $144.

### Registration

- **Admissions:**
  - Applications are accepted between October 1 and until the course is full.

- **Application:**
  - Completed mark statements, transcripts, etc., must accompany the application form before an application will be accepted. The applicant must apply to the College in writing for registration. An applicant who has the required academic prerequisites first applies to the College in writing for registration. The College will, by written notice, inform the applicant of its decision.

- **Fees:**
  - The fee for the first year is $110 and the fee for the second year is $110.

### Student Aid

- **Eligibility:**
  - Students may apply for financial aid from the Manitoba Student Aid program.

- **Application:**
  - Applications for financial aid must be made before the end of the year preceding the entry date for the course.

- **Information:**
  - Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, 2055 Notre Dame Ave., Winnipeg, Manitoba R3H 0J9, or by telephoning 632-2327.

- **Mail:**
  - An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg, Manitoba R3H 0J9.
Medical Radiological Technology with Laboratory Assistance

Purpose: With assistance from the Manitoba Health Services Commission, the graduate will develop proficiency in the management and manipulation of patients and the safe operation of x-ray equipment and development of skills in certain laboratory assistance procedures.

Entry Date: August

Course Length: Twenty-eight months

Admissions

Am I suited for this course?

You should have a strong academic background, especially in the sciences. You should be able to communicate well and enjoy working with people as you will be in constant contact with doctors and patients. A mechanical ability is necessary as you will be required to move equipment and handle it efficiently.

Entrance Requirements

1. A 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301 and one of Physics 300, Chemistry 300, Biology 300 or 301 or Physical Science 301; or
2. The equivalent of the above standing gained through an adult education program; and
3. Completion of a hospital application form and autobiography of one and one-half pages; and
4. Interview with the Manitoba Health Services Commission.

Program

The program includes full training in Medical Radiological Diagnostic Technology (where emphasis is placed upon radiographic positioning, or the positioning of the body for the purpose of taking x-rays). In addition, you will take a 3-month assistant's course in Laboratory Technology. The program includes full training in Medical Radiological Diagnostic Technology and Laboratory Technology and consists of 25 months of training. 28 months of training includes 25 months of training in radiology.

Note: Course and program are subject to change at any time without notice.

Program

The program includes full training in Medical Radiological Diagnostic Technology. The program is designed for people who have completed a two-year college degree in a related field.

Entrance Requirements

1. A 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301 and one of Physics 300, Chemistry 300, Biology 300 or 301 or Physical Science 301; or
2. The equivalent of the above standing gained through an adult education program; and
3. Completion of a hospital application form and autobiography of one and one-half pages; and
4. Interview with the Manitoba Health Services Commission.

The program includes full training in Medical Radiological Diagnostic Technology and Laboratory Technology and consists of 25 months of training. 28 months of training includes 25 months of training in radiology.

Note: Course and program are subject to change at any time without notice.

Program

The program includes full training in Medical Radiological Diagnostic Technology. The program is designed for people who have completed a two-year college degree in a related field.

Entrance Requirements

1. A 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301 and one of Physics 300, Chemistry 300, Biology 300 or 301 or Physical Science 301; or
2. The equivalent of the above standing gained through an adult education program; and
3. Completion of a hospital application form and autobiography of one and one-half pages; and
4. Interview with the Manitoba Health Services Commission.

The program includes full training in Medical Radiological Diagnostic Technology and Laboratory Technology and consists of 25 months of training. 28 months of training includes 25 months of training in radiology.

Note: Course and program are subject to change at any time without notice.
through the college admissions office. It is advisable to apply before March and June.

If you are interested in the medical radiological technology with laboratory assistance, contact people in the medical radiological technology with laboratory assistance field. For general information on the course, contact the Manitoba Health Services Commission, 599 Empress Street, Winnipeg, telephone 632-2327.
Purpose: To develop the knowledge and skills required to work with the treatment of disease, primarily malignant, by use of ionizing radiation. The graduate will be able to apply the qualities of patience, understanding and tolerance in the best medical and humanitarian interests of the patient.

Entry Date: August

Course Length: 22 months (23 weeks at R.R.C.C.)

Admissions

Am I suited for this course?

You must be technically oriented and be able to empathize with cancer patients in the best humanitarian interests of patients. You will need to have a strong scientific background in biology, chemistry and physics.

Entrance Requirements:

A — 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and either Physics 300 or Physical Science 301 or Biology 300 or 301.

or

The equivalent of the above gained through an adult education program; (You may attend the five-month Adult Education course and receive credit in the required subjects (English, mathematics and the sciences).

and

B — An interview with the Manitoba Cancer Treatment and Research Foundation Selection Committee.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission — Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics and the sciences) will be necessary. All mature student applicants must complete Entrance Requirement B. This is a Special Selection course. After fulfilling the academic requirements, the application will be forwarded to the Manitoba Cancer Treatment and Research Foundation for consideration. The Selection Committee of the Foundation looks for candidates who have strong mathematical and scientific aptitudes and abilities. Selection is done on the basis of academic background and educational standing in the required subjects. General suitability for the career as well as the educational standing of the applicant are considered.

Course Length: 22 months (23 weeks at R.R.C.C.)

Admissions

Am I suited for this course?

You must be technically oriented and be able to empathize with cancer patients in the best humanitarian interests of patients. You will need to have a strong scientific background in biology, chemistry and physics.

Entrance Requirements:

A — 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, and either Physics 300 or Physical Science 301 or Biology 300 or 301.

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Course Length: 22 months (23 weeks at R.R.C.C.)

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Course Outline

H04-D101 Anatomy & Physiology
H04-D103 Radiation Physics, Radiography & Protection
H04-D105 Apparatus & Accessory Equipment
H04-T108
H04-T109 Image Recording in Radiography
H04-T107 Hospital Affiliation
H04-T108 Physiques

Upon successful completion of the course, you will write the qualification examinations set by the Canadian Society of Radiological Technicians. Successful candidates are awarded R.T.(T.) Registered Technologist (Therapy) certificates. This certificate indicates that you are a properly trained and competent person who meets the professional standards of and is eligible for membership in the Canadian Society of Medical Radiation Technologists. There are opportunities for you, as a technologist, to advance to higher levels of certification.

How Much Will It Cost?

October 1 of the year preceding the entry date is the first date for receipt of completed mark statements, transcripts, etc. how do I Apply?

Telephone 633-6541, Room C-116, Student Affairs Department. The deadline for receipt of completed mark statements, transcripts, etc. is October 1 of the year preceding the entry date. The application form for this course may be obtained by writing the Admissions Office, Red River College, Room C-212, 2055 Notre Dame Ave., Winnipeg, R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Students' Association fee of $2 a month, and books and supplies will cost approximately $125 in the first year and $75 in the second year. Students may apply for financial aid through the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, Room C-116. Updated information can be obtained from the Admissions Office, Room C-212.

The Red River College Student Faculty Union fee of $37 a month is in addition. There are no other fees or costs associated with the Red River College Radiation Therapy Program.

What's In It For Me?

By the Way

A graduate will have opportunities to advance both in knowledge and status. The Canadian qualification is recognized internationally, allowing you to accept a position in almost any radiotherapy centre in the world. The earnings of the experienced radiotherapy technologist compares favourably with earnings of other medical services personnel.

General Information

How Much Will It Cost?

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By the Way

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Purpose:

To develop skills and knowledge in performing tests on patients using radioactive materials and to learn to safely use radioactive materials as biological tracers for the purpose of medical diagnostic testing. The graduate will be proficient in performing static and dynamic organ imaging, organ function studies and "in vitro" procedures including radiometric assays.

Entry Date:

Mid-August

Course Length:

Two academic years (22½ months)

Admissions

Am I suited for this course?

You should be proficient in the required subjects in order to successfully complete the required entrance exams in English, mathematics, physics, and chemistry. You should enjoy working with people and have empathy for people who are sick or disabled. Good health is an asset. A blind person would have difficulty working in this field as testing is based on visual images and digital displays. Be prepared to spend approximately three hours each evening on homework during your college training.

Entrance Requirements

A — An orientation of the Nuclear Medicine Department at the Health Sciences Centre; and

B — Successful completion of the College entrance tests in English, mathematics, physics, and chemistry; and

C — An interview with the selection committee from the College; and

D — A personal interview with the selection committee from the College and the various training hospitals.

This is a Special Selection Course. Final selection of students will be based on the interview and entrance test results. The Selection Committee selects on the basis of academics and results of the entrance tests, related education or experience, and suitability for the course—based on requirements for the profession.

All accepted applicants must have written acceptance from the Executive of the C.S.R.T. Manitoba Division.

If you do not have the academic requirements, you may be able to qualify for admission as a mature student.

Mature Student Admission

Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (English, mathematics, and sciences) will likely be necessary.

Program

Your college training begins in mid-August as a student in an affiliated hospital. You will then spend two five-month terms at Red River Community College for the academic portion of the course. Your second five-month term will include some practical experience at local hospitals to supplement the lecture material. After successful completion of this portion of the course, you will be placed in hospitals for the remainder of your training period. The course objectives through the training period are to:

- Acquire a personal understanding with the

A — Foundation of the College Program;

B — An understanding of the nuclear medicine and radiopharmacy course;

C — An understanding of the nuclear medicine and radiopharmacy course;

D — An understanding of the nuclear medicine and radiopharmacy course;

E — An understanding of the nuclear medicine and radiopharmacy course;

F — An understanding of the nuclear medicine and radiopharmacy course;

G — An understanding of the nuclear medicine and radiopharmacy course;

H — An understanding of the nuclear medicine and radiopharmacy course;

I — An understanding of the nuclear medicine and radiopharmacy course;

J — An understanding of the nuclear medicine and radiopharmacy course;

K — An understanding of the nuclear medicine and radiopharmacy course;

L — An understanding of the nuclear medicine and radiopharmacy course;

M — An understanding of the nuclear medicine and radiopharmacy course;

N — An understanding of the nuclear medicine and radiopharmacy course;

O — An understanding of the nuclear medicine and radiopharmacy course;

P — An understanding of the nuclear medicine and radiopharmacy course;

Q — An understanding of the nuclear medicine and radiopharmacy course;

R — An understanding of the nuclear medicine and radiopharmacy course;

S — An understanding of the nuclear medicine and radiopharmacy course;

T — An understanding of the nuclear medicine and radiopharmacy course;

U — An understanding of the nuclear medicine and radiopharmacy course;

V — An understanding of the nuclear medicine and radiopharmacy course;

W — An understanding of the nuclear medicine and radiopharmacy course;

X — An understanding of the nuclear medicine and radiopharmacy course;

Y — An understanding of the nuclear medicine and radiopharmacy course;

Z — An understanding of the nuclear medicine and radiopharmacy course.

Purpose:

To develop skills and knowledge in performing tests on patients using radioactive materials and to learn to safely use radioactive materials as biological tracers for the purpose of medical diagnostic testing. The graduate will be proficient in performing static and dynamic organ imaging, organ function studies and "in vitro" procedures including radiometric assays.
Emphasis during your training at the College will be on nuclear medicine instrumentation, nuclear physics, radiation protection, radiobiology, anatomy and physiology, applied physiology and pathology, and clinical methodology.

**Course Outline**

- H04-D101 Anatomy and Physiology
- H05-N101 Nuclear Instrumentation
- H05-N102 Nuclear Radiation Physics
- H05-N103 Radiation Biology & Protection
- T07-C111 Chemistry
- T10-M152 Mathematics
- H05-N201 Instrumentation (Use)
- H05-N205 Applied Physiology & Pathology
- H05-N206 Clinical Methodology
- H05-N207 Radiopharmaceuticals
- H05-N208 N.M. Study Seminars
- H05-N209 Related Sciences
- T10-S252 Elementary Statistics and Quality Control

**What's In It For Me?**

Upon successful completion of the course you will be eligible to write certifying examinations set by the Canadian Association of Medical Radiological Technologists (C.A.M.R.T.). Successful candidates are awarded a certificate (R.T.) as a Registered Technician. This certification is recognized in the United States, Great Britain, and Australia. With this certification, the student can apply for positions as a Nuclear Medicine Technologist and become involved in doing tests on patients using radioactive materials. The radioactive material is either injected into the patient or a test sample is taken from the patient and tested on the sample. Graduates are employed in hospitals, medical clinics, and with some commercial companies.

**General Information**

- **By The Way:**

  To learn more about this occupation, you could contact people in the Nuclear Medicine field. For information on Nuclear Medicine and other programs, contact the Counseling Office at the College, R.C.C. Room C-115, telephone 632-2355.

- **How Much Will It Cost?**

  The tuition fee is $27 a month. In addition, there is a $2 student fee per month. This amount includes the purchase of uniforms and a calculator.

- **How Do I Apply?**

  An application form for this course may be obtained by writing the Admissions Office, R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

  The deadline for receipt of applications is October 1 of the year preceding the entry date. This course has a limited capacity determined by the number of approved student training positions. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

  An applicant who is not a Canadian citizen or Permanent Resident is eligible for admission to this program, but will be required to demonstrate English language proficiency. Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.C.C., Room C-16.

  **Further Information for Saskatchewan Applicants:**

  For further information, contact Dr. M. Tyson, Pasqua Hospital, 4101 Dewdney Ave., Regina S4T 1A5, or Dr. A. A. Johnson, University Hospital, Saskatoon S7N 0W5, or Dr. M. Katz, Park Avenue Centre, 4500 Wasan Pk., Regina S4S 5W9.

  **By The Way:**

  To find out more about this occupation, you could contact people in the Nuclear Medicine field. For information on Nuclear Medicine and other programs, contact the Counseling Office at the College, R.C.C., Room C-115, telephone 632-2355.

  Red River Community College is operated by the Government of Canada.
Nursing
NursingOne
Purpose:
(NursingOne) To prepare students to use the nursing process in the provision of direct nursing care for selected individuals of any age whose physical and psychological equilibrium is relatively stable but who need assistance primarily with activities of daily living.

(NursingTwo) To prepare the student to use the nursing process in the provision of direct nursing care to persons of all ages with commonly occurring health interferences.

Entry Date: September

NursingOne
- One academic year
- (ten months)

NursingTwo
- One academic year
- (ten months)

NursingOne is a prerequisite for entry into NursingTwo.

Admissions
Am I suited for this course?

You should be in good physical health as you will be required to lift patients, stand on your feet for long periods of time, and be physically mobile at all times. Manual dexterity is required for the use of precision instruments. A strong academic background, especially in the sciences, is an asset. Good written and oral communication skills are required for entrance to and completion of the courses. You should be able to take direction and be responsible for your own actions. The ability to relate to patients, fellow workers, and the general public in a sympathetic and professional manner is also required.

What will I study?

Applicants must be good health. The Selection Committee retains the right to require a medical certificate attesting to the individual's health status. Immunizations are required of all students and should commence, as indicated by the immunization forms, upon notification of acceptance into the course.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer for approval.

Course Length:

Admissions Requirements

Applicants must be good health. The Selection Committee retains the right to require a medical certificate attesting to the individual's health status. Immunizations are required of all students and should commence, as indicated by the immunization forms, upon notification of acceptance into the course.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

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Course Length:

Admissions Requirements

Applicants must be good health. The Selection Committee retains the right to require a medical certificate attesting to the individual's health status. Immunizations are required of all students and should commence, as indicated by the immunization forms, upon notification of acceptance into the course.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer for approval.

Course Length:
What's In It For Me?

At the completion of Nursing One, you will receive a Certificate from Red River Community College.

At the completion of Nursing Two, you will receive a Diploma from the College.

Graduates of Nursing One may choose to write the licensed practical nursing examinations and seek employment or continue into Nursing Two sequentially or at a later date. Nursing One graduates will enter the work force as beginning practical nurse practitioners functioning under the supervision of a registered nurse and in collaboration with other health team members primarily in hospitals, clinics and nursing homes.

Graduates of Nursing Two are eligible to write the Canadian Nurses Association Testing Services Registration Examinations. Graduates will enter the work force as beginning registered nurse practitioners. Nursing Two graduates are employed in hospitals, clinics, nursing homes and other health agencies and function in collaboration with other health team members.

By The Way . . .

Applications for admission to the courses are due by October 1. Students possessing the entry requirements mentioned above must apply for admission to the College. The Admissions Office is located in R.R.C.C., Room C-116, 2055 Notre Dame Avenue, Winnipeg, R3H 0FL. An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Avenue, Winnipeg, R3H 0FL, or by telephoning 632-2327.

How Much Will It Cost?

Students may apply for provincial governments Student Aid programs. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116. All applicants must provide evidence of financial need and submit a completed mark sheet and transcript. Tuition fees are $27 per month. In addition, there is a Students' Association fee of $2 per month. Books and supplies will be approximately $400 for the first academic year ($570 for the second academic year) and will be added to each student's account. The tuition fee is $570 per month. In addition, there is a Students' Association fee of $2 per month.

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Students may apply for provincial governments Student Aid programs. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116. All applicants must provide evidence of financial need and submit a completed mark sheet and transcript. Tuition fees are $27 per month. In addition, there is a Students' Association fee of $2 per month. Books and supplies will be approximately $400 for the first academic year ($570 for the second academic year) and will be added to each student's account. The tuition fee is $570 per month. In addition, there is a Students' Association fee of $2 per month.

How Much Will I Cost?

General Information

Course Outline
Nursing Refresher—LP.N

Purpose:
To review and update knowledge and skills in nursing fundamentals, needs and care of adult patients with medical and surgical conditions. The graduate will possess up-to-date knowledge and skills needed to return to the nursing of adult patients with medical and surgical conditions.

Entry Dates:
Ondemand

Course Length:
LP.N. Refresher—6-8 weeks
R.N. Refresher—6-8 weeks

Admissions
We are an equal opportunity educational institution.

Teenage caregivers who want to earn an updating course.

Am I suited for this course?
No, this program is only available for practicing licensed nurses.

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Teenage caregivers who want to earn an updating course.

Am I suited for this course?
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Purpose: To provide the required instruction in maternity and psychiatric nursing to allow graduates either to write examinations required for registration in the Manitoba Association of Registered Nurses (M.A.R.N.), or to review and update their nursing skill and knowledge.

Entry Dates: On demand (Maternity Nursing is offered in summer only.)

Course Length: Seven weeks

Admissions

Am I Suited For This Course?
The completer course for maternity and psychiatric nurses is available to graduate nurses who wish to obtain registration with M.A.R.N., or to registered nurses who need to review and update their nursing skill.

Entrance Requirements

The following persons are eligible to apply:
1. Graduate nurses referred by the M.A.R.N. who require the course to become eligible to write the registration examinations in Manitoba.
2. Students or accepted applicants recommended by a Diploma Nursing program and who have the prerequisites (i.e. Term 1 and related subjects or credit for same).
3. Currently Registered Psychiatric Nurses.
4. Currently Registered Nurses.

Proof of Eligibility must be provided with the application! i.e.
- A letter (or photostatic copy) from the M.A.R.N. (or other Canadian licensing body) confirming the requirement and registration recommendation from the school of (except R.R.C.C. Nursing Two — Registered Psychiatric Nurses and Registered Nurses: a letter from the Registrar of the Licensing body, or a copy of the current registration card.)

Applicants for both courses must also complete a Supplementary Application Form pertaining to nursing background. This form is available from the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9.

Program

The courses are full-time, five days per week, approximately six hours per day plus individual study and reading time.

What Will I Study?

The College Instructors are responsible for and supervise the students in clinical practice as well as teaching in the classroom. Theory and clinical practices will be integrated throughout the courses, with approximately 30 hours of theory and clinical practice per week. Students are expected to make use of the Learning Resources Centre and the multi-purpose learning lab with the audio-visual aids for individual use.

Note: For those persons taking the course as part of their registration requirements, a copy of their final theory and clinical evaluation is sent to the M.A.R.N. For those persons entering Nursing Two, it is sent to the Department Head, R.R.C.C.

Successful completion of the Maternity Nursing course will be accepted for transfer credit in Nursing Two at R.R.C.C. for The Growing Family (HO1-N201).

Tuition fee is $54 and textbooks and supplies will be approximately $60 to $70. Textbook and printed materials are usually available at the College Bookstore before the start of the courses. If ordering by mail, payment must accompany the order and include $1.10 mailing and handling charges per book. Money orders or cheques should be made payable to R.R.C.C.

General Information

You will average 7.5 hours of patient care plus 1 hour class and/or conference time each day when in the clinical area. Classes at the College generally commence at 8:00 a.m. and conclude at 4:00 p.m. You will work evenings periodically, and a Saturday and/or Sunday period may be scheduled.

Application Procedure

Students are admitted in one of two ways:

1. Provincial Entries: persons who are responsible for their own financial arrangements. Applications are accepted from the College. The Admissions Office “fills the Provincial entry seats” by accepting the designated number of applicants. A first come — first served principle is followed except for the occasional priority given when personal circumstances necessitate an immediate return to work. The remaining applicants are notified they are on the wait list. menstrual period is required for the course. The wait list seat is held for several weeks or until the next acceptable applicant is located. The wait list seat is then offered to the next acceptable student on the wait list.

2. Employment and Immigration Commission (Canada Employment Centre) entries: When the E.I.C. purchases “a block of seats” they arrange the placements into those “seats” for the persons whom they are sponsoring. If their seats are not all filled, one or two days before the course start date they notify the College who is then free to call additional persons on the provincial entry wait list.

Admissions

Course Length: Seven weeks

Program

Recovering Nursing

Maternity Nursing

—Completer—

—Completer—
Power Engineering
Mechanical Engineering Technology
Instrumentation Technology
Electronic Technology
Electrical Technology
Computer Technology
Structural Engineering
Building Design & Drafting
Civil
Civil Technology — Surveying
Bioengineering Technology
Biotechnology/Chemical Technology
Architectural Drafting — Electrical — Mechanical Systems
Apprenticeship
Pre-Trades Training for Women
Truck Driver Training
Welding
Upholstery
Telemarketing
Sheet Metal
Refrigeration & Air Conditioning
Radio Operating & Electronic Communications
Piping Trades
Painting and Decorating
Motor Vehicle Mechanic Repair
Motor Vehicle Body Repair
Masonry
Major Appliance Service Technician
Machine Shop Practice
Mechanical Drafting
Industrial Electronics
Electrical Course
Domestic Electronics
Diesel Mechanics — Transport
Carpentry and Woodworking
Industrial and Technology Division
Purpose:
To learn to produce working drawings.

Admissions

Am I suited for this course?

Entry Requirements

— 14 high school credits (Manitoba Grade 11)
— 201 or 203
— or equivalent (including Mathematics 11)
— or equivalent standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their application information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in mathematics may be necessary.

Program

All students enroll in a common first term of Architectural Drafting. In the second term, students must choose between the Architectural Drafting, Electrical Drafting, and Mechanical Drafting options.

What will I study?

In Architectural Drafting, you will learn to produce working drawings of a building design. You will also learn the fundamental techniques required of an architectural technician, such as the strength of materials, surveying, sketching, model building, presentation drawing, and cost analysis.

In Electrical Drafting, you will learn the techniques of producing working drawings of electrical and power systems, circuitry, panel layouts, and motor control. You will learn the basics of electrical drafting in your first term, and in your second term, you will learn electrical theory, the techniques of electrical drafting, and the standard symbols and practices used in the electrical industry.

In Mechanical Drafting, you will learn to produce working drawings for plumbing, heating, air conditioning, and sprinkler systems required in buildings. You will also learn the heat loss theory, how to calculate building loads for heating and cooling systems, and the different building codes and specifications involved.

Architectural Drafting:

- architectural drawing
- computer-aided drafting
- blueprinting systems

Architectural Drafting course is designed for individuals who wish to enter the field of architectural drafting. The course is offered in a 16-week format and is open to people of all ages. The course covers the fundamentals of architectural drafting, including the use of technical equipment and software. Students will learn how to produce working drawings of buildings, structures, and other architectural elements. The course includes hands-on practice and is taught by experienced instructors.

Electrical Drafting:

- electrical systems
- circuitry design
- control panel layout

Electrical Drafting course is designed for individuals who wish to enter the field of electrical drafting. The course is offered in a 16-week format and is open to people of all ages. The course covers the fundamentals of electrical drafting, including the use of technical equipment and software. Students will learn how to produce working drawings of electrical systems, circuitry, panel layouts, and motor control. The course includes hands-on practice and is taught by experienced instructors.

Mechanical Drafting:

- mechanical systems
- heating and air conditioning
- plumbing systems

Mechanical Drafting course is designed for individuals who wish to enter the field of mechanical drafting. The course is offered in a 16-week format and is open to people of all ages. The course covers the fundamentals of mechanical drafting, including the use of technical equipment and software. Students will learn how to produce working drawings of mechanical systems, including plumbing, heating, air conditioning, and sprinkler systems. The course includes hands-on practice and is taught by experienced instructors.

Admissions

To be considered for admission, you must have good vision with or without glasses, have good hand-eye coordination, and be free from physical handicaps that would prevent you from maintaining a sitting position at a drafting table or using such drafting equipment as pencils, sets, and squares. You should have good oral and written skills in English, be able to understand and use mathematical principles, and have an analytical mind with an understanding of the basic concepts in the physical sciences. You should be patient, diligent, and conscientious, as you will often be required to make corrections and revisions to your drawings.

Entrance Requirements

— 14 high school credits (Manitoba Grade 11)
— 201 or 203
— or equivalent (including Mathematics 11)
— or equivalent standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Officer to determine applicants' suitability. Applicants should include with their application information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in mathematics may be necessary.

Admissions

Am I suited for this course?

Entry Requirements

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Course Outline

By The Way

Architectural Drafting

Term 1

- Fundamentals of Delineation
- Applied (Arch) Drafting I
- Drafting Math
- Drawing

Term 2

- T03-A015 Quantity Take-off
- T03-A017 Surveying and Topographical Specifications
- Applied (Arch) Drafting II
- Applied Strength of Materials
- Report Writing

Electrical Drafting (Option)

Term 2

- T03-A017 Surveying and Topographical Drawing
- T03-E011 Electrical Drafting
- T14-R503 Report Writing

Mechanical Systems Drafting (Option)

Term 2

- T03-A017 Surveying and Topographical Drawing
- T03-S011 Mechanical Systems Drafting
- T14-R503 Report Writing

What's In It For Me?

Upon successful completion of this course you will receive a Certificate of Attainment from Red River Community College.

Job opportunities for Architectural Drafting graduates are available as junior draftspeople in architectural, consulting engineering, town planning, surveying and building trades drafting offices. After gaining experience, graduates have found employment as estimators, building inspectors, specification writers, technical representatives, construction supervisors or salespeople of building product lines.

Job opportunities for Electrical Drafting graduates are available as junior draftspeople with electrical engineering consultants, power distribution utilities, electrical contractors, and electrical suppliers.

Job opportunities for Mechanical Systems Drafting graduates are available with mechanical engineering consultants, suppliers and manufacturers of mechanical equipment, and mechanical contractors.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies for Architectural, Electrical, and Mechanical Engineering Drafting will cost approximately $100.

Students may apply for financial aid as available from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Applications for the Architectural Drafting, Electrical Drafting, and Mechanical Systems Drafting programs should be submitted to the R.R.C.C. Admissions Office, Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

Architectural Drafting is also offered at Assiniboine Community College, Brandon, Manitoba.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

Architectural Drafting is also offered at Bevill College, Brandon, Manitoba.

To find out more about this occupation, you could contact people in the drafting field. For information on Architectural Drafting, Electrical Drafting and Mechanical Systems Drafting and other college courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 632-2327.

Architectural Drafting

General Information

- Job opportunities for Architectural Drafting, Electrical Drafting, and Mechanical Systems Drafting graduates are available with architectural, electrical engineering, and mechanical engineering consultants, suppliers and manufacturers of electrical and mechanical systems in architectural, electrical, and mechanical drafting offices. After gaining experience, graduates have found employment as estimators, building inspectors, specification writers, technical representatives, construction supervisors or salespeople of building product lines.

Job opportunities for Architectural Drafting graduates are available as junior draftspeople in architectural, consulting engineering, town planning, surveying and building trades drafting offices. After gaining experience, graduates have found employment as estimators, building inspectors, specification writers, technical representatives, construction supervisors or salespeople of building product lines.

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R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

Architectural Drafting is also offered at Bevill College, Brandon, Manitoba.

To find out more about this occupation, you could contact people in the drafting field. For information on Architectural Drafting, Electrical Drafting and Mechanical Systems Drafting and other college courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 632-2327.
Carpentry

Purpose:
To develop knowledge and skills in carpentry.

Entry Dates:
September and February

Course Length:
Ten months

Admissions

Am I Suitable for This Course?
Eligible applicants are required to:
- Complete an application at the College.
- Meet the academic requirements.
- Demonstrate skills and experience in carpentry.

Entrance Requirements:
- 7 high school credits (Manitoba Grade 10 or equivalent) including Math 100, 101, 102 or 103 and Science 100, 101, 103 or the equivalent of the above gained through an adult education program.

Mature Student Admission:
- Must be 20 years of age or older on September 30 of the year of registration.
- Must complete the application process.
- Must meet the admission requirements.
- Must demonstrate skills and experience in carpentry through the application process.

Admission officer will determine eligibility based on the application.

What Will I Study?
- The course is designed to teach you the basics of carpentry and woodworking required to enter an apprenticeship program in carpentry.
- You will be taught the safe and proper use of hand and power tools and woodworking machines.
- You will be familiar with the various materials used by carpenters. Practice in assembling materials will become familiar with the machines, and you will become familiar with the basic skills of carpentry and woodworking.

Program

The aim of the course is to provide you with the skills to enter the carpentry trade.

Eligible applicants may be required to:
- Achieve a passing grade in the required subjects.
- Demonstrate skills and experience in carpentry.

Entrance Office:
- The entrance office is open Monday to Friday from 8:00 a.m. to 4:00 p.m. and on Saturday from 8:00 a.m. to 12:00 p.m.

Carpentry Department:
- Located in the Usag Building, Room 109.

If you have any questions, please contact the Admissions Office at 204-632-2311.
Upon successful completion of this course you will receive a Certificate from Red River Community College.

Past employment records show a high percentage of graduates are working in course-related fields all across Canada. Opportunities are available in commercial construction, housebuilding, factories, or cabinet making shops. Almost all graduates choose to enter the apprenticeship program. People who reach journeyman apprenticeship level may progress to foremen, supervisors, building inspectors, draftspeople, estimators, superintendents or specialists in related fields.

As a graduate, you may be granted one level of in-school training towards the Carpentry apprenticeship. Time credit, diminishing the length of your apprenticeship, is at the discretion of the employer. For the next three years of the apprenticeship program, you will be required by the provincial Department of Labour and Manpower to return to the College for additional theoretical and practical training.

Applicants should note that woodworking/cabinetmaking is not a designated trade in Manitoba. Consequently, there is no apprenticeship program in this specialty. For further information about the apprenticeship program, contact the provincial Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Textbooks and supplies will cost approximately $90.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-111, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

By The Way

To find out more about this occupation, you could contact people in the carpentry field.

For information on Carpentry and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-205, telephone 632-2335.

A Carpentry-Woodworking course is offered at Keewatin Community College, The Pas and at Assiniboine Community College, Brandon.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

Applicants should note that woodworking/cabinetmaking is not a designated trade in Manitoba. Consequently, there is no apprenticeship program in this specialty.
Diesel Mechanics—Transport

Purpose: To develop knowledge and skills necessary to diagnose malfunctions, inspect and repair worn parts, and assemble and render operational diesel-powered trucks and construction equipment.

Entry Date: September

Course Length: Ten months

Admissions

Am I Suited for This Course?

Entry Requirements—7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103 and Science 100, 101 or 102; or the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission—Mature students must be 20 years of age or older by September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility.

Eligible applicants are admitted on a first-come, first-served basis.

Program

As a graduate, you will be able to:

- Repair or replace parts to keep your vehicle running at peak performance.
- Apply mechanical principles to diagnose and repair a variety of heavy mobile construction equipment.
- Use a variety of tools and equipment to perform inspection and repair tasks.

What Will I Study?

First-rate diesel engines and components are assembled and operated in the workshop.

- Diagnosis and repair of diesel engines and components.
- Operation of heavy mobile construction equipment.
- Inspection and repair of heavy mobile construction equipment.
- Application of mechanical principles to diagnose and repair diesel-powered trucks and construction equipment.

Entrance Requirements

102, 103, 104, and Science 100, 101, or equivalent (Manitoba Grade 10 or equivalent) in each subject, with a minimum of 75% each.

Admissions

Aboriginal Transportation—Mature students must be 20 years of age or older by September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability.

Eligible applicants are admitted on a first-come, first-served basis.

Purpose: To develop knowledge and skills necessary to diagnose malfunctions, inspect and repair diesel-powered trucks and construction equipment.
By the Way...
Purpose: To develop the knowledge of electronic fundamentals and the ability to interpret technical information needed to service and repair radios, televisions and other electronic equipment.

Entry Dates: September and February

Course Length: Ten months

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Admission requirements

Eligible applicants must have the following educational qualifications:

- High school or equivalent
- Science 201, and Physics 201 or Physical Education 201, and Electronics 300 (Mathematics 200)

Entrance requirements

Your opportunity for improvement

Your potential for improvement depends on your ability to work with the platform. A strong foundation in English and mathematics is essential. You will need to adapt to the fast pace of the course. You will need a good ability to focus and study. You will need a good ability to focus on details. You must have a positive attitude to learn.

Aim | Suitable for this course?

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Admission requirements

Eligible applicants must have the following educational qualifications:

- High school or equivalent
- Science 201, and Physics 201 or Physical Education 201, and Electronics 300 (Mathematics 200)

Entrance requirements

Your opportunity for improvement

Your potential for improvement depends on your ability to work with the platform. A strong foundation in English and mathematics is essential. You will need to adapt to the fast pace of the course. You will need a good ability to focus and study. You will need a good ability to focus on details. You must have a positive attitude to learn.

Aim | Suitable for this course?

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Admission requirements

Eligible applicants must have the following educational qualifications:

- High school or equivalent
- Science 201, and Physics 201 or Physical Education 201, and Electronics 300 (Mathematics 200)

Entrance requirements

Your opportunity for improvement

Your potential for improvement depends on your ability to work with the platform. A strong foundation in English and mathematics is essential. You will need to adapt to the fast pace of the course. You will need a good ability to focus and study. You will need a good ability to focus on details. You must have a positive attitude to learn.

Aim | Suitable for this course?

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Admission requirements

Eligible applicants must have the following educational qualifications:

- High school or equivalent
- Science 201, and Physics 201 or Physical Education 201, and Electronics 300 (Mathematics 200)

Entrance requirements

Your opportunity for improvement

Your potential for improvement depends on your ability to work with the platform. A strong foundation in English and mathematics is essential. You will need to adapt to the fast pace of the course. You will need a good ability to focus and study. You will need a good ability to focus on details. You must have a positive attitude to learn.

Aim | Suitable for this course?

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Admission requirements

Eligible applicants must have the following educational qualifications:

- High school or equivalent
- Science 201, and Physics 201 or Physical Education 201, and Electronics 300 (Mathematics 200)

Entrance requirements

Your opportunity for improvement

Your potential for improvement depends on your ability to work with the platform. A strong foundation in English and mathematics is essential. You will need to adapt to the fast pace of the course. You will need a good ability to focus and study. You will need a good ability to focus on details. You must have a positive attitude to learn.

Aim | Suitable for this course?

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

Admission requirements

Eligible applicants must have the following educational qualifications:

- High school or equivalent
- Science 201, and Physics 201 or Physical Education 201, and Electronics 300 (Mathematics 200)

Entrance requirements

Your opportunity for improvement

Your potential for improvement depends on your ability to work with the platform. A strong foundation in English and mathematics is essential. You will need to adapt to the fast pace of the course. You will need a good ability to focus and study. You will need a good ability to focus on details. You must have a positive attitude to learn.

Aim | Suitable for this course?
Course Outline

Term 1
T12-D001 Direct Current Fundamentals
T12-D003 Alternating Current Fundamentals
T12-D005 Electronic Fundamentals
T12-D007 Radio Receivers and Servicing
T13-M518 Domestic Electronics Math
T13-S518 Domestic Electronics Science I

Term 2
T12-D051 Television Standards and Fundamentals
T12-D053 Television Signal Circuits
T12-D055 Television Deflection Circuits
T12-D057 Television Auxiliary Circuits
T12-D059 Antennas and Master Antennas
T12-D061 Shop Planning and Management
T12-D063 Closed Circuit Television
           Field Orientation
T13-S618 Domestic Electronic Science II
T14-C504 Communication

Colour Television (Option)
T12-D075 NTSC Standards for Colour Television
T12-D077 Controls and Adjustments
T12-D079 Monochrome Circuits
T12-D081 Chroma Circuits
T12-D083 Colour Sync

Audio Servicing (Option)
T12-D085 FM and AM Stereo
T12-D087 Basic and Audio Amplifiers
T12-D089 Tape Recording and Tape Transports
T12-D091 Signal Sources
T12-D093 Speakers and Speaker Systems
T12-D095 Changers and Turntables

What's In It For Me?
Upon successful completion of this course you will receive a Certificate from Red River Community College.

You may find employment with retail outlet service departments, manufacturers, electronic wholesale and distribution centres, or colour television service shops, repairing televisions, radios and other audio equipment. Graduates also have opened their own businesses.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $180.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-115, 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?
An application form for this course may be obtained by writing to the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way . . .
To find out more about this occupation, you could contact people in the domestic electronics field.

For information on Domestic Electronics and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

An Electronics Technician course is offered at Assiniboine Community College.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
Purpose:
To develop performance skills in house wiring, commercial and industrial wiring and controls, and motor repair as they relate to the electrical industry.

Entry Date: September
Course Length: Ten months

Admissions

Am I suited for this course?

Eligible applicants are admitted on a first-come, first-served basis.

If you do not have the academic requirements, you may be able to qualify for admission to this program.

Entrance Requirements

- Manitoba Grade 10 or equivalent in Algebra and Geometry.
- 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100 or 101 and Science 100 or 101.
- The equivalent of the above standing gained through an adult education program.

If you do not have the entrance requirements, you may be able to qualify for admission as a mature student.

Mature Student Admission:
Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability. Applicants should include with their application, information on related experience which might assist the Admissions Officer in determining eligibility.

Program

The graduate of the Electrical course will have the knowledge and skills to become employed in the electrical construction industry, with public utilities, motor winding and repair facilities, and manufacturers and distributors of electrical materials. The graduate will have sufficient knowledge to plan and wire residential occupancies and small commercial buildings, and to operate and maintain commercial buildings and to work with electrical residential and industrial equipment. The graduate will have sufficient knowledge to operate and maintain electrical materials and equipment, to become employed in the electrical industry, and to become employed in the electrical construction industry.

What Will I Study?

Emphasis during training will be on electrical theory, residential wiring, commercial wiring, and electrical installation. Approximately two-thirds of your training will be spent on theoretical subjects which will develop your knowledge of rules, regulations and specifications as related to the electrical field. The remainder of your training will be spent on practical projects in the College's workshops where your knowledge of rules, regulations and specifications will be developed.

Admissions Committee's philosophy:
Admissions to this course is competitive and is based on the following:

- Electrical aptitude and potential
- Academic background
- Work experience
- Interview

Cooperative Education:
Cooperative education may be available to eligible students on a part-time basis with the approval of the Admissions Committee.

RENEW COMMUNITY COLLEGE
2055 Notre Dame Avenue
Winnipeg, Manitoba R3H OS
Telephone (204) 632-2311

Purpose:
To develop performance skills in house wiring, commercial and industrial wiring and controls, and motor repair as they relate to the electrical industry.
This course is academically demanding and students should have a strong background in mathematics. You must be prepared to spend approximately two hours an evening on homework. The workload will vary from term to term.

What's In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College. Previous graduates have found jobs in the electrical industry working with house wiring, commercial and industrial wiring and controls and electric motors. Other job opportunities are available with utility companies such as Manitoba Hydro and the Manitoba Telephone System, with electrical contractors, manufacturers and distributors of electrical equipment and machinery, and in many other areas where electrical equipment is used and sold.

As a graduate, you may be granted one level of in-school training toward the Electrical Construction Trade apprenticeship if you take the first portion (5 months) of the electrical course; or you may be granted two levels of in-school training if you take the entire electrical course. Time credit, diminishing the length of your apprenticeship, is at the discretion of your employer.

For further information about the apprenticeship program you should contact the provincial Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $200.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be complete when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

To find out more about this occupation, you could contact people in the electrical field.

For information on Electrical and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-101, telephone 632-2335. An Electrical course is offered at Assiniboine Community College, Brandon and an Electrical (Construction General) course is offered at Keewatin Community College, The Pas, Manitoba. R.R.C.C. offers an Adult Basic Education (ABE) program which may help you to acquire the academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.

The course is academically demanding and successful completion will require a strong background in mathematics. You may therefore apply on or after October 1 of the year preceding the entry date. An application form for the course may be picked up at the Admissions Office, R.R.C.C., Room C-116, telephone 633-6621.

Course Outline

Related Machine Shop (Theory)
Related Machine Shop (Practical)
Fundamentals of Electricity
D.C. Machines and Controls
Electrical Laboratory
Residential Blueprint Reading
Residential Wiring
Alternating Current Fundamentals
Three Phase and Transformers
A.C. Machines and Controls
Electrical Laboratory A.C.
Commercial Blueprint Reading
Commercial Wiring
Electric Motor Repair (Theory)
Electric Motor Repair (Practical)
Electrical Construction PIE Math
Electrical Construction PIE Science
Communications
Program

What Will I Study?

In this course, you will study the fundamentals of electronic engineering. You will learn to use electronic test equipment and measurement techniques. You will also study the principles of operation of various electronic devices.

Admissions

Eligible applicants are admitted on a first-come, first-served basis. Eligible applicants are those who meet the minimum requirements as specified below.

Entrance Requirements

- 201: Principles of Digital Electronics
- 202: Principles of Analog Electronics

Other Requirements

- 14 high school credits (Manitoba Grade 11 equivalent), including Mathematics 200 or 201, Physics 200 or Physical Science 201;
- the equivalent of the above standing gained through an adult education program.

Mature Student Admissions

Mature students must be 20 years of age or older and have completed high school. Mature students are subject to the same admission criteria as regular students. Applicants should include with their applications information on related experience which might assist the Admissions Office in determining eligibility. All mature students must be accepted through the usual admissions procedures. Mature students are eligible for admission to this course as mature students.

Enrollment Requirements

In this course, you will study the fundamentals of electronic engineering. You will learn to use electronic test equipment and measurement techniques. You will also study the principles of operation of various electronic devices.

Purpose

To provide the student with the knowledge and skills needed to set up, adjust and troubleshoot electronic equipment used in the control of industrial processes. The course is designed to meet the requirements of the Industrial Electronics program.

RED RIVER COMMUNITY COLLEGE

2055 Notre Dame Avenue

Winnipeg, Manitoba R2H 0A9

Telephone: (204) 632-2311
Upon successful completion of this course you will receive a Certificate from Red River Community College.

Jobs are available in any area of industry where electronic devices are used requiring installation, maintenance and servicing. Graduates have found employment as installers and maintenance people for automated systems in factories; electronics to control machines and processes; computer assisted troubleshooting and quality control in manufacturing; medical electronics, telecommunications, computers and data handling equipment and with public utilities.

By The Way
To find out more about this occupation, you could contact people in the industrial electronics field.

R.R.C.C. offers an Adult Basic Education (ABE.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office. Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

How do I apply?

Canadian Employment Centre

Main employment should be made to your nearest Canadian Employment Centre.

Application forms are available at the Canadian Employment Centre, Room C-116, Student Office, R.R.C.C., or Room C-115, College Library.

Applications must be returned to the College by 6:00 p.m. on the first day of class, or by the 1st of August for the Fall Term.

Students who have been out of school for a considerable length of time may apply for financial aid from the provincial government's Student Aid program.

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $90.

How Much Will I Make?
Purpose: To develop the skills and knowledge
needed to assemble and produce working
cutters, dies, and similar components of
machinery, tools, and equipment. This course
emphasizes the use of acceptable drafting
conventions and equipment, and stresses the
importance of machine drafting and its
application in industry.

Admissions
Eligible applicants are admitted on a first-come,
first-served basis. Applicants with previous
experience may be admitted.

Entrance Requirements
—14 high school credits (Manitoba Grade 11
or equivalent); or
—14 high school credits (Manitoba Grade 11
and equivalent of the above standing gained
through an adult education program.

First-entrants must have a good background in
mathematics and be proficient with the
tools and techniques of drafting. Two
years of drafting experience in industry
will be considered to be equivalent to
one-year of college-level training in
machine drafting.

What will I study?

First-entrants will be required to submit a
portfolio of their work for consideration by
an Admissions Committee. The portfolio should
include a minimum of 10 works of art
produced during the past academic year
and a maximum of 10 works of art
produced during the past academic year.

The portfolio should be accompanied by a
written statement of purpose and a
description of the projects included. The
portfolio should be submitted to the
Admissions Committee.

The portfolio should be accompanied by a
written statement of purpose and a
description of the projects included. The
portfolio should be submitted to the
Admissions Committee.
Course Outline

General Information

Upon successful completion of this course, you will receive a Certificate from Red River Community College. Job opportunities are available as Junior Draftspeople with machinery manufacturers and in tool and dye production shop offices. You may find work with structural fabricators, equipment manufacturers or in the aircraft industry. Some graduates are working in consulting engineering offices. After gaining experience, many have found work with architectural and engineering firms. Some graduates are working as shop inspectors and estimators.

By the Way...

To find out more about this occupation, you could contact people in the machine drafting field.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, Red River Community College, Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0JO, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students’ Association fee of $2 a month. Books and supplies will cost approximately $125. Students may apply for financial aid from the provincial government’s Student Aid program. Further information can be obtained from the Admissions Office. A brochure describing this program is available at the Admissions Office. Students may apply to the local Employment Office for financial assistance.

What’s In It For Me?

Upon successful completion of this course, you will receive a Certificate from Red River Community College.

Architectural Drafting is offered at Assiniboine Community College, Brandon, Manitoba. R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A Foundation in basic education (A.O.C.C.) expands basic education (A.B.C.) acquisition within your scope. A successful completion of this course will have an excellent academic benefit. Students are encouraged to apply early, as opportunities are limited. Applications are accepted on a first-come, first-served basis. Applications are due by October 1 of the year preceding the entry date. Applications should be submitted to the Admissions Office, Red River Community College, Room C-115, 2055 Notre Dame Ave., Winnipeg R3H 0JO, or by telephoning 632-2327. An application form for this course may be obtained by writing the Admissions Office, Red River Community College, Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0JO, or by telephoning 632-2327. Further information can be obtained from the Admissions Office. A brochure describing this program is available at the Admissions Office.
Purpose: To develop the necessary knowledge and skills to set up and operate various machine shop equipment and to interpret mechanical drawings.

Entry Date: September
Course Length: Ten months

Admission Requirements:
- 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103 and Science 100, 101, or 102; or
- The equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this course as a mature student.

Mature Student Admission—Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office to determine applicants' suitability. Applicants should include with their applications information on related experience which might assist the Admissions Officer in determining eligibility. Testing by the College in the required subjects (mathematics and science) may be necessary. Eligible applicants are admitted on a first-come, first-served basis.

What Will I Study?
- Approximately 75 percent of your training period will be spent in the machine shop doing practical projects. Classroom instruction will include subjects such as machine shop theory, mathematics, drafting, and science, as related to the industry.
- You will perform the necessary calculations, interpret blueprints and sketches, and safely and efficiently perform the necessary machine tool operations on lathes, drill presses, shapers, or planers, milling machines, boring mills, power saws, and grinding machines. Welding, oxy-acetylene welding, and cutting operations, and performance of oxy-acetylene welding and cutting operations will also be included.
- Care, use and identification of hand tools, measuring instruments, gauges and gage blocks, will be spent in the machine shop doing practical projects.
- Class periods will be spent in the machine shop doing practical projects.
- Achievement over the course is evaluated continuously. Sectional theory test scores and grading of practical work projects for precision and speed constitute approximately 80 percent of the course grading. A final comprehensive examination will account for 20 percent. Eligible applications are admitted on a first-come, first-served basis.
Course Outline

T03-R031 Blue Print Reading and Sketching for Machinists
T04-G521 Related Gas Welding Theory
T04-G522 Related Gas Welding Practice
T04-M011 Bench Work
T04-M012 Bench Work
T04-M013 General Operation & Control of Machine Tools
T04-M014 General Operation & Control of Machine Tools
T04-M015
T04-M016
T04-M017
T04-M018
T04-M019
T04-M020
T04-M021
T04-M022
T04-M023
T04-M024
T04-M025
T04-M026
T04-M027
T04-M028
T04-M029
T04-M030
T04-M031
T04-M032
T04-M041
T04-M061
T13-M511
T13-S511
T14-C502

What's In It For Me?

Upon successful completion of this course you will receive a Certificate from Red River Community College.

You may find employment as a machine tool operator or as a machinist apprentice in the areas of manufacturing, repair or servicing in aircraft, automotive, mining, construction and agricultural equipment industries. Knowledge and skills gained through this course may also provide a sound basis for related occupations such as mechanical drafter, mechanical technician, estimator, and industrial salesperson. Shift work is often involved in the machine tool industry.

The Machine Shop Practice course is a course for which credit is granted in the Machinist apprenticeship program. You, as a graduate, may be granted one level of in-school training towards the four-year apprenticeship. During the next levels of apprenticeship, you will be required by the provincial Department of Labour and Manpower to return to the College for additional theoretical and practical training. Time credit, diminishing the length of your apprenticeship, is at the discretion of the employer.

For further information about the apprenticeship program, contact the provincial Department of Labour and Manpower, Room 609 Norquay Building, Winnipeg, telephone 944-3337.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition there is a Student Association fee of $2 a month. Text books and supplies, including glasses or safety goggles, could cost up to $100.

All tools necessary for the course are supplied. After graduation, tools required by the machinery tool industry may require an investment of up to $500.

Students may apply for financial aid from the provincial government's Student Aid program. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116, telephone 633-6621.

The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327.

Completed mark statements, transcripts, etc. must accompany the application form before processing will begin.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Applications are not accepted after October 1. In the event of tie dates, the first date for receipt of applications, you may instruct your sponsor to offer other alternatives. Your application is received, so you are entitled to receive scheduled course on a first-in, first-out basis. The application processing date is the first day of the month in which the application is received.

By The Way

To find out more about this occupation, you could contact people in the machine shop field. For information on Machine Shop Practice and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2335.

A Machine Shop Practice course is offered at Assiniboine Community College, Brandon, Manitoba.

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A Machine Shop Practice course is offered at Assiniboie Community College, Brandon, Manitoba.

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A Machine Shop Practice course is offered at Assiniboine Community College, Brandon, Indiana.

A Machine Shop Practice course is offered at Assiniboine Community College, Brandon, Indiana.
Purpose: To develop sufficient knowledge and skills to diagnose and service a wider range of domestic appliances, including electric ranges. Classroom instruction will include subjects such as electricity, basic electronics, AC motors, and service techniques.

Admissions

Are I suited for this course?

Entrance Requirements

- 7 high school credits (equivalent to Manitoba Grades 10, 101, or 102) in Mathematics and Science
- Minimum grade of 70% in each subject
- The availability of the above standing
- The approval of the academic advisor
- A mature student is at least 20 years of age or 21 years of age on September 30 of the registration year
- A minimum of 10 high school credits (or equivalent)
- The approval of the Admissions Officer

What will I study?

Program

- First-year basic mathematics and science courses may be necessary.
- Classroom instruction will include subjects such as electricity, basic electronics, AC motors, and service techniques.
- Practical work in the college workshop will be under the direction of the Advisory Committee, which includes representatives from industry, labour, government, and the college. This workshop has been set up to simulate the working environment in industry.
- Classroom instruction includes subjects such as electricity, basic electronics, AC motors, and service techniques.

Service Technician

Major Appliance

Red River Community College

255 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone (204) 632-2311
Upon successful completion of the course you will receive a Certificate from Red River Community College. You could find employment with national manufacturers, independent service companies and dealer operated service departments. With experience you could become self-employed. Successful graduates will receive 18 months credit towards their provincial licence. You will have to work an additional six months in a related field and then apply to write your licensing examination. For further information regarding this examination, contact the provincial Department of Labour and Manpower, Room 609 Norquay Building, Winnipeg, telephone 944-3337.

How Much Will It Cost?

The tuition feels $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $200. For further information on financial aid, contact the Student Aid Office, Room C-116. Telephone 632-2327. An application for this course may be obtained from the Admissions Office, Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, telephone 632-2327.

How Do I Apply?

An application form for this course may be obtained by writing the Admissions Office, Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc. must accompany the application form before processing will begin. October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the major appliance service field. For information on Major Appliance Service Technician and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 632-2335. You could also consult with the Student Aid Office, Room C-116, telephone 632-2327. The Adult Basic Education (A.B.E.) program may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office. You could also qualify for assistance from the provincial government's Student Aid program. Further information on obtaining assistance can be obtained from the Admissions Office, Room C-116, telephone 632-2327.

WHAT'S IN IT FOR ME?

Upon successful completion of the course you will receive a Certificate from Red River Community College. You could find employment with national manufacturers, independent service companies and dealer operated service departments. With experience you could become self-employed. Successful graduates will receive 18 months credit towards their provincial licence. You will have to work an additional six months in a related field and then apply to write your licensing examination. For further information regarding this examination, contact the provincial Department of Labour and Manpower, Room 609 Norquay Building, Winnipeg, telephone 944-3337.

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By The Way...

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Upon successful completion of the course you will receive a Certificate from Red River Community College. You could find employment with national manufacturers, independent service companies and dealer operated service departments. With experience you could become self-employed. Successful graduates will receive 18 months credit towards their provincial licence. You will have to work an additional six months in a related field and then apply to write your licensing examination. For further information regarding this examination, contact the provincial Department of Labour and Manpower, Room 609 Norquay Building, Winnipeg, telephone 944-3337.

October 1 is the first date for receipt of applications. You may therefore apply on or after October 1 of the year preceding the entry date. Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered to be completed when all entrance requirements have been met, thus qualifying the applicant for admission to the course.

By The Way...

To find out more about this occupation, you could contact people in the major appliance service field. For information on Major Appliance Service Technician and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 632-2335. You could also consult with the Student Aid Office, Room C-116, telephone 632-2327. The Adult Basic Education (A.B.E.) program may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office. You could also qualify for assistance from the provincial government's Student Aid program. Further information on obtaining assistance can be obtained from the Admissions Office, Room C-116, telephone 632-2327.
Masonry

Purpose:
To develop skill and speed in bricklaying through the practical use of tools, and through an understanding of traditional terminology, types of materials and bonds.

Entry Dates:
September and February

Course Length:
Five months

Admissions

Am I suited for this course?

Masonry is a manual trade, but there is room for creativity especially as you advance to higher levels. You need to be physically strong and able to work at any height. Stamina and physical coordination of the whole body are essential. You need good eyesight and physical coordination of the whole body.

Entrance Requirements

— complete Manitoba Grade 9 (or equivalent);
—or
— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission as a mature student.

What will I study?

You will spend about 75% of your time doing practical work in the masonry workshop learning the basics of masonry. You will work on projects using sand and lime, and learn to lay bricks according to specific instructions. If your projects do not meet the standards set by the instructor, you will be required to disassemble them and start again.

In the classroom you will be learning the theory of masonry, sketching and blueprint reading, some trade definitions and the use of basic tools. Mathematics, in relation to the trade, will also be covered.

Program

The course is designed to develop a basic knowledge of theory in related subjects, and to develop practical skills in bricklaying. The course is designed to develop a basic theoretical knowledge of all aspects of the trade, and to develop practical skills in bricklaying. The course is designed to develop a basic theoretical knowledge of all aspects of the trade, and to develop practical skills in bricklaying. The course is designed to develop a basic theoretical knowledge of all aspects of the trade, and to develop practical skills in bricklaying. The course is designed to develop a basic theoretical knowledge of all aspects of the trade, and to develop practical skills in bricklaying.

Admissions

Purpose:
To develop skill and speed in bricklaying through the practical use of tools, and through an understanding of traditional terminology, types of materials and bonds.
Course Outline

T02-M001 Introduction, Materials and Tools Used in Masonry
T02-M002 Practical Work
T02-M003 Masonry Bonds, Theory
T02-M005 Definitions, Theory
T02-M007 Walls, Theory
T02-M009 Estimating, Theory

T13-M502 Masonry Math

What's In It For Me?
Upon successful completion of the course, you will receive a Certificate from Red River Community College. Job opportunities for graduates of this course are excellent. You could find employment as an apprentice with a contracting firm. Almost all graduates choose to enter the apprenticeship program, although there are some job opportunities in related occupations for which the knowledge of masonry is beneficial. As a graduate, you may be granted up to one level of in-school training toward the four-year masonry apprenticeship. Time credit, diminishing the length of your apprenticeship, is at the discretion of the employer.

After reaching journeyman level, you could be employed in such positions as a mason, foreman, estimator, draftsperson, contractor, building inspector, maintenance person, or sales representative.

For further information about the apprenticeship program, you should contact the provincial Department of Labour and Manpower, Room 609, Norquay Building, Winnipeg, telephone 944-3337.

General Information

How Much Will It Cost?
The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $60. Students who meet all entrance requirements are encouraged to apply early. Applications are accepted on a first-come, first-served basis.

How Do I Apply?
An application form for this course may be obtained by writing to the Admissions Office, R.R.C.C., Room C-212, 2055 Notre Dame Ave., Winnipeg R3H 0J9, or by telephoning 632-2327. Completed mark statements, transcripts, etc., must accompany the application form before processing will begin.

Acceptances are made in the order in which completed applications are received, so you are encouraged to apply early. An application is considered complete when all entrance requirements have been met and all necessary application forms have been completed.

How Much Will It Cost?

By The Way
To find out more about this occupation, you could contact people in the masonry field. For information on Masonry and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-115, telephone 632-2337. The Canada Employment and Immigration Commission may sponsor students to take this course. Enquiries should be made at your nearest Canada Employment Centre.

College. Receive a Certificate from Red River Community College. Upon successful completion of the course, you will

First Issue: Sept-79
Fees & Content subject to change without notice
Red River Community College

MANITOBA

Government of Canada

With financial assistance provided by

MANITOBA

Government of Canada
Mechanical Engineering Technology

Purpose: To develop skills in the application of engineering principles to the design, production, and operation of mechanical systems. This includes such areas as product modification, systems design, and manufacturing. It also emphasizes the development of communication skills, critical thinking, and problem-solving abilities.

Entry Date: September

Course Length: Two years of full-time study (approximately 2400 hours)

Admissions

Eligible applicants are admitted on a first-come, first-served basis. Adequate preparation in English, mathematics, and physics is essential. The minimum requirement is Manitoba Grade 12 or equivalent. The program is designed for students who have completed their high school education and are ready to pursue post-secondary education in the field of mechanical engineering. Eligible applicants must have successfully completed Course 205 or its equivalent with a grade of B or better.

Entrance Requirements

— 20 high school credits (Manitoba Grade 12 or equivalent) including English 300 or 301, Mathematics 300 or 301, Physics 300 or Physical Science 301, or the equivalent of the above;

— 100 non-credit hours of work experience related to the field of mechanical engineering technology.

Mature Student Admission—Mature students must be 20 years of age or older on the first day of September. All mature student applicants must meet the same entrance requirements as the regular admission process. If you do not have the academic requirements you may be able to apply for admission to the program as a mature student. Eligible applicants are admitted on a first-come, first-served basis.

What Will I Study?

The program is designed to provide students with a broad and comprehensive understanding of mechanical engineering technology. The curriculum is divided into theoretical and practical components. The theoretical component includes courses in mathematics, physics, chemistry, and computer-aided design. The practical component includes courses in metalworking, welding, and electronics. Students will also have the opportunity to work on real-world projects and to receive hands-on training in the use of modern equipment.

Approximately 50 to 60 percent of your course hours will be spent on theory with the remainder spent on practical work. The program also includes an internship component, which provides students with the opportunity to gain real-world experience.

Scheduling and Work Methods

Approximately 50 to 60 percent of your course hours will be spent on theory with the remainder spent on practical work. The program also includes an internship component, which provides students with the opportunity to gain real-world experience.

Program Expectations

The program is designed to prepare students for further education in the field of mechanical engineering technology. Graduates will be prepared for entry-level positions in the field of mechanical engineering technology or for further education in the field of mechanical engineering technology. Graduates will be prepared for entry-level positions in the field of mechanical engineering technology or for further education in the field of mechanical engineering technology. Graduates will be prepared for entry-level positions in the field of mechanical engineering technology or for further education in the field of mechanical engineering technology.
Course Outline

Year 1

Term 1

- T06-M102: Electrical Fundamentals
- T06-M103: Advanced Mechanics
- T06-M104: Production Planning & Layout
- T06-M105: Management Principles
- T06-M106: Advanced Mechanics

Term 2

- T06-M204: Production Principles
- T06-M205: Management Principles
- T06-M207: Production Planning & Layout
- T06-M209: Management Principles

Year 2

Term 3

- T06-H326: Advanced Manufacturing
- T06-H327: Industrial Production
- T06-M311: Industrial Production
- T06-P302: Production Management

Term 4

- T06-P403: Production Management
- T06-M405: Production Management
- T06-P411: Production Management
- T06-P407: Production Management

What's In It For Me?

Upon successful completion of this course you will receive a Diploma from Red River Community College.

Job opportunities are available in all areas of manufacturing, and technical sales. Your job could be related to hydraulic and pneumatic power; heating and ventilation systems; noise and vibration analysis; atomic energy research; design of solar energy units; low-cost automation equipment; and the specification of internal combustion engines, and the development of heat engines.

In order to obtain recognition as a Certified Engineering Technicians and Technologists (C.E.T.) as associate members, after completion of two years of relevant engineering work experience you may apply for full membership as a Certified Engineering Technologist. Members of the Society have the right to place the letters "C.E.T." after their name.

For information on Mechanical Engineering Technology and other College courses, you could contact the Counselling Office at R.R.C.C. C-115, telephone 632-2325. A brochure describing this program is available through the College Admissions Office.

By The Way...

To find out more about this occupation, you could contact people in the mechanical engineering field.

General Information

How Much Will It Cost?

The tuition fee is $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $300 for the two-year program.

Students may apply for financial aid from the provincial government. Detailed information can be obtained from the Student Aid Office, R.R.C.C., Room C-116.

Fees & content subject to change without notice.

First issue: Sept. 70

MANITBA

Published by

Red River Community College

MANITBA

DEPARTMENT OF EDUCATION

First issue: Sept. 70

MANITBA

SM (C)
**Purpose:** To develop the skills and knowledge necessary for repairing damaged vehicles.

- **Entry Dates:** September and February
- **Course Length:** Ten months

**Admissions**

- Eligible applicants are admitted on a first-come, first-served basis.
- (Mathematics and English may be necessary.)
- By the College in the required subjects.
- Entry requirements include the following information:
  - Evidence of English proficiency.

**Entrance Requirements**

- 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103 and Science 100, 102 or 103; or the equivalent of the above gained through an adult education program.
- If you do not have the academic requirements, you may be able to qualify for admission to the course.

**Mature Student Admission**

- Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office for review.
- Testing by the College in the required subjects (Mathematics and Science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis. If you do not have the academic requirements, you may be able to qualify for admission to the course.

**Program**

- What Will I Study?
  - In the first term you will learn how to weld and how to use the tools of the trade.
  - The first year is spent on practical work and the remainder on theory.

- What will I learn?
  - The College offers a variety of courses in automotive repair and body repair.

**Eligible Applicants**

- Because heavy lifting is involved, you must be in good physical condition.
- Color blindness could interfere with progress in this course.

**What Will I Learn?**

- In the first term you will learn how to weld and how to use the tools of the trade.
- The first year is spent on practical work and the remainder on theory.

**Entrance Requirements**

- 7 high school credits (Manitoba Grade 10 or equivalent) including Mathematics 100, 101, 102 or 103; or the equivalent of the above gained through an adult education program.
- If you do not have the academic requirements, you may be able to qualify for admission to the course.

**Mature Student Admission**

- Mature students must be 20 years of age or before September 30 in the year of registration. All mature student applications are referred to the Admissions Office for review.
- Testing by the College in the required subjects (Mathematics and Science) may be necessary.

Eligible applicants are admitted on a first-come, first-served basis. If you do not have the academic requirements, you may be able to qualify for admission to the course.

**Program**

- What Will I Study?
  - In the first term you will learn how to weld and how to use the tools of the trade.
  - The first year is spent on practical work and the remainder on theory.

- What will I learn?
  - The College offers a variety of courses in automotive repair and body repair.
Course Outline

Hand Tools, Power Grinders, Basic Metal Working & Soldering
Hydraulic Power Equipment & Alignment
Hardware, Trim & Glass
Alignment of Frames and Bodies
Repairing Damaged Vehicles
Spray Painting Equipment
Paint Products & Application
Refinishing Vehicles
Collision Damage Estimating
Related Machine Shop Theory
Related Machine Shop (Practical)
Motor Vehicle Body Repairer PIE
Communication

What's In It For Me?
Upon successful completion of the course you will receive a Certificate from Red River Community College. Many graduates have found employment as auto body mechanics, metal finishers, painters, body frame specialists, service or parts managers, machine operators, or service station operators. Others are employed as claim adjusters, collision estimators or shop foremen. If you desire to continue to work in this field, you can obtain trades certification by joining the apprenticeship program and becoming a qualified journeyman in either body repairing and painting or just painting.

To find out more about this occupation you could contact the Department of Labour, Room 609, Norquay Building, Winnipeg, or the Canada Employment and Immigration Commission for information on Motor Vehicle Body Repair and other programs available in the field.

How Much Will It Cost?
The tuition feels $27 a month. In addition, there is a Students' Association fee of $2 a month. Books and supplies will cost approximately $90. The tuition fee is $27 a month. In addition, there is 60% of the total tuition fees.

General Information

How to Apply?
A Motor Vehicle Body Repairer program is also offered at Assiniboine Community College. A program of 60% of the total tuition fees.

By The Way...
To find out more about this occupation you could contact the Employment and Immigration Commission for information on Motor Vehicle Body Repair and other programs available in the field.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program which may help you to acquire academic and social skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office. Building, Winnipeg, Room C-116.

The tuition fee is $27 a month. In addition, there is 60% of the total tuition fees.

For further information about the program you should contact the Program Coordinator, Room C-116, Building, Winnipeg, 609, Norquay Building, Winnipeg, or the Canada Employment and Immigration Commission for information on Motor Vehicle Body Repair and other programs available in the field.

First issue: Sept. 79
Admissions

Entrance Requirements

— 14 high school credits (Manitoba Grade 11 or equivalent) including English 200 or 201, Mathematics 200 or 201, and Physics 200 or Physical Science 201;

or

— the equivalent of the above standing gained through an adult education program.

If you do not have the academic requirements, you may be able to qualify for admission to this program. You should have a strong background in mathematics and physics. It is recommended that you take Mathematics 200 and Physics 200 if you are considering a career in the field of power engineering. Past applicants who have had a strong background in these subjects have been more successful in completing these courses.

Eligible applicants are admitted on a first-come, first-served basis. If you are considering a career in the field of power engineering, you should be prepared to work on shift work and have a strong background in mathematics and physics. Past applicants who have had a strong background in these subjects have been more successful in completing these courses.

Course Length: One academic year.

Mature Student Admission

— Mature students must be 20 years of age or older and have completed the required subjects (English, mathematics, and physics) in previous high school or post-secondary education.

— Applicants who meet the entrance requirements may be considered for admission as mature students.

Purpose:

To prepare the graduate for the position of power engineer in commercial or industrial buildings, including heating systems and refrigeration processes, and to equip the student with the equipment and procedures necessary for the safe operation of major equipment in commercial or industrial buildings. The program is designed to provide a strong foundation in the field of power engineering, preparing students for success in the workplace.

Advisory Committee

The course is set under the direction of a Course Advisory Committee which includes representatives from industry, government, and the College. Through the Advisory Committee, the College keeps in contact with the rapidly changing field of power engineering and provides guidance to the program. The Advisory Committee monitors the curriculum and ensures that it remains relevant to the needs of the industry.

Am I suited for this course?

You should be mechanically inclined as you will be dealing with major equipment and need to understand how this equipment operates and is maintained. You should also have a strong background in mathematics and physics. Past applicants who have had a strong background in these subjects have been more successful in completing these courses.

First-year students are admitted on a first-come, first-served basis. In order to be admitted, you must have completed the required subjects (English, mathematics, and physics) in previous high school or post-secondary education.

Purpose:

To prepare the graduate for the responsibilities of safe operation of major equipment in commercial or industrial buildings, including heating systems and refrigeration processes. The program is designed to provide a strong foundation in the field of power engineering, preparing students for success in the workplace.

Advisory Committee

The course is set under the direction of a Course Advisory Committee which includes representatives from industry, government, and the College. Through the Advisory Committee, the College keeps in contact with the rapidly changing field of power engineering and provides guidance to the program. The Advisory Committee monitors the curriculum and ensures that it remains relevant to the needs of the industry.

Am I suited for this course?

You should be mechanically inclined as you will be dealing with major equipment and need to understand how this equipment operates and is maintained. You should also have a strong background in mathematics and physics. Past applicants who have had a strong background in these subjects have been more successful in completing these courses.

First-year students are admitted on a first-come, first-served basis. In order to be admitted, you must have completed the required subjects (English, mathematics, and physics) in previous high school or post-secondary education.
Course Outline

Year 2
Term 3
Co-op component (5-7 months of approved time in industry)

Year 1
Term 1
106-0101 Power Plant Theory & Practice
106-0102 Basic Electricity
106-0103 Instruments & Controls
106-0104 Electrical Instrumentation
106-0105 Technical Drawings & Blueprints
106-0106 Refrigeration (Gas)
106-0107 Welding (Arc)
106-0108 Mathematics
113-3114 Power Eng Science I
114-3216 Communications I

Term 2
106-0201 Power Plant Theory & Practice
106-0202 Basic Electricity
106-0203 Instruments & Controls
106-0204 Applied Mechanics
106-0205 Welding (Gas)
106-0206 Mathematics
113-3114 Power Eng Science I
114-3216 Communications I

Term 4

What's In It For Me?

Upon successful completion of the one-year course, you will receive a Certificate from Red River Community College and after completion of the two-year course you will receive a Diploma from Red River Community College.

Before becoming a licensed operator, you will be required to write certification examinations through the provincial Department of Labour and Manpower. Certification is compulsory for each class.

Job opportunities are available working with mechanical equipment in industrial, food processing, meat cutting, cold storage, laundry and dry cleaning plants, dairies, breweries, hospitals and large public buildings, and in maintenance and repair work for many other types of machinery and equipment. Opportunities for advancement are available.

By The Way... To find out more about this occupation, you could contact people in the power engineering field. For information on Power Engineering and other College courses, you could contact the Counselling Office at R.R.C.C., Room C-116, telephone 944-3373.

R.R.C.C. offers an Adult Basic Education (A.B.E.) program to help you improve your reading, writing and mathematics skills necessary to enter this course. A brochure describing this program is available through the College Admissions Office.
G. Steuart, R.N., B.N. Nursing Education
G.W. Duncan, B.Sc., (E.P.), M.Sc., Electrical/Electronic Technology
A. Tsujimoto, B.Sc., (L.A.), R.T. Medical Laboratory Technology
P. Eng.
K. Wall, RN., B.Sc.N. Nursing Education
AM. Dunlop Industrial Electrical
P. Wayne, RN., B.N. Nursing Education
E. Dunsford, Dipl.T. (Electrical Tech) Industrial Electrical
H. Wieler, R.N., B.Sc., B.Ed. Nursing Education
W. Dychuk, B.Sc., A.C.I.C. Chemical Technology
M.J. Zonneveld, R.N., B.N. Nursing Education
W.P. Dyck, B.Sc., M.C.I.C. Chemical Technology
D. Ehnes Automotive
R. Esslinger Painting & Decorating
Industrial & Technology Division
T.A. Evans, C.E.T. Civil Technology
R.A. Dunham, B.Sc., B.Ed. Principal
P. Elvers, B.Sc., B.Ed. Chairman
F.W. Fingler Sheet Metal
W.M. Gray, B.A. (Hons), M.C.LC. Chairman
R.S. Foulds Industrial Electronics
W. Yanchyshyn, BA. Chairman
G.A. Frame Industrial Mathematics & Science
A. Alberti Welding
S.S. Franklin Welding
P.L. Alien Piping Trades
V.J. Fraser, C.E.T. Dept. Head, Metals
W.B. Alien, C.E.T. Automotive
H.H. Friend Machine Shop
G.E. Anderson, C.S.T. M.C.I.S. Civil Technology
R.J. Friesen, B.Sc. (C.E.), Dipl.I. Eng. Civil Technology
J.M. Armstrong Carpentry & Woodworking
P. Eng.
R.J. Aubertin Steamfitting
J.B. Froese, B.Sc. Industrial Mathematics & Science
J.R. Baergen, B.Sc., B.Ch.Ed. Dept. Head, Industrial Math & Science
G.O. Gaboury Domestic Electronics
J. Bakker, 1st Class Power Eng. Power Engineers
G.B. Garbuff, B.Sc. (Hons), Ph.D. Chemical Technology
G. Baldwin Carpentry & Woodworking
W. Geddes, C.E.T. Industrial Mathematics & Science
R.J. Bale Carpentry & Woodworking
J. Gemmel Radio Operating
A.C. Baitour, C.E.T. Industrial Drafting
A.L. Gerbrandt Carpentry & Woodworking
R.M. Barr, B.Sc., B.Ed. Technology Mathematics & Physics
R.J. Giesbrecht, B.Sc. (E.P.) M.Sc., Electrical/Electronic Technology
R.S. Blicq, S.M.i.E.E. Communications
E.J. Gladysz, C.E.T. Industrial Electrical
L. Boily, B.Sc., B.Ed., C.E.T. Technology Mathematics & Physics
W.W. Glazier Truck Driver Training
J. Braun Automotive
C.H. Burton, C.E.T. Technician, Mechanical Eng. Technology
K.H. Guss Automotive
A.Z. Burzynski, B.Sc., M.Sc. Chemical Technology
H. Hackett, B.Sc. Communications
R.T. CaIdwell, C.E.T. Civil Technology
R. Hamelin Industrial Drafting
KG. Campbell, B.Sc., B.Ed., C.E.T. Technology Mathematics & Physics
H. Hamm Truck Driver Training
L.E. Carmichael Industrial Electronics
D.J. Harris, C.E.T. Civil Technology
R. Chin, B.Sc. (E.E.), P.Eng. Electrical/Electronic Technology
S.T. Chisholm Radio Operating
S.H. Clayton Carpentry & Woodworking
A.L. Hayward, M.L.S., M.C.I.S. Civil Technology
G. Conner Welding
A.E. Heinrichs, B.Sc., (C.E.), P.Eng. Civil Technology
B.H. Crandell, DipI.T. (Electronics), C.E.T. Electrical/Electronic Technology
D.N. Dales Automotive
E.S. Debeuckelaere Auto Body
N.N. Hildebrand Auto Body
J.P. de Kluyver Industrial Electronics
C.D. Hill, B.A. Industrial Electrical
D. Demedash, B.Sc. (C.E.), P.Eng. Civil Technology
A.G. Deroche Auto Body
M. Jacobs, B.Sc. (Hons), M.Sc., Ph.D. Chemical Technology
G.E. Dittbrenner Automotive
A.P. Jivan, B.Sc., P.Eng. Mechanical Engineering Technology
O.W. Dobinsky Auto Body
E. Johannson Painting & Decorating
H.L. Johnson industrial Electrical
M.E.I.C. J.D. Johnson Piping Trades
N.A. Drabyk Technician, Electrical/Electronic Tech. Piping Trades
A. Johnston Communications
D. Johnston Industrial Drafting
H.L. Johnston Architectural Drafting
P. Johnston Architectural Drafting
A. Johnston Chemical Technology
H.L. Johnston Architectural Drafting
P. Johnston Architectural Drafting
A. Johnston Chemical Technology
L.R. Joyal
Technician, Electrical/Electronic Tech.

W. K. Pearce, B.Sc. (G.E.)
Technology, Mathematics & Physics

H. O. Kane, B. Paed, M. A. M. T.
Technology, Mathematics & Physics

J. M. Pedora
Welding

E. P. Kanski
Upholstery

J. P. Pickering
Communications

K. A. J. Kell, B. Sc., (M. E.)
Industrial, Mathematics & Science

E. H. Read
Telecommunications

J. Klasa
Industrial, Mathematics & Science

H. A. Reece, B. Sc., M. C. I. S.
Civil Technology

A. K. Kolaski
Carpentry & Woodworking

D. D. Reid
Dept. Head, Construction

E. S. Kolaski, B. Sc. (C. E.), P. Eng.
Civil Technology

F. J. Reid, B. Sc. (I. E.), C. E. T., M. I. E. E.
Dept. Head, Industrial Electronics

Electrical/Electronic Technology

S. L. H. Rizvi, B. Sc. (Hons), M. Sc., M. S.
Technology, Mathematics & Physics

B. E. Kramer
Refrigeration & Air Conditioning

S. Krywy, B. Sc. (E. E.), P. Eng.
Electrical/Electronic Technology

A. H. Robbins, B. Sc., M. Sc. (E. E.), Electrical/Electronic Technology

J. Laczko
Diesel

A. N. Leite, M. I. E. E., C. E. T.
Electrical/Electronic Technology

G. Mathieson
Industrial Mathematics & Science

D. H. Shand, C. E. T.
Electrical/Electronic Technology

M. A. Mayer, B. Sc., (Eng. Physics), Electrical/Electronic Technology

S. W. Shere, B. Sc., M. A. M. S.
Technology, Mathematics & Physics

D. (E. E.), P. Eng.
L. A. Shirtliffe, Dipl. T. (Instrumentation)
Electrical/Electronic Technology


L. B. Shulakewych, B. Sc. (E. E.), Electrical/Electronic Technology


M. D. Mikkelsen
Piping Trades

A. D. Shura
Diesel

K. M. Miller
Domestic Electronics

L. R. Simonson
Industrial Drafting

E. W. Moffat, B. Sc., (Hons)
Chemical Technology

S. M. Skrynyk, B. Sc. (Hons), M. Sc., Chemical Technology

A. B. Mohammed, B. A. (Econ.)
Communications

B. Ed., M. C. I. C.

D. F. Moroz, B. Sc. (E. E.), M. Sc. (E. E.), Electrical/Electronic Technology

B. J. Small
Auto Body

M. I. E. E., P. Eng.
E. S. Smendzuik, B. Sc. (C. E.), B. Ed., Civil Technology

G. D. Morris
Automotive

G. A. Morrison, B. Sc. (C. E.), B. Ed., Civil Technology

G. H. Smith
Masonry

P. Eng.
Electrical/Electronic Technology

P. M. Moskal
Industrial Electrical

M. E. M. S.
S. E. Solmundson, B.Sc. (E. E.), B. Eng.

D. E. Walker
Dept. Head, Piping Trades

J. E. Vigfusson
Carpentry & Woodworking

E. G. Patterson
Industrial Electrical

J. H. Vincent, B. Sc., M. Sc.
Chemical Technology

J. T. Patterson, C. E. T.
Dept. Head, Auto/Diesel

J. M. Vincent
Carpentry & Woodworking

W. J. Patton, B. Sc. (M. E.), P. Eng.

K. R. Partridge
Machine Shop

D. E. Waddell, 2nd Class Power Eng.
Power Engineers

J. E. Vernon
Industrial Drafting

J. I. Paulson
Industrial Mathematics & Science

C. Trylinski
Industrial Electrical

H. J. Van De Mossalaer
Machine Shop

S. H. Palmason
Piping Trades

L. Y. Van Rooy, (Ms.), B. A., M. A.
Communications

R. W. Park, Dipl. T (Mechanical), C. E. T.
Refrigeration

R. A. Park, Dipl. T (Mechanical), C. E. T.
Refrigeration


K. A. E. Kasel
E.

J. S. O. Kean, B. Sc., M. A. M. T.

L. R. Joyal
F. Weinstein, (Ms.), M.Sc., M.Ed. Chemical Lab. Student Sup.
R.G. Wheeler Automotive Repairing
R.F. Whitlaw Major Appliance Repair Servicing
L.A. Williams, (Ms.), M.Sc., M.Ed. Chemical Technology
B.J. Wilson Machine Shop
H. Wilson, B.Sc. (M.E.), P.Eng. Dept. Head, Mechanical Engineering Technology
L. Yanchynski, B.A., M.A. Communications Technology
M.J. Zolinski Machine Shop
W.K. Young Diesel Technology
H A. Williams, (M.Sc.) M.E., M.Ed.
R.F. Whitley R.C. Wheeler
R.G. Wheeler
F. Weinstein, (Ms.), M.Sc., M.Ed.
Red River Community College

Subject Descriptions

July 1979
The following listing of subjects offered at Red River Community College is based on courses offered as of July 1979. They are grouped by Departments, within the respective Divisions: in the Applied Arts and Business Division, all Departments are allotted numbers prefixed with the “B” prefix, those in Health Sciences are within the “H” prefix, and so on, as follows:

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<td>Industrial &amp; Technology</td>
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Subject offerings may be dropped or replaced within courses, as the need arises. When sufficient changes occur, replacement pages may be issued.


ADVERTISING ART DEPARTMENT

B01-A101 Basics of Form
Study of the elements of design: point, line, plane, texture and spatial relationships are investigated.

B01-A102 Principles of Drawing
Students work from still life compositions, models, natural and man-made environments. The program will develop a basic understanding of contour line, gesture drawing, form, tone, and spatial relationships. Students will enlarge their powers of perception through drawing from direct observation.

B01-A104 Interpersonal Communications
The course will develop the process of self facilitation in the areas of communication skills, sensory awareness, trust building, fantasy and group process. The methods employed will be drawn from transactional analysis, gestalt awareness and values classification.

B01-A105 Art and Design History
Introduction to the nature of fine arts, primarily painting, drawing, sculpture and the related visual areas. Emphasis will be on the elements within a work of art, the creative process and the sociological importance of art throughout the history of mankind.

B01-A106 Reproduction Methods and Materials
Comprehensive study of typesetting principles, operations and equipment. Includes history and development of typesetting, hand-set, machine-set and phototypesetting.

B01-A201 Analysis of Form
The process of creation, the analysis of concrete and abstract concepts. The mechanics and understanding of the aesthetic value of a work of art.

B01-A202 Life Drawing
Techniques involving the drawing of the human form from life, both as an anatomical study and as a basis for future sketching in such areas as illustration and design. A variety of poses, quick sketches and rendering techniques are involved together with the use of a variety of media.

B01-A206 Advertising Design
An exploration of the production of Advertising Art and Design in relation to the needs and requirements of the industry.

B01-A207 Graphic Design
An introduction to designing using tonal relationships and colour. Emphasis is placed on the understanding of colour theory, mixing and application.

B01-A208 Reproduction Methods and Materials
A comprehensive study of photomechanical and direct printing procedures. Areas covered are: photoengraving, letterpress, gravure and offset printing, screen processes and multicolour printing.

B01-A306 Advertising Design
Elements of design related to problems in two and three dimensional applications. Practical study of acceptable layout and design techniques enabling visual expression of ideas.

B01-A 307 Graphic Design
An introduction to type as a fundamental element of design. The history of the development of the letterform as a means of communication and exercises using type as the main design element, form the basis of this course.

B01-A 308 Reproduction Methods and Materials
The development of proper techniques for the preparation of mechanical art for reproduction. Emphasis is placed on ruling, masking, windows and the preparation of overlays for colour printing.

B01-A310 Sketching for Illustration
Sketching techniques, methods and materials used in illustration.

B01-A406 Advertising Design
The student will be presented with up-to-date practical assignments in design for print media formats. The instructor will act as art director and will give specific instructions on how a problem is to be approached. Particular attention is placed on the development of ad series and campaigns considering the use illustrative or photographic visual material.

B01-A407 Graphic Design
Graphic design, lettering and typographic design as applied to layout, packaging and poster design.

B01-A602 Advertising Illustration
The student will be presented with up-to-date practical assignments in illustration for print media formats. The instructor will act as art director and will give specific instructions on how a problem is to be approached. The student will be asked to solve illustration problems in a variety of styles and mediums. All illustrations will include layout and typographic problems to achieve a total visual concept.

B01-A611 Rendering Techniques
Techniques, methods and materials used for rendering in layouts.
B01-A613 Advertising Production
Advanced reproduction problems. Assignments include the preparation of full-colour artwork through mechanical and reflective means, preparation of specifications and proofs.

B01-A506 Advertising Design
Furthering design problems, and an exploration of new applications. Joint assignments and specialized projects.

B01-A507 Graphic Design
A study of the approach to and development of a graphic symbol. Corporate image and the formulation of identities, corporate image, the formulation of design reports.

B01-A509 Advertising Illustration
Continuation of previous term with emphasis placed on illustration for advertising. Particular attention is paid to various media and their appropriate techniques.

B01-A510 Fashion Illustration
Illustration geared to the fashion market with art produced for reproduction.

B01-A513 Television Production
Fundamentals of television production with particular emphasis on design and production of artwork for television.

B01-A515 Audio Visual Production
Production of visual aids. Communications theory and basic AV techniques involving photography and prepared graphics in the production of AV presentations.

B01-A606 Advanced Advertising Design
Advanced techniques in a variety of applications, to involve the student in as many design areas as possible. Professional standards are adhered to.

B01-A609 Advanced Advertising Illustration
Continuation of previous term with emphasis on editorial and storybook illustration.

B01-A611 Advanced Rendering Techniques
Emphasis on specific techniques for specialized requirements. Practical experimentation with a variety of media applied to assignments.

B01-A613 Television Production
Basic ad production and script work for TV

B01-A614 Portfolio
Each student is required to complete a major term project under the direction of a staff advisor selected by the student. Special co-operative assignments will be undertaken with other disciplines within the college and/or agencies and studios in the industry. Students will be required to present a portfolio of work which will exhibit the level of achievement reached with emphasis on specialized skills developed throughout the preceding terms. The portfolio presented will reflect ability and a direction of personal ambition.

B01-A615 Audio Visual Production
An exploration of animation, achieved by both drawing directly on film and with cells. Particular attention is paid to the mechanics of animation and its place in the advertising industry.
002-P111 Manufacture Materials and Processes
Study of the manufacture, production and quality control of black and white materials negative and positive.

002-P112 Technical Cameras and Optical Applications
The study of light is applied to photography. Image formation by lenses, their types and characteristics. Consideration of lens operations and practical applications in the form of camera assignments, involving commercial, architectural and black and white materials photography study of optical considerations involving enlargers.

002-P113 Camera, Design and Applications
Consideration of camera design as applied to professional cameras, and those using, roll, sheet and miniature film camera components, systems and accessories are examined. Camera suitability for a variety of working situations is examined.

002-P114 Laboratory Techniques, Film Processing and Retouching
Theory and practice of film processing and negative evaluation. Evaluation of negative faults and enhancement procedures involving retouching techniques.

002-P115 Laboratory Techniques, Black and White Print Production
Practical black and white print production by contact and projection, using a variety of techniques and equipment. The control of paper grades, multiple production printing are examined and printing techniques finally completed by the drymounting and finishing processes.

002-P116 Basic Studio Techniques
Practical studio production to assignment, involving a variety of equipment and lighting. Studio lighting and photography are applied to a variety of areas, involving specialized techniques in commercial, portrait, industrial and technical areas.

002-P117 Sensitometry and Exposure of Materials
This course co-relates exposure and development processes. It enables the student to perform tests intelligently and to apply the results of such tests in everyday work production.

002-P118 Introduction to Fundamentals of Photography
Introduction to photographic fundamentals for advertising art students. Theory and practice of photography as a medium of expression.

002-P120 Advertising Photography II
Photography related directly to the advertising field. Primarily studio based, students prepare, and work to layouts involving current design problems.

002-P121 Color Photography Materials and Processes
Theory and practice of color positive - negative materials. Manufacture and characteristics of color material. Examination of integral tri pack, analysis of color materials and processing. Color quality control in practice is related to materials used.

002-P122 Small Format Techniques
Specialized techniques involved in the processing, printing and production from roll film and miniature cameras consideration of specialized processing, and emphasis on quality production.

002-P123 Color Material Techniques I
Practical color processing and print production. This is a practical lab course involving the complete production process from camera to finished print.

002-P124 Photographic Chemistry
A comprehensive study of photographic processing and control techniques involving chemical principles. The student is encouraged to take a scientific approach to photographic problems.

002-P125 Laboratory Techniques - Retouching
This course relates to techniques which are both remedial and part of enhancement. A study of chemical and physical treatment of the negative and print is involved.

002-P127 Fundamentals of Photography
Continuing the applications of photography students progress via a series of studio and outside assignments using roll film cameras.

002-P128 Photo Formation
Students will work independently on a series of assignments involving photography applied to specific situations.

002-P220 Advertising Photography I
Photography applied to advertising both in the studio and on location. Product photography.

002-P212 Color Materials and Processes II
Study of positive colour materials; their uses and handling. Students will progress through a series of practical assignments to apply the theoretical consideration within this area.

002-P213 Historical and Experimental Process
Students will study the history and development of photography from early simple beginnings through to its position as an art form today.
B02-P313 Advanced Large Format Techniques
The technical camera is used to explore as many diversified techniques as possible; keeping in mind the everyday usage and demand for versatility in photography.

B02-P314 Advanced Small Format Techniques
Production of both slides and prints using small format cameras for a series of progressive assignments involving a variety of subjects.

B02-P315 Color Materials Techniques II
Lab processing and production of color transparencies slides and prints. Finishing, mounting and presentation of color materials.

B02-P316 Photographic Display and Portfolio
Practical preparation and production of a photographic portfolio which is intended to show the versatility and professional standing of the final graduate.

B02-P317 Business Principles for Photographers
An introductory course in business principles and practices, with an emphasis on photographic enterprises. Topics for consideration include: legal forms, licenses, taxation, financial management and marketing practices. Evaluation is by written examination.
003-GL02 Photocomposition
The students will learn the principles of operation and maintenance of phototypesetting equipment consisting of punched paper tape and magnetic floppy disk systems. Practical application of mark-up and typesetting will be accomplished by a series of exercises very similar to commercial and newspaper situation. This includes font changing, main memory and disk table loading, tabular, and correction terminal experiences. Also, theoretical analysis of paper processors, VDT, OCR, UP, and advanced keyboard techniques will be emphasized.

003-GL03 Design & Layout
The students will learn to apply the principles of display, creative use of typography which includes typeface identification and lettering techniques, and production of finished working layouts for advertisements, social stationery, book design, commercial job design, and newspaper layouts. Use of black and white, and color will be encouraged in the design and layout.

003-GL04 Typo Composition
The student will learn basic printing principles in theory and practical application as applied to composition, layout, and intertype typesetting. Copy preparation, proofreading, copyfitting, estimating, and related mathematics will be applied in practical exercises. Also, the students are required to take related English and typist.

003-GL07 Platen and Cylinder Press
Press mechanisms; make-ready; operating adjustments; anti-offset sprays; characteristics of paper and ink; lockup and imposition.

003-GL08 Paste Value-Up
Various techniques to assemble type, art, photographs and other material into camera-ready mechanicals for printing of business forms, posters, brochures and newspapers.

003-GL09 Camera and Darkroom
Students will study the theory and produce practical projects on the following topics: light and illumination; lenses and refraction; various types of copy; densitometry; photo materials and their properties; contacting procedures: line and halftone techniques: duotones, posterizing, and special effect screens.

003-GL10 Offset Imposition and Plate-making
Imposition layouts; negative stripping; screen tints; step and repeat forms; chemistry of plate-making; types of press plates.

003-GL11 Offset Press
Principles of lithography; press feeders, delivery; chemistry of lithography; checking press register; running a single colour press; printing multi-colour and process colour work.

003-GL12 Bindery Operations
Cutting, folding, drilling, perforating and stitching paper and booklets; manufacture and specifications of various types of paper.
LIBRARY TECHNICIAN DEPARTMENT

B05 - L111 Cataloguing
The student will be able to provide descriptive cataloguing and Dewey classification numbers for book material. Able to maintain public catalogues and shelf list.

B05 - L112 Reference and Public Service
The student will be able to perform the public service routines of circulation, shelving, shelfreading, inter-library loan. The student will know when and how to use basic reference sources and understand the organization and function of the reference department.

B05 - L113 Acquisitions
The student will be able to select, order, verify and receive print and non-print materials. Be familiar with the organization and functions of the acquisition department.

B05 - L114 Library Practicum
The student works on the circulation desk and shelves books and periodicals in the Learning Resources Centre.

B05 - L115 Work Practice
The student is placed in a library for one week in first semester to observe its operation and work with the staff.

B05 - L116 Cataloguing
The students will learn the use of Sears Subject Headings and be able to provide descriptive cataloguing for periodicals and annuals.

B05 - L117 Reference and Public Service
The student will become familiar with special subject reference tools and the Shearies of public relations and community involvement as applied to libraries.

B05 - L118 Vertical File Organization
The student is placed in a library for two weeks in second semester to work as a staff member using the skills acquired in the course.

B05 - L119 Vertical File Organization
The student will be able to select, order and process government documents, vertical file and picture file, material. They will be familiar with the cardex. They will also be able to perform minor repairs and process books for the shelf.

B05 - L119 Audio-Visual Equipment
The student will know how to operate and maintain overhead and opaque projectors, tape recorders, slide, filmloop and film projectors, microfilm readers.

B05 - L111 Cataloguing
The student will be able to provide descriptive, Dewey and subject cataloguing for non-print materials.

B05 - L112 Work Practice
The student is placed in a library for two weeks in third semester to work with the staff using the skills acquired in the course.

B05 - L113 Administration of Libraries
The student will be familiar with the organization of libraries and the administrative areas - such as personnel, budget, standards, etc., with emphasis on school and public libraries.
HAIRDRESSING DEPARTMENT

PO6-102 History of Hairdressing
A survey of hairdressing from early times to the present. This program includes a comparison of hairstyles and clothes and how they are changed by the economic and political structure of the community. Some practical training for costume and theatrical work. 20 hours of theory and practical work.

PO6-103 Visual Beauty
This subject introduces the student to the physical and structural environment of the hairdressing department. It outlines the duties of the receptionist, the cash flow and the booking of appointments. It also stresses the importance of the appearance and grooming of the student hairdresser. 25 hours of theory and practical work.

PO6-105 Personal Hygiene
The importance of personal hygiene in the industry. Uses of deodorants, deplorators, make up and hair style for the working hairdresser. Hands and cleanliness of instruments. 40 hours of theory and practical work.

PO6-111 Bacteriology, Sterilization, Sanitation
This subject comprises 20 practical hours plus 15 theory hours. Emphasis will be placed on the importance of practicing sterilisation and sanitation in the school and salon. The nature and causes of infections spread by unhygienic practices.

PO6-113 Shampoos, Rinses
This subject consists of 85 hours of demonstration and practice plus 20 theory hours. The procedures of shampooing and rinsing, the various types of shampoos. Acid and alkalinity testing. Special and permanent shampoos. Temporary color rinses and conditioners of all kinds, their applications and results.

PO6-111 Hair and Scalp Treatments
This subject consists of 50 hours of demonstration and 20 theory hours. The analysis of hair and scalp will be stressed to better understand various problems that may be encountered. Problems that can be connected with the scalp and those that must be referred to a physician. Different types of scalp treatments for various problems will be covered.

PO6-115 Hair Styling
500 theory hours and 300 practical hours of training. Upon completion, the student will be able to design hairstyles to suit the individual needs of the patron, and successfully complete the Provincial and school examinations. Emphasis will be placed on the latest styling techniques and trends, through demonstrations and visual aids. Whenever possible guest artists will be drawn from the industry.

PO6-116 Hair Shaping
Consists of 50 theory hours and 200 practical hours. On completion the student must be successful in passing this phase of the provincial exam. Emphasis will be placed on the latest cutting techniques through demonstrations and audio-visual aids. Various guest artists will be drawn from the local industry. The student will be able to understand all aspects of hair shaping and be able to adjust to shifting trends.

PO6-117 Cold Waving
Consists of 100 hours of demonstration and practice plus 10 hours of theory. Emphasis will be placed on recent cold waving techniques through demonstrations and visual aids. Comparisons of acid and alkaline cold waves, their good and bad points. Wrapping and timing techniques plus correct choice of cold wave rods for various hairstyles and hair types.

PO6-118 Handicured
50 hours of demonstration and practice plus 10 theory hours. The preparation of the manicure table, application of creams, cuticle oil and polish and the proper hygienic techniques of all types of manicures are covered.

PO6-119 Tinting and Bleaching
This subject consists of 150 hours of practice plus 40 hours of theory. A thorough study of the various types of permanent and semi-permanent colours. Their application and removal and the chemical changes they induce are all covered.

PO6-120 Skin and Facial
50 hours of demonstration and practice plus 20 theory hours. The methods of cleansing the skin, massages and the application of various styles of make up are studied. Upon completion the student will also have an understanding of the structure and function of the skin and recognize its diseases and disorders.
6.

**B36-11705 Personal Hygiene.**
Learn to adapt a personal grooming program to your particular needs and activities. Also keeping equipment and stations sanitary.

**B36-11713 Shampoo & Rinse**
Drape and seat the patron properly at shampoo bowl and use of shampoo hose. Also to become familiar with the proper procedure for adjusting water temperature and for rinsing shampoo from the hair. Also learn how to use special rinses and become familiar with all safety precautions for shampooing and rinsing the hair.

**B36-11714 Hair and Scalp Treatments**
Five basic massage movements explained in detail. Also the importance of hair and scalp conditioners treatment and become familiar with various procedures used in salons.

**B36-11715 Hair Styling.**
To become familiar with the importance of hairstyling techniques and with equipment and supplies used in wet hairdressing. To learn various types of cuts, how to form them and how to comb them out. Become familiar with thermal hairstyling equipment and the procedure for iron curling and air waving.

**B36-11716 Hair Shaping**
Learn to section the hair prior to a haircut. Various hairshaping instruments and their uses to become familiar with the relationship between texture & hairshaping to discover what elevation is and how it is used to achieve a desired hairstyle. Finally the complete procedure for giving a medium and long length haircut.

**B36-11717 Permanent Waving**
To become familiar with the different patterns used in sectioning for a chemical wave and demonstrate used in chemical wave. Also how to give test curls and judge wave formation on a particular head. Finally learn to develop the necessary skills needed for giving a complete chemical wave observing safety rules.

**B36-11720 Tint and Bleach**
To learn how to give color rinses a virgin tint tint retouch and a tint back to nature colour. Using proper patron protection & safety precautions necessary for hair coloring & services. Also how to select and apply lighteners and toners to suit patron.
Barbering Department

07-B101 Hygiene and Sanitation
Personal, public and mental hygiene; cleanliness; posture; good health habits; classification of bacteria; three general forms of bacteria, groupings of bacteria, six disease producing bacteria; bacterial growth and reproduction; infection. Methods of sterilization; antisepsics and disinfectants; wet sterilizer, dry sterilizer; proportions for making percentage solutions; safety precautions; Board of Health, barber examining board; duties of barbering inspector, importance of sanitation, sanitary rules.

07-B102 Barber Implements and Shaving
Straight razors, regular shears, tapering shears, clippers, hones, strops, Weck and Magic shapers, the technique of honing and stropping, the fundamentals of face shaving, positions and stroke in shaving the face and neck, the shaving of mustaches and beards, special problems encountered in shaving.

07-B103 Conventional Hair Cutting
Basic fundamentals applied to men's conventional or standard haircuts (S.C. Thorpe). Advanced fundamentals applied to conventional or standard hair cuts (Sherman L. Trusty).

07-B104 Men's Hairstyling - Mod Trends
Basic fundamentals used in men's hairstyling (M'Lord techniques, Encyclopedia of Haircutting); special and modern techniques used in advanced men's hairstyling (Seminars, barber show, invited guest artists).

07-B105 Cold Waving & Hairpieces
Cold waving and body waving of men's hair for facilitating styling; the straightening of curly hair; the measuring and fitting of hairpieces.

07-B106 Skin & Hair - Disorders & Treatments
The microscopic study of skin and hair; disorders or diseases related to skin and hair; shampoos; scalp treatments; facial treatments; hair conditioning and reconstructing treatments.

07-B107 Shop Management & Sales - Barber's Act
Good ethics in the barber shop; bad ethics in the barber shop; functions of the shop; types of ownership; selecting the right location; equipping the shop; advertising the barber shop; salesmanship in the barber shop; records; operating expenses; first aid; business law; modern trends in barbering; barbering regulations; point by point review of regulations under the Barber's Act.

07-B108 Men's Haircoloring
Preparation of supplies; uses of hydrogen peroxide; purpose of bleaching; the three layers of hair and their relation to haircoloring; formulas for bleaching and coloring; procedure for doing a virgin bleach; swatch experiments in bleaching; purpose of the patch test in haircoloring; procedure for doing temporary colors including sprays; working with semi-permanent colors; working with permanent colors.

07-B109 Final Review & Practical Testing
20 hours of supervised final theory review for school and government final theory exams. 30 hours devoted to practical testing at 3 different levels.
WATCH REPAIR DEPARTMENT

BG6-W101 Basic Exercises
Projects designed to develop finger dexterity and a high degree of co-ordination between eye, mind and hands.

BG6-W102 Balance Wheels
Staking 17 ligne and 10½ ligne balance staffs, true and poise the balance wheels. Removal of balance staff; making balance staff with and without sample to a working watch.

BG6-W103 Hairsprings
Preparing 17 ligne and 10½ ligne hairsprings for service by colleting, truing, overcoiling and vibrating.

BG6-W104 Fundamental Construction of Watches
Types of mainsprings and mainspring barrels. Trains and their ratios, winding and setting mechanisms. Repairing and adjusting of escapement, jewelling, friction and shock system.

BG6-W105 Repairing Watches
The greatest proportion of the course will be devoted to the repair and conditioning under conditions found in the industry. The object of the course will be the development of skill and speed.
HOTEL RESTAURANT ADMINISTRATION DEPARTMENT

B09-H110 Aspects of Catering
This subject is designed to present some of the practical aspects of the hospitality industry. How to set up tables, serve foods and acquire the skills necessary for this.

B09-H112 Front Office Procedures
A basic introduction to the workings of a front office, its functions and the equipment used.

B09-H113 Introduction to Food and Beverage
This subject consists of lectures, demonstrations and practical work pertaining to Foods and Beverages as commonly encountered in the Industry.

B09-H113 Food and Beverage Controls
A study of the receiving, storage, portioning and serving of food and beverage. In this course the control systems at all stages of the food and beverage service chain are examined. Food cost percentages, portioning, accounting controls, inventories and sales records are all studied and discussed.

B09-H114 Design and Physical Layout
This subject is designed to expose the student to various aspects of Hotel, Restaurant, and Food facility design. Emphasis will be placed on good design and how it affects the maintenance of satisfactory cost percentages for Food, labour and other operating expenses.

B09-H115 Housekeeping
This unit of the course is intended to instruct and acquaint the student with the theory and mechanics of the Institutional Housekeeping field. Though the unit is primarily designed towards hotel housekeeping, it equally applies to College resident halls, clubs with sleeping facilities and the large retirement residences. Virtually every system and principle covered in this unit is applicable to all types of lodging facilities.

B09-H117 Co-operative Education Work Experience
In the first cooperative education work experience term the student will be employed in a hotel, restaurant or food services department. Training will follow a schedule or plan arranged with the employer prior to employment. Contact with the college will be maintained through regular on-the-job visits by the cooperative education coordinator.

B09-H112 Front Office Management
A more detailed study of the front office, the various duties of the staff, the accounting function, night audit procedures, room and reservation procedures, handling mail and other related tasks.

B09-H116 Purchasing
The purchasing unit of the course is designed to acquaint the students with basic criteria for institutional purchasing. The principal areas covered are market functions, specifications requirements for various products, and the basic principles of purchasing.

B09-H121 Building and Equipment Maintenance
The study of a basic structure and its support services. Blueprinting, electrical, plumbing, heating and refrigeration systems are covered. The student will acquire a basic understanding of the terminology used in the maintenance department of hotel as well as its working procedures.

B09-H125 Tourism
This unit explores the major concepts of tourism, what makes tourism possible and how tourism can become a major factor in the wealth of any nation. Canada's tourism is analyzed and Manitoba's in detail.

B09-H120 Co-operative Education Work Experience—Second Period
In the second cooperative education work experience term, the student will again be employed in a hotel, restaurant or food services department. Training will aim at expanded job responsibilities and exposure to employment areas not covered in the first period. Contact with the college will be maintained through regular on-the-job visits by the cooperative education coordinator.

B09-H113 Beverage Management
The methods of production of wines and liquors, their handling, storage and service are all studied. The course also covers the fundamentals of mixology and bar service.

B09-H114 Personnel
This course covers the hiring, training, motivating and promotion of employees. Staff scheduling and payroll control is also studied.

B09-H115 Hotel Management Seminar
This course is performance oriented in that the students are formed into groups and given a major project to develop. For example, the project could involve the opening of a new restaurant, capital requirements, finding a location, developing themes, menus, uniforms, etc.; planning the ordering of furniture, equipment and supplies, advertising and promotion and the first year's operating budget.

B09-H116 Hospitality Sales and Advertising
The subject in "Hospitality Sales" is designed to enable the student to understand the importance, functions and objectives of a Sales Department in a hotel or restaurant. Emphasis will be placed on the Sales department's responsibility of profitable developing room, food, beverage and internal Sales, from both individuals and groups, and properly servicing such business when obtained.
Decision Making
The principles involved in making a decision are outlined at the start of this course. Much of the course is then given over to case studies and a simulated company exercise.

Gourmet Preparation
This subject consists of the preparation and cooking of both classical and contemporary dishes which are usually considered gourmet items.

Bartending Practicum
This subject is a sequel to Bartending and Beverage Management. Each student, while taking Gourmet Dining, spends one evening operating the bar. They learn how to open wine, how to serve wine, plan a bar, mix drinks, ordering procedures, inventory and precheck controls.

Dining Room Service
The Dining Room Service subject is a practical training course and will cover such areas as Cash Control and N.C.P. pre-check systems, courtesy and guest handling, modified French, Russian and American service, flambe service and cooking as well as a brief look at the duties of a maitre d' Hotel.
B10-C106 Introduction to Advertising
This subject is designed to develop a full awareness of the advertising business. Special emphasis is on the purposes and kinds of advertising, the part played by social sciences, and the organization of ad agencies and departments. 2 hours per week.

B10-C121 Creative Writing
The students will develop their creative imagination by doing exercises related to the writing of the short story. Assignments in characterization, setting, mood, plotting, and viewpoint lead the student to the writing of a completed short story.

B10-C122 Introduction to Journalism
The students will be introduced to the basic principles of journalism. They will learn to gather facts for news stories and how to write these stories in acceptable style for the various news media.

B10-C123 Introduction to Marketing and Advertising
The fundamentals of marketing and advertising research are analyzed in relation to their role as the spring board to all good advertising.

B10-C124 English and Composition
A refresher in English grammar, spelling, effective organization of sentences and paragraphs.

B10-C125 Oral Communications
A participatory program designed to promote the degree of skill in oral communication and interviewing that is required by the writer to function in industry.

B10-C220 Introduction to Advertising - Ad Art
Continues the general survey of advertising principles and procedures. Relationship of copy to art, with major attention given to copywriting, its functions, and the various kinds.

B10-C221 Creative Writing
In Creative Writing the student is encouraged to develop the creative imagination through writing exercises in dramatic writing. The student will have practice in writing for the stage, radio and television.

B10-C222 Journalism
Students will be involved in the practical aspect of journalism. They will receive practice in writing factual news in proper news style.

B10-C223 Advertising
Students will receive instruction in the basic principles of marketing, and the role of advertising in marketing. The student will begin developing skill in copywriting for all media.

B10-C224 Oral Communications
Continuation of oral communication activities in term 1 with special emphasis on oral presentation.

B10-C225 Television
The student is introduced to the television industry. The student will become familiar with the organization of commercial network and local television. The student will receive instruction in the television process and become familiar with the television equipment in the studio.

B10-C226 Introduction to Advertising - Ad Art
Concludes the general survey of advertising principles and procedures. This term covers the relative merits of all advertising media, as well as sales promotion techniques.

B10-C227 Creative Writing
The student will receive instruction in the writing of non-fiction. There will be exercises in such forms as the informal essay, magazine articles, opinion pieces and reviews.

B10-C228 Journalism
Students will deal with more complex news assignments with emphasis on the various styles acceptable in modern journalism.

B10-C229 Advertising
Students will deal with the various aspects of advertising strategy. Emphasis will be given to the importance of research in planning and writing advertising copy.

B10-C230 Introduction to Public Relations
The student will be introduced to aims and structure of the Public Relations industry. The student will receive practice in such public relations techniques as the Press release, press kits, brochures preparation.

B10-C231 Television Workshop
Through practical experience in the television studio the student will become familiar with the television process. The students will be involved in the production of basic television shows.

B10-C232 Journalistic Writing
To introduce the students to more developed phases of journalism and widen their skills accordingly. This will include magazine writing, interpretative reporting, and broadcast newswriting.

B10-C233 Copywriting
The various techniques of commercial writing for print, broadcast, outdoor, transit, and direct mail will be examined in relation to campaign objectives and creative concepts for both national and retail advertising.
B10-C432 Public Relations
The student will put into practice the principles of public relations examined in the introductory subject. Includes development of news releases, news kits, brochures, speeches and feature articles.

B10-C435 Introduction To Radio
The student will develop a basic background knowledge of radio programming, writing and production techniques, departmental function and CRTC regulations.

B10-C438 Television
Through individual projects the student will further develop skills in television writing and production. Special emphasis will be given to production planning.

B10-C511 Film
An introduction to the art history and technique of film with emphasis on the documentary.

B10-C540 Advanced Writing Project
Working with a staff advisor the student will undertake a major writing project. This may be in the form of a short novel, a collection of short stories, a major research paper, and advertising campaign or full length scripts for the stage, radio or television. In undertaking this project the student should demonstrate the skills learned during the two years of Creative Communications.

B10-C564 Cultural History
The students will be introduced to some of the main developments in the arts. An examination is made of the visual arts of painting and sculpture and the various civilizations in which they were developed.

B10-C562 Business Practice
Students will be introduced to the various areas of the world of business. Students will be required to write a personal resume and will receive instruction in job-search. Students will experience actual job situations during on-the-job training.

B10-C566 Journalism Option
Provide detailed and extensive practical experience for students interested in a career in Journalism.

B10-C577 Advertising Option
To provide practical experience in all aspects of advertising for students planning a career in Advertising.

B10-C588 Broadcast Option
To provide practical experience in Radio and TV writing and production for those interested in a career in broadcasting.

B10-C590 Public Relations Workshop
The students, working in groups, will undertake the full development of various Public Relations projects.

B10-C593 Free Lance Writing
Students will receive advice in the preparation of scripts for the commercial market. The writing markets will be examined and students will write for and attempt to sell to these markets.

B10-C594 Mass Media and Society
An exploration of the history and effect of the mass media in influencing society.

B10-C611 Film-Making Option
A film project - producing a 28 minute film on the City of Winnipeg - will constitute final term content. Students will write scripts for the film, participate in principal photography, editing, titling, sound mixing and writing the complementary narration.

B10-C640 Advanced Writing Projects
This will be a continuation of the project started in the fifth term.

B10-C664 Journalism Option
The journalism option course will provide students who have chosen Journalism as a career with concentrated practical experience in print, radio & TV Journalism.

B10-C667 Advertising Option
The advertising option will provide practical experience in developing complete advertising campaigns for all media for students planning a career in advertising.

B10-C688 Broadcasting
Students planning for a career in radio or TV will receive concentrated practical experience in both media. Emphasis will be on production techniques for the writer.
B10-0690 Public Relations Workshop
Students will continue with the projects undertaken in term five.

B10-0693 Free Lance Writing
Students will continue with projects undertaken in term five.

B10-0694 Mass Media and Society
An examination of the mass media will be undertaken by the students with particular emphasis on the responsibility of the media to society.

B10-0695 Public Relations - Hotel
This subject is designed to provide the Hotel student with a basic understanding of the significance of public relations in the hospitality industry. Function, history and development are examined, with emphasis on application of the four-part Public Relations process in problem solving and publicity.
16.

ACCOUNTING DEPARTMENT

B11-A102 Business Mathematics BUAC
Review of basic fundamentals; application of percentage; profit and loss; trade discounts; retail selling; mark up; inventory turnover; banking; discounting note; collection charges; installment buying; partnership; compound interest; statistics and graphs; annuities; amortization; sales tax; insurance, finance and depreciation.

B11-A112 Introductory Accounting - HFM
To acquaint the student with the accumulation of accounting data, accounting financial statements, concepts and principles, mechanics of double entry bookkeeping, adjusting the accounts, work sheets, closing entries cash and the accrual basic accounting, cost of goods sold, internal control, bank reconciliation, bad debts and petty cash.

B11-A116 Financial Accounting A
A thorough working knowledge of double entry bookkeeping; adjustments and work sheets for preparation of financial statement; financial statements pertaining to sole proprietorships and partnerships; special journals; subsidiary ledgers and controlling, accounts; cash and accounts receivable; inventories internal control procedures.

B11-A117 Introductory Accounting A
Double entry bookkeeping routine; adjustments and work sheet for preparation of financial statements; financial statements pertaining to sole proprietorship; special journals; subsidiary ledgers and controlling accounts; control procedures for cash and receivables payrolls.

B11-A120 Cost Accounting A
An introduction to the procedures and techniques utilized in accounting for a manufacturing concern; preparation of a cost of foods manufactured and sold statement; work flow and cost flow through a job order cost system; preparing and following the paper work for the recording and controlling of new materials, direct labour, manufacturing over-head department overhead cost and setting overhead rates.

B11-A128 Accounting CHEF
This course is designed for the student to give a broad understanding of the accumulation and use of accounting data. It covers a wide range of topics including the basic accounting equation, balance sheet, income statement, debits and credits, recording of transactions, adjusting transactions, and the worksheet.

B11-A129 Office Systems & Procedures MAST
An introduction to various legal forms of business, government regulations and taxation, management and motivation of personnel, labour management relations, basic accounting, business planning and oral and written communications.

B11-A131 Accounting for the Small Business
This course is designed to give the student an understanding of the accumulation and use of accounting data. It covers such areas as the basic accounting equation, the balance sheet and income statement preparation using a synoptic payroll accounting and bank reconciliations and cash control.

B11-A131 Financial Accounting B
Application of accounting principles; procedures and techniques as they apply to plant and equipment; intangible assets; partnership accounting; formation of corporations; share capital and retained earnings; payroll accounting; accounting principles and concepts.

B11-A132 Introductory Accounting B
Accounting for inventories; plant and equipment; basic accounting principles; departmental control.

B11-A133 Cost Accounting B
An introduction to the procedures and techniques utilized in accounting for a manufacturing concern. Areas covered include financial statement, presentation, following the flow of material, labour and overhead through the job order and process cost systems; setting and applying overhead rates; costing for by products and joint products and financial budgets.
B11-A361 Financial Accounting C
Long-term liabilities and investments; analysis of financial statements; statement of changes in financial position - working capital and cash basis; experimental accounting; tax considerations in business decisions.

B11-A391 Introductory Accounting C
Accounting procedures, methods and techniques as they apply to partnerships; formation of limited companies; share capital and retained earnings; long-term liabilities and investments.

B11-A392 Introductory Accounting C-CAP
Accounting procedures, methods and techniques as they apply to partnerships; formation of limited companies; share capital and retained earnings; long-term liabilities and investments.

B11-A421 Cost Controls
To introduce the student to management accounting for the hospitality service industries - financial statements preparation and uses; price level changes; ratio analysis (calculation and uses); tools for comparison and analysis; information systems; internal control; cost control and analysis; cost-volume-profit analysis; and cost accounting.

B11-A491 Intermediate Accounting A
Involves accounting information that is useful to management in the decision making process. It begins with a complete review of accounting information processing cycles, the reporting process and financial statements. The course continues with an in-depth study of principles and techniques as applied to cash, temporary investments, receivables and tangible fixed assets.

B11-A505 Cost Accounting A
This course is an introduction to the problems involved in accounting for a manufacturing concern. Topics covered are financial statement, the manufacturing accounting cycle, job order cost system, analysis of variances in factory overhead, labour and material costs, and simple process cost of products reports.

B11-A539 Introductory Accounting B-COS
Further application of accounting techniques such as cash and banking activities, payroll accounting, adjustments for financial statements and complete worksheets.

B11-A591 Intermediate Accounting B
This term involves an in-depth study of accounting principles and techniques as applied to long term investments, inventories, general problems flow, matching and estimating procedures and intangible assets. The second phase deals with an in-depth study of accounting for corporations.

B11-C606 Cost Accounting B
This is a continuation of Cost Accounting A beginning with more advanced applications of process costing - other topics included are in depth study of budget preparation and of standard costing procedures.

B11-A621 Financial Management - HRM
To acquaint the student with food and beverage cost control; payroll accounting; pricing decisions; responsibility accounting, budgeting, profit planning; budget controls; sources and uses of funds; working capital management; and capital budgeting.

B11-A639 Introductory Accounting - C-COS
Completion of the accounting cycle with adjusting entries, closing entries and reversing entries. Also preparation of classified balance sheets and income statements with strong emphasis on service business.

B11-A651 Managerial Accounting CAP
This course is an introduction to management uses of the end product of accounting analysis for effective management decision making. The course stresses acquisition of a broad knowledge pertaining to management functions of planning and control and increasing the students' intellectual skill in problem solving by means of cost information.

B11-A691 Intermediate Accounting - C
This involves accounting for bonds as long-term investments and long-term liabilities, changes in accounting methods, estimating errors, incomplete records, statements of change in financial position comparative statements and ratio analysis.
ECONOMICS, INSURANCE AND LAW DEPARTMENT

H12-E371 Economic Principles BA 1
An introduction to the central economic problems facing all societies, followed by a brief study of modern political economic systems designed to provide solutions to the economic problems. The workings of the mixed, free enterprise economy will be studied in depth, with particular emphasis on the role of the price system and its misfunctions under less than perfect competition.

H12-E371 Economic Principles MBA 1
An introduction to the central economic problems facing all societies which includes a study of modern political economic systems as they seek solutions to contemporary economic problems. The study provides insight into the workings of the price system in our economic system, the function of governments and their stabilization policies, their efforts to control the business cycle, deal with persistent unemployment and inflation and allocate dwindling non-renewable resources. The subject concludes with a study of Canada's economic growth, its environmental problems and finally its place in an international setting.

H12-E372 Economic Principles BA 2
A study of micro-economic principles, beginning with a survey of national economic goals, followed by a study of the determinants of national income, business cycles, creation of our money supply, and monetary stabilization policies.

H12-E376 Economic Principles I
This course is an introduction to the principles of micro-economics including production possibility analysis, theory of the market and price determination, supply and demand analysis, and theory of the firm.

H12-E379 Economics
This course is designed to provide the student with the basic tools required to understand economic problems in Canada and the evaluation of proposed solutions. To attain these objectives essential concepts, principles and issues of economics are supported by historical and institutional systems.

H12-E377 Economic Principles II
This course is an introduction to the principles of micro-economics including production possibility analysis, theory of the market and price determination, supply and demand analysis, and theory of the firm.

H12-E373 Economics III
A study of the central economic problems facing all societies which includes a study of modern political-economic systems as they seek solutions to contemporary economic problems. The study provides insight into the workings of the price system in our economic system, the function of governments and their stabilization policies, their efforts to control the business cycle, deal with persistent unemployment and inflation and allocate dwindling non-renewable resources. The subject concludes with a study of Canada's economic growth, its environmental problems, and finally, its place in the international scene.

H12-E377 Economic Principles II
This is a course in macro-economic principles. Studies will include national income and its determination, the monetary system, inflation and unemployment, with special emphasis on monetary and fiscal policy.

H12-E390 Economics
A course designed to give the student the basic tools required to discuss contemporary economic problems in Canada. An understanding of these problems will help the student to evaluate the solutions that have been acted on and proposed by our political parties and other groups.

H12-E370 Economics
See description for H12-E371.

H12-E371 Economic Issues in Canada
This course allows the student to use acquired economic tools to study and analyze important current events with economic and political implications as there are: the urban crisis, inflation and unemployment, income distribution, the energy crisis and pollution, and others.

H12-E372 International Economics & Business
Canada's exports equal about 25% of its total production of goods and services - the study of international trade and business is therefore important and essential for the student of business. The subject matter includes exports and imports, foreign exchange, international monetary arrangements, the business of multinational corporations, and Canada's relation to economic trading blocks with special influence to the European Economic Community.

H12-E371 Economics II
Macroeconomics continues the studies in Economics I as it changes the perspective from the different parts of the economic system to the large segments and the whole economy. The objectives include the understanding of and solution for the problems of unemployment, inflation stability of the national and international economy relations, the interaction of the public and the private sector, the total effects of government expenditures and taxation, and economic growth and its implications.

H12-E380 Labour Economics & Industrial Relations
A study of the Canadian labor market which examines composition of the labor force, unemployment, changing demand for labor, immigration and emigration, cyclical unemployment and the relationship of wages, prices and employment. The course examines the history and development of Canadian unions with particular emphasis on current problems in industrial relations. Important issues are augmented by the case method.

H12-E381 Urban Economics
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B12-0670 Public Finance
Study of governmental activities - the theory and structure of taxation, taxes on income, goods sold and property and their economic consequences. Government borrowing and fiscal policy. The expenditure of Canadian governments. Canadian public finance and the Carter Report. Particular emphasis is placed on local (i.e. municipal) taxation changes and problems.

B12-0991 General Studies
This subject is a designation of credit awarded for relevant subject material obtained in some other educational institution.

B12-0991 Risk and Insurance
The course provides an introduction to and an analysis of the concept of risk (the chance of losses) and its effects both on the business and personal levels. Risk management alternatives are dealt with next; insurance being but one of several valid methods of handling risk. Finally, the various types of insurance are discussed: property (fire), consequential losses, theft, bonds, casualty or liability coverages, automobile (both private and public), aviation, the various types, functions and uses of life insurance.

B12-1160 Business Law I
Business Law I is an introductory course emphasizing the basic elements of Business Law. The topics covered in order of presentation will be: The Machinery of Justice; The Law of Torts; Contracts specifically, offer and acceptance, consideration, capacity, legality of object. The remaining elements of contract will be completed in Business Law II.

B12-1160 Law
Basic principles of law relating to contracts, negotiable instruments, partnerships, liens and evictions and remedies together with special acts pertaining to the activities and operations of firms in the hospitality industry.

B12-1160 Business Law
This course provides an introduction to our legal system and the administration of justice, to the law of tort, to the laws of contract and sale of goods.

B12-1160 Business Law
This course provides an introduction to our legal system and the administration of justice, to the law of tort, to the laws of contract and sale of goods.

B12-1160 Legal Aspects of Medical Records
An introduction to the legal system with emphasis on the importance of medical records as a legal document and the proper release of information from medical records and the legal procedures involved in court disclosure of medical records.

B12-1160 Business Law I
This course provides an introduction to our legal system, to the administration of justice, to the law of tort, and to the basic elements of contract law.

B12-1166 Business Law II
This course will constitute a study and application of business law in the areas of insurance, guarantee, bailments, principal and agent, contract of employment, negotiable instruments and the enforcement of rights thereunder, partnerships, management and operation of corporations, and credit transactions and creditor’s rights.

B12-1161 Business Law II
This course provides an introduction to the vitiating elements associated with contracts, to the discharge and breach of contracts, and to the nature and effect of sale of goods contracts, their enforcement and the rights of the parties thereto.

B12-0891 Principles of Organization & Management
Functions of the Canadian economy; forms of Canadian business organization; the role of government in Canadian business; the finance activity; labor relations; production cycle; purchasing; inventory control; marketing; administrative organization.
The objective of this course is to give the student practice in integrating and applying the knowledge gained in previous courses towards the recognition and solution of business problems. The medium used is major case studies for which the student must prepare a written solution. The theory sections deal with the role of the manager from the point of view of strategy, tactics, and decision making. The student is also exposed to some of the major concepts presented by Drucker, Odiorne, Mintzberg and Reddin. The case studies used assume a previous knowledge of break-even analysis, financial statement analysis, report writing, statistics and the management applications of computer systems.

**B13-M610 Organization and Management**
An introduction to Management Principles for supervisors and staff in health care delivery systems and descriptive study of the structure of the health care system.

**B13-M611 Introduction to Business**
A broad analysis of business concepts, functional internal characteristics of a business and the interrelationships among business, government, and the consumer.

**B13-M612 Introduction to Business**
See B13-M611.

**B13-M613 Personnel Studies**
The objective of the course is to give the student exposure to current management practices and principles. The theory section will deal with the role of the manager as a decision maker. Quantitative methods of management as they apply to business will be covered.

**B13-M614 Canadian Real Estate**
This subject explores all aspects of real estate as an investment with particular emphasis in Manitoba. As well as private home purchasing, interest is focused on commercial properties and land speculation. This course integrates the students' knowledge gained in law, economics, business finance and accounting.

**B13-M615 Business Seminar I**
A study of the administrative process itself: the formulation of business policy and the translation of policy into action. Student in management size groups will be required to submit a comprehensive report outlining the formation of a company of their choice. The appointment of senior officers and the choice of product will be made by the group. Typical functional areas will be investigated and included if applicable to the operation of the company chosen. The Business Seminar should allow students to draw on information and knowledge acquired to date thereby integrating all courses in the entire program.

**B13-M616 Business Seminar II**
See B13-M615.

**B13-M618 Credit Management**
A subject designed to familiarize the student with credit authorization and collections. Credit management will be analyzed in terms of profitability, efficiency, effectiveness, and operations. Credit relationships between retailer and consumer, bank and consumer, and company will be studied.

**B13-M619 Supervision**
Presented in this subject is a blend of theory and practice for those who will soon have supervisory responsibilities. The material presented attempts to show the many forces acting on the supervisor and by awareness thereby reduce the trauma of the first supervisory posting.

**B13-M620 Applied Management Practice**
The material for this subject is drawn from that part of management science which is concerned with tasks, results, performance objectives and the concept of situational effectiveness. The subject matter is practical as opposed to theoretical and concerns methods and techniques for controlling office costs, paperwork work flow, space design, interviewing techniques, analysis of situational demand indicators, etc.

**B13-R701 Production Management**
Topics include work study, production standards, plant and work station layout, quality control, critical path analysis, and equipment investment analysis.
112-724 Financial Mathematics
The application of mathematics to practical business problems dealing with compound interest, installment payments, annuities, sinking funds, present values, and evaluation of bonds.

113-7704 Statistics for Medical Record Technicians
The objective is to focus on the principles of statistics as they apply and are applied to the medical sciences. Statistics and Health sciences go together very well; "statistical diagnosis" is much like "medical diagnosis" both requiring (1) identifying the problem and (2) deciding on a course of action. Medical Records form a part of the first step-data collection. The technician can assist medical research staff and administration in their efforts to evaluate, research and plan. The intent is to provide a basic knowledge of statistics for this purpose.

112-7705 Quantitative Methods
This course builds on statistics and provides an in-depth examination of various statistical tools of management decision making. Topics include: decision making under uncertainty, linear programming, transportation method, and sales forecasting. This course will be of particular interest and use to those who intend to pursue a professional accounting designation.

112-7706 Statistics I
This course is an introduction to economic and business statistics. Topics include: charts and graphs, frequency distributions, measures of central tendency, measures of dispersion, index numbers, and probability theory.

112-7707 Statistics II
This course continues the study of statistics into the "inference" area. Topics include: probability distributions, the normal curve, estimation, hypothesis testing, quality control, statistical simulation, and least squares analysis.

113-7708 Business Finance
A subject to develop skill in planning and controlling the investment in each of the asset accounts and the methods of financing the firm. Particular emphasis will be placed on the analysis and interpretation of financial data.

113-7709 Securities Investment
The objective of this course is to introduce the student to the various types of securities available for investment. Special emphasis is placed on evaluation of securities as investment alternatives.

113-7710 Business Mathematics I
A survey of the basic arithmetic and algebraic operations required for courses in the Business Administration program.

113-7711 Business Mathematics II
Application of ratio, proportion, and percent to business problems, including trade and cash discounts, commissions and fees, taxes, markups and income statement analysis.

113-7712 Business Mathematics III
An introduction to financial mathematics including simple interest and discount, bank discount, equivalent value, and negotiable instruments.

113-5104 Interpersonal Relations
This course is an introduction to interpersonal relations skills. Gaining some experience in and knowledge about basic human relations skills and concepts in a practical experience — lab setting is the major objective. The experimental approach will be supplemented by classroom lectures and discussions.

113-5107 Human Behavior for Salesmen (CAI)
This course will improve the student's understanding of self and others by applying the major concept of Transactional Analysis and discovering and validating as much as possible about human behavior from their own experiences and from those of the others through various exercises and group activities.

113-5201 Introduction to Sociology (BHU)
The fundamentals of human behavior is examined on the basis of a multidisciplinary approach, drawing relevant material from more than one of the social science disciplines. The objective of the course is to illustrate the roots of human behavior from a psychosocial point of view. Topics include the self-concept, emotions, socialization, adaptive behavior, personality, frustration, conflict, motivation, and role.

113-5302 Social and Health Problems (BHU)
This course is designed to broaden the student's knowledge and awareness of current trends and problems in society. Emphasis is placed upon social and health problems in Canada and the world, and upon current events and trends which are not labelled as problems, but which have some significance for society.
BL1-5501 Introduction to Social Sciences (BA)

The aim of part I of this course is to present sociology to students in an interesting way by combining sociological concepts and theories to social reality. The aim of part II of this course is to give the student an introduction to the major concepts of Transactional Analysis to allow the student through various exercises and group participation to discover and validate as much as possible from their own insights and experiences and from those of others.

BL1-5502 Introduction to the Social Sciences (MBA)

See BL1-5501.

BL1-5503 Introduction to Social Sciences

This subject is concerned with the basic principles of personality interaction. Students are given the opportunity through exercises and group participation to discover and validate as much as possible from their own insights and experiences and from their observations of others' behavior. They will be encouraged to use their awareness to integrate the many patterns of personality into a fully functioning person.

BL1-5504 Humanistic Psychology (MHR)

An introduction to humanistic psychology allows the student through various exercises and group participation to use his own insights and experiences to discover and validate these introductory concepts application of humanistic psychology to personal, interpersonal, and organizational behavior.

BL1-5505 Humanistic Psychology (CAP)

See BL1-5504.

BL1-5506 Human Behavior for Salesmen (CAI)

See BL1-5507.

BL1-5507 Psychology of Selling (CAI)

This course will provide the prospective salesman with systematic insight into customer behavior. It will teach the student how to gain flexibility so as to sell all kinds of customers; how to use persuasive communication strategies to create customer commitment; how to uncover customer needs and prove customer benefits by showing that your products or service will satisfy those needs; how to motivate customers so as to close sales and get repeat business.

BL1-5510 Self Understanding & Social Feeling I

A humanistic interdisciplinary approach to an understanding of human behavior. This course leads the student to an understanding of behavior by considering some ideas about who man is, how man experiences himself, how man experiences others, and how man constructs systems in which to experience his being. Every attempt will be made to involve the student, and to have him consider who he is, how he related to others, and how others relate to him.

BL1-5511 Self Understanding & Social Feeling II

See BL1-5510.

BL1-5512 Self Understanding & Social Feeling III

See BL1-5510.

BL1-5513 Human Behavior in Organizations

This course is concerned with the study of individual and group behavior in organized or purposeful group settings. Its major goals are, to communicate some knowledge of general psychological principles, and to develop skill in applying that knowledge to social and organizational situations.

BL1-5514 Human Behavior in Organizations

See BL1-5513.

BL1-5515 Contemporary Issues in Canadian Society

A course designed to broaden the students' awareness and knowledge of current trends and problems in today's society. Emphasis is placed upon social problems in Canada and the world, and upon current events and trends which are not labelled as problems, but which have some significance for society.

BL1-5516 Contemporary Issues in Canadian Society

See BL1-5515.

BL1-5517 Introduction to Political Science

An introduction to politics, including an analysis of the four core areas of any political system: creation of a common identity, power, legitimacy, and production and distribution of goods and services. Using this as a framework of reference, the course then covers the major political systems and ideologies. Canadian politics is examined from an historical and a current perspective, involving structures, processes, and personalities, to provide an understanding of how it works.

BL1-5518 Introduction to Political Science

See BL1-5517.
B13-551 Introduction to Sociology
The basic attraction of the study of sociology is that it provides the means with which one can use to understand the world he/she lives in. This course is concerned with the presentation of an historical, theoretical and cross-cultural perspective of society in a time of rapid social change. Special emphasis is placed on the study of the Canadian scene and the student is encouraged to maintain this emphasis in the term work.

B13-5520 Introduction to Psychology
This course covers an introduction to basic sociology, including the concepts of culture, society stratification, institutions, organizations. Exploration will be made how these forces operate to produce and change our society. In class discussions and seminars special emphasis is placed upon the Canadian scene.

B13-5521 Humanistic Psychology
An introductory course supplemented by various exercises and group participation in an attempt to validate the introduced concepts. Some application of learning to personal, interpersonal, and organizational situations.

B13-5522 Canada and the World
A study of the principal historical and domestic considerations of Canadian foreign affairs, the options and issues in Canada's relations with the United States, Europe and other parts of the world and an assessment of present policies.

B13-5531 Humanistic Psychology-Part II
Students are expected to learn basic principles in psychology and how these principles apply to their own behavior and the behavior of others. Humanistic psychology allows the student through exercises and group participation to use his/her own insights and experiences to discover and validate psychological concepts.
B14-A115 Accounting
This subject is coordinated with Business Math in that it is sequential to the A115 subject. It consists of a study of basic accounting principles, enabling the student to interpret and use the information contained in financial statements. The concept for the subject within the program is that salesmen should develop an understanding of the basic accounting principles. This facilitates his better understanding of client problems and helps him produce better source documents for accounting, credit and related planning and control functions.

B14-A501 Advertising
A practical course in advertising with emphasis on advertising in Canada. Advertising is viewed as an important part of the total marketing mix of a company or other institution. The role of advertising in society is reviewed. A study is made of creative strategy and execution as well as media strategy and execution. In addition the various elements of print and broadcast advertising are analyzed as are the functions of the advertising agency.

B14-A502 Retail Accounting and Financial Management
This course deals with mathematics and accounting for retail operation; financial statement analysis; accounting for the management of departmental and branch operation consolidations; accounting for receivables and inventories; preparation of merchandise budgets; internal auditing programs. Retail budgeting and expense control are covered in detail.

B14-B116 Business Mathematics
This subject is coordinated with the accounting in A115 and proceeds it in a course sequence. It focuses on the study and practise of common mathematical applications encountered in retailing, wholesaling, banking, credit granting, industrial selling. Emphasis is on the practical application of mathematics to standard business problems dealing with discounts, margins, installment buying, interest calculations, etc.

B14-C114 Consumer Behavior
An introductory course into the complexity of human behavior, particularly as it applies to buying behavior on the part of the final consumers. Material for the course is drawn from the social sciences - psychology, sociology, social psychology and economics. The insight provided leads to a better understanding of consumer behavior in the marketplace, a vital element in the external environment of a business system.

B14-C601 Consumer Behavior
This course provides an introduction to the complexity of human behavior, particularly as it applies to buying behavior on the part of final consumers. Material for the course is drawn from the social sciences: sociology, psychology, social psychology and economics. This insight provided leads to a better understanding of consumer behavior in the marketplace.

B14-D100 Marketing Decision Simulation
This subject provides the student with an opportunity to apply his learned marketing skills in a dynamic and competitive simulated marketing situation. As a company marketing executive in a simulated business environment, the student makes marketing decisions as a member of a team. He or she works with other members of the firm which is competing with other companies in an industry.

B14-1117 Introduction to Business
A practical course which provides an overview of the world of business and its role in the free enterprise system. The course provides the basis for specialization in specific areas of business which other subjects are concerned with. Part one deals with business and its environment; part two - establishing a business, the legal and financial aspects; part three - operating a business; part four - managing a business; part five - opportunities in business.

B14-M101 Basic Marketing
A study of industrial and consumer marketing with emphasis on marketing institutions and principles. The vital role of marketing in society is presented from the perspective of the modern marketing concept. The student develops and learns to apply an understanding of marketing strategy involving selection of target markets and development of marketing mixes.

B14-M113 Basic Marketing and Buying Behavior
An introductory course in basic marketing. The focus is on buying behavior at both the final consumer and intermediate customer levels. The vital role of marketing in the economic system is considered from both a macro and micro viewpoint. The various marketing institutions and the functions they perform are analyzed on the basis of a modern marketing concept approach.
B14-M121 Marketing for Refrigeration Servicing
An introductory marketing course of 40 hours duration. The emphasis is on the application of marketing principles to servicing customers in the appliance field. The marketing concept is introduced and the functions and institutions of marketing are briefly outlined. A special focus in this marketing course is placed on consumer behavior and the communication process.

B14-W202 Basic Marketing
Basic marketing builds on the principles developed in 1st term. This course provides a more in depth analysis of the four elements in the marketing mix - product, place, promotion and price. In addition the student examines in more detail the various marketing institutions; is introduced to marketing research and finally learns to develop integrated marketing strategy.

B14-W213 Advanced Marketing
An introductory course which covers the broad field of marketing in a Canadian context. The study includes industrial and consumer marketing and emphasizes basic principles as they apply in the various marketing institutions. The student is introduced to marketing strategy and the controllable and uncontrollable factors considered in developing the marketing mix. The subject ties in closely with the simulation exercise in T216 where the business game focuses on marketing strategies in a competitive environment.

B14-N231 Basic Marketing
An introduction to basic marketing, with emphasis on the application of marketing principles in Advertising Art. The course includes an introduction to the marketing concept, the functions of marketing, markets, marketing mix, and the marketing institutions.

B14-W213 Marketing Management
A managerial approach to marketing which builds on the 2nd term M213. Marketing is treated as a total system of business action. The emphasis is on the management of marketing in a firm. Additional focus is placed on the price element in the marketing mix, the management job of developing and selecting among alternative marketing strategies and evaluating strategies. Training is provided by the simulation technique using an advanced marketing strategy game.

B14-M601 Merchandising
A study of merchandising methods and retail organization, retailing today; management of retailing, the retail store, the retail organization, merchandise management as it relates to buying, handling, controlling and pricing, sales promotion and customer services, merchandising, accounting controls, coordination and retailing management.

B14-F219 Advertising and Promotion
This subject presents a comprehensive study of the purposes, types, creation and control of advertising and other promotions. It develops an understanding of the important elements of advertising and other promotion tools and their relation to marketing. As a practical project students organize in teams to develop and present a complete promotion package in a competitive situation.

B14-F212 Merchandising
A study of merchandising methods and retail organization, retail planning and policies, retail organization, pricing strategy, mark up and mark down calculation, planning sales, stock, purchases and profits, retail budgeting and control, retail advertising, display, store layout and site selection. As a practical application of theory, students organize into management teams to develop a proposal for a retail operation in a selected location.

B14-R602 Marketing Research
This subject focuses on the use of information in the planning of marketing strategies and the execution and control of marketing functions. Particular attention is given to the identification and solution of marketing problems through the systematic collection, analysis, and interpretation of data. The course consists of two parts - a) deals with theory through the lecture and case study methods; b) an actual research project is undertaken by students working in groups.

B14-S111 Basic Salesmanship
No description available.

B14-S21 Basic Salesmanship
The purpose of this subject is to prepare the student for the field of selling at a basic level, such as order taking or support sales work. The subject presents a broad picture of the field of selling. Basic skills are studied and discussed and role plan situations are developed for skill practice. The theory involves review of a variety of elements that are important to selling, consumer behavior, pricing and credit practices, knowledge of company and competitors, product knowledge, promotional aids, telephone selling.
B14-511 Advanced Salesmanship
This subject builds on the foundation of S211 in the 2nd term. It presents a thorough review of the sales process, all the way from the planning stage to closing the sale and follow up. The study and practice of skills includes: features, advantages, benefits analysis, prospecting, opening the sale, presentation and demonstration, handling objections, proofs and supporting statements, probing, recognizing customer attitudes, closing the sale. Students undertake a number of role play sessions to develop skills in practical situations.

B14-5401 Personal Selling
A practical course in personal selling, designed for students who endeavor a career in sales. The course takes a practical approach in that the emphasis is on the development of specific sales skills such as prospecting, demonstration, handling objections, proving, opening and closing sales etc. While sales theory provides a framework, skills are developed through application using the techniques of role play, case studies and features - benefit analysis.

B14-T112 "In Business" Training
The objective in the course is to provide the student with exposure to the real business world. It is closely related to introductory business. Business tours, guest lecturers from business, discussions with past graduates, and relevant films and tape recordings are all used as means of giving students a closer and more practical view of the business environment.

B14-T118 "In Business" Training
No description available.

B14-T212 Advanced "In Business" Training
This course provides more exposure to the business world and its problems. In addition to tours and speakers, the student works one week in the field with a sponsoring company, also he deals with business problems through simulation as he participates, as a member of a business team, in a competitive business game throughout the term. The student identifies potential areas for future sales careers.

B14-T218 "In Business" Sales Training
This course is designed to further familiarize the student with the business environment. There is a more direct focus on sales careers as an attempt is made to narrow down the field of choice by exposure to various alternatives. One week is spent in a sales-oriented capacity with a sponsoring firm. Additional knowledge and skills are developed through the simulation techniques in a more advanced competitive business game, conducted in coordination with the marketing subject.
B15-C10: Data Processing I
The objective of this course is to introduce students to the basic concepts of commercial data processing. To introduce terms such as: field, record file, accounts receivable, inventory control, etc. Unit record concepts and devices are used. To introduce basic programming concepts IBM 370 ASSEMBLER is used. Students are required to complete a number of programming assignments on the college's IBM 370 System.

B15-C20 Data Processing II
This is a continuation of the work begun in Data Processing I Programming. Further programming concepts such as table handling, tape and disk processing, etc. are examined. At approximately mid-term students are introduced to COBOL Concepts such as the balance line are covered at this time.

B15-C30 Data Processing III
This is a continuation of Data Processing II; the concepts covered are Direct Access Programming, Variable Length Records, Indexed Sequential Files, and the Sort and Search Verbs in Cobol. Structured programming techniques are used.

B15-C301 Operating Systems
Theory and history of operating systems. Use of system libraries. Job Control Language for DOS. System utility programs. Introduction to OS.

B15-C302 Systems Analysis and Design I
The objective of the two systems courses is to provide the student with an understanding of the duties of the systems analyst together with an understanding of the specific methods and techniques for conducting a systems project. The first course covers the following areas: Phase I - Initiation and Preliminary Investigation (Feasibility Study); Phase II - Detailed Investigation/Analysis; Phase III - Systems Design (Output and Input). A case study is used to supplement the lecture material and to expose the student to a "realistic" systems project.

B15-C401 FORTRAN
FORTRAN (WATFIV) is introduced and shown how it can be used in business. The students are required to write five programs, utilizing the basic features of FORTRAN and the structured features of WATFIV.

B15-C402 Report Program Generator A
An introduction to RPG is given in the last seven weeks of term 4. Three very basic card to printer programs are written by the students.

B15-C403 Disk File Concepts
Physical and logical disk Organizations. Functions and attributes of Sequential, Indexed Sequential, Direct and VSAM files, MACRO ASSEMBLER.

B15-C407 Systems Analysis and Design II
This is a continuation of the Systems I course and covers the following topics: Phase III - Systems Design (Files, Processing, Controls, Management Presentations); Phase IV - Development (Project Management, Standards, Testing, Documentation); Phase V - Systems Implementation and Evaluation (Conversion and Post-Implementation Audit).

B15-C501 Report Program Generator B
This is a continuation of RPG. This portion of the course deals with files, indexed, sequential and output. Tables and arrays are introduced. Multi-file processing is introduced.

B15-C502 Data Structures
File organizations used in Data Base Systems. Includes pointers and list-structures, inverted files, tree and network structures.

B15-C504 Computer Topics I
This course deals with a variety of computers with emphasis on the 370 series. Topics associated with other than delayed time programming are discussed, particularly Data Communication and Time-Sharing utilizing the BASIC language on the PDP-11 Computer. The aim of this course is to develop an awareness in the student of the broad scope of the computer field and to acquaint them with present and predicted trends in the industry and to maintain programming efficiency.

B15-C506 Co-operative Project in Industry I
Students are divided into teams of 3 or 4 each. A different computer project from industry is assigned to each team. The objective is to apply the knowledge gained from the course to a real-life system. The project will cover the full range of systems, programming, documentation and implementation. The benefit to industry is that usable systems are developed for them. The students work on the projects part-time through the fifth and sixth terms.

B15-C507 Business Applications
The purpose of this course is to provide the student with an understanding of the most common business computer applications. The following applications are covered:

- Accounting: Payroll, A/R, Cash Receipts, A/P, Fixed Assets, G/L, Financial Statements
- Sales/Marketing: Invoicing, Order Filling, Sales Analysis, and Market Penetration
- Inventory Control: Inventory Forecasting and Control, Purchasing and Receiving
- Manufacturing: Work-in-Process and Scheduling, Labour Distribution and Job Costing
BL5-C605 Computer Topics II
This course is a continuation of Computer Topics I and therefore shares the same or very similar aims. Topics include further applications of Data Communications with emphasis on Real-Time Systems. Other languages introduced are PL/I and APL. Concepts of Virtual Storage are also introduced.

BL5-C606 Co-operative Project in Industry II
See BL5-C506

BL5-C607 Data Base
The purpose of this course is to introduce the student to the following software products:
- Retrieval Systems — Extractor
- File Management Systems — Mark IV
- Data Base Management Systems — IMS, TOTAL, IMS, ADABAS, SYSTEM 200

BL5-M102 Maths of Finance
The first section of the course deals with binary and hexadecimal number systems as applied to data processing, covering conversions to and from the decimal number system and addition and subtraction in hexadecimal and binary. The second deals with mathematics of finance covering problems in trade and cash discount, simple interest, compound interest, annuities, debt repayment, bonds, perpetuity, capitalization and mortgages.

BL5-M103 Statistics
The course deals with statistics as applied to business management and research; covering summarizing data, frequency distributions, statistical descriptions, summarizing data; probability, decision making, probability distributions, sampling distributions, estimation and hypothesis testing.

BL5-M104 Quantitative Methods I
PERT/CPM, Forecasting methods, statistical methods, correlation and regression, Finite Differences.

BL5-M105 Quantitative Methods II
Optimum sampling theory, iteration methods, Linear Programming, Simplex Method, Transportation Method, Calculus topics, Monte Carlo Simulation.

BL5-S102 Introduction to Data Processing
Introduction to Data Processing provides a general overview of the history and development of data processing dealing with fields, records and files as related to manual, unit records and computer data processing. It covers the operation and function of a computer system, the application of computers to solving business related problems using flowcharting techniques and the Fortran programming language.

B1S-S104 Introduction to Data Processing
This course provides a basic introduction to data processing as it would apply to the Medical Records field. The first part of the term deals primarily with basic concepts and terminology. The punched card and unit record hardware are used to achieve this end. Computer concepts and programming are introduced in the second part of the term. The students are asked to write a series of FORTRAN programs and to test these programs using the College's computing facilities.

BL5-S204 Introduction to Data Processing
This is a first course in Business Data Processing. The first part of the term deals mainly with terminology and basic concepts. The punched card and unit record equipment are used to achieve this end. Computer concepts are then discussed including the central processing unit and the variety of associated peripheral equipment. Finally the Fortran Language is introduced and the students are required to code and test several programs using the College's computing facilities.

BL5-S205 Introduction to Data Processing
See BL5-S104

BL5-S206 Data Processing II
This is the second of two courses in data processing and is divided into two sections. 1) Introduction to COBOL — this section provides the student with a working knowledge of COBOL. The student is required to write a number of business related programs in the language. 2) Computer Augmented Accounting — This section introduces the student to the problem solving capability of the computer. This student submits accounting data and the pre-written programs process the data and produce output in the form of balance sheets, trial balances, etc.
B15—S401 Introduction to Data Processing
This course provides a basic introduction to Business Data Processing. The first part of the term deals primarily with basic concepts and terminology. The punched card and unit record hardware are used to achieve this end. In the latter part of the term computer concepts and programming are introduced and the student is asked to write a series of FORTRAN programs and to test these programs using the computing facilities at the college.

B15—S501 Computer Application in Business
This is a second course in Business Data Processing and begins by examining some of the batch-oriented accounting applications such as accounts receivable and payable, payroll, sales order processing and inventory control. In the second half of the term attention is drawn to applications involving data communications time-sharing is demonstrated by hands-on experience on the DF 11/70 computer using the BASIC language. Other current real-time applications are discussed such as the supermarket application and on-line banking and some applications of the future.

B15—S601 COBOL Programming
The general objective of this course is to give the students a better understanding of the uses and capabilities of computers through the use of COBOL programming language. The more common instructions are covered in detail and the student will be required to write programs working with these instructions.
COMMUNICATIONS DEPARTMENT

B16-E103 Study Skills
A twenty hour course in which individualized aid is given to students in the fully equipped Study Skill Centre. The objective is increased reading speed and comprehension and to develop effective study skills.

B16-E104 Sales Communication
This subject is designed to develop the potential salesman's communication skills. The specific skills emphasized are speaking, listening, reading and writing. Special programs, designed to develop these skills through practice and repetition, are an integral part of this subject.

B16-E105 English
This subject of eighty hour duration, is designed to help student to know the working principles of the English language, to develop facility with words and other skills necessary to the printer and proofreader.

B16-E107 Communications for Photo Technicians
Review of grammar, punctuation, abbreviations, capitalizations, word division, business letter writing, research techniques, report writing, expository and persuasive writing, interpersonal communication, listening skills, interviewing techniques, problem solving through discussion, formal presentation speeches.

B16-E108 Communication
To provide the student with experience in communication skills and to develop clarity of expression with an emphasis on written skills. Technical and related topics are used as vehicles for the practice of communications. The course is tailored to fit the needs of the students and the requirements of the advisory boards.

B16-E111 Oral Communications
This course is designed to increase the student's ability to listen and speak well. Three hours each week has been scheduled for lectures and workshops. It is essential that the student attend regularly to contribute as speaker and listener.

B16-E112 Sales Communications
The objective is to develop the potential salesman's communication skills. These skills are speaking, listening, reading, and writing. The environment for the development of these skills is a marketing/sales setting. The course aims at continual development of all four skills throughout the term.

B16-E113 Communications 1
This subject provides instruction and practice in the writing of business letters, memos, and short reports. The oral portion incorporates basic principles of effective speaking and applies them to interviews and presentations.

B16-E114 American Literature
This is a survey course designed to familiarize students with outstanding American writers and novelists from approximately 1915-1965. The objective is to help the student understand the significance of the literary work as well as achieve thought of his/her personal convictions in relationship to it, and to help the student understand what relevance the literary work had in its particular time, as well as today, and to appreciate its wisdom, form and structure.

B16-E115 Business Communications
This is an advanced subject in the effective use of language with special emphasis on the preparation, writing and editing of all types of business correspondence including letters, memorandums and short reports. The emphasis is on business letters with a human relations approach.

B16-E116 Oral Communications (hotel)
Designed to increase the self-confidence of the hotel student as a speaker, particularly in relation to the conducting of interviews, meetings, and presentations.

B16-E110 Advanced Sales Communications
This subject develops communication skills to a more advanced level. Skills are developed through practice so that they may be used in role play sellings, case studies and group discussions.

B16-E112 Graphic Arts English - Intermediate
The course is designed to help students develop facility with words and other skills necessary to the printer and proofreader. Emphasis is on grammar, spelling, punctuation and composition.

B16-E111 Basic Business Communications
The fundamentals of business communications are covered: techniques of business letters, promotional writing, answering complaints, collecting material and writing reports. Basic grammar will be incorporated to the depth indicated by the individual's need.

B16-E118 Introduction to Literature for Children
This course should give the student an overview of the history and development of children's literature. Included in the study, besides myth, fable, folklore, and fairytales, will be the consideration of the influence of some of the better known writers, illustrators and critics of literature for pre-school children. The art of story-telling is an integral part of this course.
B16-2220 English Literature
Through the study of representative novels, students will acquire a background relevant to historic and contemporary themes in the novels of Great Britain.

B16-2222 Canadian Renaissance
The student will undertake to examine Canadian institutions, history and current events to develop the essential background for a writer working in Canada.

B16-2229 Advanced Communication
Advanced communication reviews principles of effective communication, speaking and writing. Emphasis is placed on developing new skills in report writing (including research techniques) and in presenting reports orally. Further training and practice is given in business letters. Oral communication skills are developed through practical exercises in impromptu speaking, interviewing and working in groups.

B16-2231 Report Writing - Soc. Science
This subject emphasizes research techniques, formal report writing and oral presentation of technical information. Also covered: instructional and descriptive writing, letters of application, employment interviews.

The course is designed to familiarize the student with the variety of report formats in use today. Concise, correct and clear usage is stressed, as is the proper development of report themes, conclusions and recommendations. The course involves three hours per week, one lecture and two workshop periods. During the workshop periods, students are expected to conduct primary and secondary research, in addition to a certain amount of in-class supervised writing. These workshop periods make up the bulk of the course; it is essential that students make full use of them in order to develop basic report writing skills.

B16-2235 Graphic Arts English - Advanced
This course is designed to help students to know the working principles of the English language and the skills necessary to the printer and proofreader. Emphasis is on letter and report mechanics, spelling and composition.

B16-2238 Literature for Children
This course will consist of contemporary literature and poetry for pre-school children as well as the influence of literature through the media. Special emphasis will be given to Canadian writers and their works. The practicum includes story-telling and puppetry. Prerequisite: B16-2229.

B16-2251 Canadian Literature
Students will study the work of various Canadian authors. Emphasis will be given to the techniques used by these authors to present the Canadian idea.

B16-2308 Introduction to Theatre
The objectives are: to train students in sound creative leadership; to emphasize the teaching philosophy of guiding children in experiences which will foster their personality growth and development; to learn the techniques of the art of creative dramatization; to help the student become aware of their creativity so they will understand the creative process; to help the student become aware of the concepts and methods of movement for young children.

B16-2351 Endnote: Literature
The objective is to develop the student's understanding of the literature native to this province and an appreciation of his cultural heritage. The fiction of six representative authors will be studied, commencing with the 1920's and continuing up to the present day.

B16-2428 Theatre Workshop
Practical application of techniques of theatre for children. A follow-up to B16-2428.

B16-2511 Theatre Arts
Students will be introduced to theatre techniques of to-day's theatre. Emphasis will be given to the creative actor in developing an expressive "living theatre".

B16-2556 Work with Children & Young Adults
This course is designed to give the student a discriminating knowledge of children's literature which would aid them in the choice and recommendation of books for children. The practicum includes story-telling and puppetry as well as leading the children in discussion and interpretation of the literature.

B16-2612 Report Writing
This course covers the use and importance of reports, organizing and setting up formal and informal reports, use of subject headings and graphic aids, and the inclusion of preliminary and supplementary sections in reports. Assignments will be oriented toward the practical application of report writing skills in a realistic job situation.
B16-2552 Children's Literature
The students will examine the historical tradition of children's literature and the trends today. Emphasis will be given to the techniques of writing for children.

B16-2553 Theatre Arts
Continuation of B16-2553.

B16-2556 Work with Children & Young Adults
This course expands on the content of B16-2556 with special emphasis on Canadian writers, and includes a survey and interview project which should give the student information on what books are currently popular in the schools and libraries. Prerequisite: B16-2556.
BUSINESS EDUCATION PRACTICES DEPARTMENT

B17-A301 Accounting
To provide students with a working knowledge of the accounting cycle of both trading and non-trading organizations including adjustments, work-sheets, financial statements closing entries, bank reconciliations and petty cash.

B17-A302 Accounting
To provide students with a working knowledge of special journals, payroll, adjustments, one write accounting systems, inventories, depreciation and partnerships.

B17-A303 Accounting
To provide students with a working knowledge of corporations, plant and equipment, intangible assets, voucher system, departmental and manufacturing accounting, job costing and budgeting.

B17-A451 Introductory Accounting
An indepth study of basic accounting principles as applied to posting, financial statements, adjustments, petty cash and bank reconciliation.

B17-A452 Introductory Accounting
The preparation of the worksheet, synoptic journal, special journal, merchandising, and inventory control.

B17-B351 Accounting Machines
To provide students with a working knowledge of accounting machines. (NCR, Olivetti and Burroughs)

B17-E153 Business Communications
This course is designed to familiarize students with the varied purposes served by business letters and with the skills of writing letters that most effectively meet these purposes.

B17-E353 Business Communications
The course is designed to familiarize students with the varied purposes served by business letters and with the skill of writing letters that most effectively meet these purposes.

B17-E452 Business Communications
This course is designed to provide a foundation in the fundamentals of punctuation, use of capitals, abbreviations and figures, proper sentence and paragraph writing and effective job applications.

B17-E551 Business Communications
This course is designed to provide a foundation in the fundamentals of grammar, vocabulary enrichment and spelling.

B17-E552 Business Communications
This course is designed to provide a foundation in the fundamentals of punctuation, use of capitals, abbreviations and figures, proper sentence paragraph writing, effective job applications, and the proper organization and presentation of research materials in report form. It will also provide further spelling and vocabulary enrichment.

B17-E841 Business Communications
This course is designed to provide a foundation in the fundamentals of grammar and vocabulary enrichment.

B17-E843 Business Communications
This course is designed to provide a foundation in the fundamentals for punctuation, use of capitals, abbreviations, figures, further vocabulary enrichment, proper sentence and paragraph writing, proper organization and presentation of research materials in report forms, and effective job applications.

B17-E852 Business Communications
This course is designed to provide the student with the skills of writing various types of business letters and of composing basic business reports.

B17-T1661 Math Horology
A review of the fundamentals of arithmetic including whole numbers, fractions, decimals, simple equations, percents, markup, discounts, ration and proportion, denominate numbers, square root and consumer math.

B17-T351 Keypunch
Upon completion of the keypunch course a student will he able to operate a keypunch and verifier at a level acceptable to industry and government (approximately 12,000 keystrokes per hour)

B17-T352 Math/Machines
Mathematics applied to business problems in the areas of depreciation, pricing, bank discounts, installment buying, fire and life insurance, partnership distributions, real estate taxes and income tax.
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B17-M451 Math/Machines
A review of the fundamentals of arithmetic while developing skill in the operation of an electronic calculator. Emphasis on mathematics begins with decimals and percents and their use in business computations.

B17-M452 Math/Machines
Mathematics applied to business problems such as discounts, sales tax, invoices, interest, payrolls recordkeeping and income tax. The student will use an electronic printing calculator.

B17-M551 Math/Machines
A review of the fundamentals of arithmetic while developing skill in the operation of an electronic calculator. Emphasis on mathematics begins with decimals and percents and their use in business computations. Mathematics applied to business operations deals with such topics as discounts, sales taxes, invoices, interest and payrolls.

B17-R421 Recordkeeping
A brief overview of a one-write accounting system including accounts receivable and payable, handling of cheques, cash, invoices and related documents.
BUSINESS EDUCATION DUES DEPARTMENT

B18-0573 Oral Communication
Designed from individual participation, to enhance the student's ability to communicate verbally in one-to-one and group encounters. Emphasis will be placed on listening, non-verbal communication, small group discussions, extemporaneous and prepared speaking.

B18-0573 Machine Transcription
Prior to commencing this subject, the student must be able to type 35 w.p.m. and have facility with spelling, punctuation, and letter and report arrangement. Students transcribe material from a variety of areas. It is designed to enable the student to transcribe with speed and accuracy material from records directly into final typed mailable form through the skill and proficiency gained from the Dictaphone machine operation of ear-finger-toe coordination and the coordination and the continual exposure to dictation in a variety of subjects ranging from Advertising and Publishing, Law, Medicine, to Metal Industry.

B18-0531 Filing
This subject is designed to provide training in theory and practical application of coding, indexing and filing correspondence and cards in the four systems - alphabetical, geographic, numeric and subject. Charge out, follow up, cross-reference and retrieval of material is also learned.

B18-0531 Filing
This subject is similar to B18-0531 but is not dealt with in a great depth.

B18-0661 Graphic Arts Typing
This subject is designed to provide the student with basic skill in touch typewriting, and an understanding of its application in the preparation of copy for offset reproduction.

B18-0662 Graphic Arts Typing
See B18-0661.

B18-0663 Graphic Arts Typing
See B18-0661.

B18-0664 Communications
Students are familiarized with legal terms and given practice in setting up typewritten legal work and in completing printed legal forms.

B18-0665 Library Technician Typing
This is designed to prepare the students with adequate typing skill to meet the needs and requirements of general library work, which would include typing of cards, book lists, bibliographies, business letters, and duplicating masters.

B18-0666 Library Technician Typing
The student will learn how to type between 35-40 words a minute and will produce catalogue cards, order forms, bibliographies and other materials related to Library Technician work.

B18-0671 Medical Terminology I
This is an introduction to the language of medical science through the study of common medical terms, synonyms, suffixes, prefixes and abbreviations. The course is composed of spelling of medical term, tracing of meaning and introduction to transcription of medical dictation from tapes.

B18-0672 Medical Terminology II
This builds on the foundations developed in Medical Terminology I and increases the student's skills in transcribing medical histories, correspondence and reports. It is composed of research reading, filing, spelling tests, and transcription of typed medical dictation. On completion students are capable of filling medical secretarial positions.

B18-0673 Secretarial Procedures I
This is a continuation of Cartography Office Procedures. The student will be taught how to handle business meeting, telephone, expense reports, etc. and other matters reported to the private secretary.

B18-0674 Secretarial Procedures II
A continuation of Secretarial Procedures I.

B18-0675 Office Procedures
The student is involved in learning the duties and responsibilities of a secretary, and developing good grooming, and good work habits through self-evaluation and self-improvement. Topics include the importance of good human relationships in the business office; sources of information; modern communication systems; postal services; banking services; transportation of goods; purchasing and sales routines; travel arrangements; and how to apply for a position. Strong emphasis is placed on practical work, including typing projects and the opportunity to work in a Model Office. This subject is designed to promote active student participation and interest.

B18-0676 Introduction to Personal Development
This course is designed to encourage self-development. It includes preaching, nutrition, visual, public, exercise, personal relations and self-awareness. Skills are developed through participation and class projects.

B18-0681 Shorthand (Program 71)
A phonetic system of shorthand i.e. entirely of symbols, Students learn the theory and should upon completion be able to take familiar dictation at 60 w.p.m. The student should also be able to read shorthand.
MEDICAL RECORDS DEPARTMENT

E19—M751 Medical Coding
A course designed to develop knowledge of a proficiency in the systems of classifying diseases and operations with specific emphasis on ICD-9CM; value and contents of indices and registers; abstracting of medical information.

E19—M751 Communications
This course is designed to provide a foundation in the fundamentals of grammar, vocabulary enrichments, and spelling.

E19—M752 Communications
This course is designed to provide a foundation in the fundamentals of punctuation; the use of capitals, abbreviations, and figures; proper sentence and paragraph writing; effective job applications; and the proper organization and preparation of research materials in report form. It will also provide further spelling and vocabulary enrichment.

E19—M751 Medical Terminology
An introduction to the technical language of medical science through the study of combining forms, roots, stems, prefixes, suffixes, derivatives, synonyms, homonyms, common disease terms and specialty classifications.

E19—M752 Medical Terminology
A continuation of the study of medical work elements, medical abbreviations, laboratory and x-ray tests, drugs and drug classifications, eponyms, and diseases relevant to each body system.

E19—M751 Medical Transcription
A continuation of E19—M751 to further develop transcription skills with special emphasis on actual hospital reports and advanced medical and surgical tapes.

E19—M751 Medical Transcription
A course designed to develop the practical skills necessary for accuracy and speed in the transcription of dictated medical and surgical reports and to gain knowledge of the format and procedures utilized in health care facilities.

E19—M301 Hospital Practicum
This is a three to four-week in-hospital training program designed to provide the student with an opportunity to apply the knowledge gained during the course of study and in so doing, prepare the student for active participation in the health care field. The practicum is spent in accredited institutions (in rural Manitoba and in Winnipeg) supervised by qualified health record practitioners.

E19—M751 Medical Records Science I
An introduction to the development of health records field and study of the fundamental standards for health records, numbering and filing systems, analysis and maintenance of health records, indices and retrieval of records, microfilming, retention of health records. Emphasis of the professional organizations in health records, especially the CHRA ANW CHRA and the Code of Practice for health record personnel.

E19—M752 Medical Records Science II
The compilation of health statistics and computation of ratios; emphasis on confidentiality and legal aspects of medical records; the Problem oriented Medical Record; medical audit.

E19—M751 Typing
A course designed to provide the Health Record Technician student with the preparatory skills essential for accurate medical transcription, the completion of typing duties relevant to health record procedures, and the preparation of research and statistical data for use by medical staff, administration, and allied paramedical personnel. The student is required to attain a minimum typing speed of 50 wpm.
BUSINESS TEACHER EDUCATION DEPARTMENT

B22—B110 Shorthand I
A course introducing elementary principles and practices in Pitman Shorthand with daily instruction in recording, writing and transcription.

B22—B111 Shorthand II
A continuation of Shorthand I with emphasis on speed building and transcription practices and further study on advance Shorthand material. Speed ranges from 80-100 wpm.

B22—B112 Typewriting I
Basic fundamentals and techniques in keyboard learning are stressed and speed in straight copy ranges from 30-40 wpm. Production of letters, tables and manuscripts in basic styles is required at specific speeds.

B22—B113 Typewriting II
Skill building in straight copy is continued as well as further instruction in more complicated styles in letter, tables and manuscripts. Speed requirements in both areas are increased and straight copy speed is increased to 50 wpm. Prerequisite: B22—B112.

B22—B116 Fundamentals of Accounting
A course in double entry bookkeeping routine including special journals, subsidiary ledgers and control accounts, adjustments for and preparation of financial statements.

B22—B204 Financial Mathematics
Basic fundamentals of mathematics will be reviewed and practical applications to business problems in insurance, interest, installment buying, annuities and business finance will be studied.

B22—B207 Shorthand Transcription and Typewriting
Emphasis on efficient techniques of taking dictation, proper methods of transcribing, and business vocabularies. Speed range 100-120 wpm. Prerequisite: B22—B110, B22—B111.

B22—B208 Business Organization and the Consumer
A broad analysis of business concepts, functional internal characteristics of business, an inter-relationship of business, government and consumers and discussion of consumer decision making.

B22—B209 Intermediate Accounting II
Includes an in-depth study of accounting principles and techniques as applied to long term investments, inventories, general problems of flow, matching and estimating procedures and Intangible assets. The course also deals with accounting for corporations.

B22—E203 Course Development in Business Education
Development of an orderly procedure for the identification of concepts and instruction units to be used in teaching. The culminating project will be a course outline involving analysis of content, instructional objectives, resource units and sample tests.

B22—E204 Educational Testing and Evaluation
Construction, administration and evaluation of tests. Methods of evaluation of student progress during the school year. Mastery of the statistical analysis necessary for testing and evaluation.

B22—E206 Educational Psychology
The study of growth and development from infancy to maturity, with emphasis on adolescence. The learning process in acquiring skills, ideas, and attitudes. Motives and problems in the life of the individual student. Mental health of the teacher.

B22—E207 Methods of Teaching Shorthand
The preparation for the prospective teacher to instruct effectively in the skill development in shorthand.

B22—E209 Methods of Teaching Marketing Education
An introduction to the principles and practices of directing learning in marketing education. Examination and assessment of various methods and techniques used in marketing education. Examination and evaluation of various marketing education programs.

B22—E210 Classroom Counseling
This course is designed to help student teachers to gain the fundamentals of knowledge and guidance skills in human understanding and show sensitivity to the hidden messages of students. Explanations of what counseling is and the definition of the role of the school counselor would help the classroom teacher to understand this essential resource of the school. The participants also learn about student concerns and problems and how to deal with them effectively. Teacher counseling is portrayed as an enrichment of the teaching function which remains the teacher's prime responsibility. Case materials, role playing, and referral techniques provide explicit and substantial information for discussion and development of guiding principles.
B22-T211 Methods of Teaching Accounting and Business Math
Preparation for teaching accounting and business math. Evaluation of various methods and resources and subjects development procedures will form the major part of this course.

B22-E212 Teaching Typewriting and Office Systems Management
Preparation for instruction in typewriting with emphasis on development of resources, evaluation in relation to psychomotor domain. Research will be conducted on office systems and its implication for classroom teaching procedures.

B22-E213 Methods of Teaching Basic Business
Preparation to teach basic business, economics and law. Evaluation of various methods, teaching aids and objectives. Microteaching is also a part of this subject.

B22-U202 Marketing
This subject is designed to give students an introduction to the fundamentals of marketing. It will serve two types of students. The first group will be those students who are marketing majors who will use the course as a foundation upon which further study can be based. The second group will be the accounting majors for whom this will probably be the only marketing subject they will take.

B22-U203 Retail Management
Analysis of the operations of retail institutions with respect to organization, buying, promotion and internal control. Special attention will be given to these concepts and their application to the retailing program in the public school.

B22-T211 Seminar and School Experience
A period of student involvement in actual classroom practice. Student will be assigned to an experienced teacher in the public school to observe and participate in teaching activities. Informative conferences will be arranged to assist and evaluate the student in his student teaching period.

B22-T211 Student Teaching
A continuation of B22-T211 with less emphasis on observation and more emphasis on actual teaching. The program will also require greater overall teaching responsibilities including planning, classroom management, evaluation, and extra curricular activities.
INDUSTRIAL TEACHER EDUCATION DEPARTMENT

B23-C102 Construction - Introduction
Introduction to construction will include a number of construction trades with a great deal of emphasis placed on tools, equipment and safety. Basic building practices will be dealt with, both in laboratory and classroom.

B23-C202 Construction - Advanced
The study of building principles, including materials, and building codes. Laboratory activities will include floor and wall construction, basic roof design, interior and exterior finishing. Prerequisite: B23-C102.

B23-E102 Microteaching
Presentation of micro lessons, with emphasis on the following types: exposition, demonstrations, questioning and discussions. Discussion and evaluation of lesson presentations. Operation of video tape recording equipment.

B23-E103 Audio-Visual Education
Communication principles related to the application of audio visual media to education. Audio visual materials and equipment: their selection, preparation, utilization, and evaluation in industrial education.

B23-E104 Communication Skills
This course involves reading, writing, listening and speaking. The basic purpose is to create an increased awareness of the communication process. It is designed to interest and inform, provoke and challenge. Students are presented with both theoretical and practical concepts, emphasis being placed on their application within the education structure.

B23-E105 General Teaching Methods I

B23-E201 Organizing Industrial Education Facilities
Principles of effective and safe planning of industrial education facilities in relation to the objectives to be fulfilled. Emphasis on location, size, shape of laboratory, and its physical requirements: specifications, purchasing and placement of required equipment and supplies.

B23-E202 Principles of Industrial Education
Basic philosophies of education in general and industrial education in particular. Overview of the history and development of industrial education. Role of industrial education in Canada. Federal and provincial programs. Current trends. Emphasis will be placed on vocational industrial or industrial arts education as required. Student research and reports. Seminars.

B23-E203 Course Development in Industrial Education
Development of an orderly procedure for the identification of concepts and instructional units to be used in teaching. The culminating project will be a course outline involving analysis of content; instructional objectives; resource units and sample tests.

B23-E205 General Teaching Methods II
Emphasis on teaching methods not covered previously. Additional areas of study include: class organization and management, public relations, professionalism, and research related to teaching methods in industrial education.

B23-E301 Independent Study
Designed to provide the student meeting the prerequisites with an opportunity to engage in independent research and/or problem solving directly related to industrial arts education. Approval of the Chairman Teacher Education Section, must be obtained to undertake this course. A student qualifying for independent study will be required to select and work in consultation with a staff advisor.

B23-G102 Graphic Communications - Introduction
Exploring the processes and methods used in graphic communications. Areas studied relate to communication theory, general layout and design, drafting, screen process printing, basic photography and relief printing as applied to the teaching of graphic communications related to industrial arts education.

B23-G202 Graphic Communications - Advanced
Continuation of exploring the processes and methods used in graphic communications. Areas studied relate to lithography, office duplicating, graphic careers, microfilm, and binding, finishing and packaging as applied to the teaching of graphic communication as related to industrial arts education. Prerequisite: B23-G102.
B23—M102 Manufacturing - Introduction
Exploration of the wood, metal and plastics fields, including tools, materials and processes, to determine to what extent these materials, tools and processes should be applied at the public school level, in Industrial Arts classes. Also included in the course is a short period of instruction on mass production systems, and some hands on experience for the students in the production of inter-changeable parts.

B23—M202 Manufacturing - Advanced
An indepth study of the tools, materials and processes of the wood, metal and plastics fields with special emphasis on quality control within a manufacturing system. Also to include the business structure as well as the production structure. Each student will be involved in top management, middle management, sales, production and labor levels of a manufacturing system. Prerequisite: B23—M102.

B23—P102 Power and Energy - Introductory
A theoretical and practical study of the basic principles of mechanical, fluid and electrical power, covering such topics as Internal Combustion Engines, pneumatics and hydraulics, electron theory, series and parallel circuits, power supplies, motors and generators.

B23—P202 Power and Energy - Advanced
An indepth theoretical and practical study of mechanical power, electrical power and fluid power, covering such topics as engine tune-up, engine analysis, superheterodyne receiver, amplification, hydraulic and pneumatic experimentation and digital electronics. Prerequisite: B23—P102.

B23—T102 Seminar and School Experience
A period of student involvement in actual classroom practice. Student will be assigned to an experienced teacher in the public school to observe and participate in teaching activities. Informative conferences will be arranged to assist and evaluate the student in his student teaching period.

B23—T202 Student Teaching
A continuation of B23—T102 with less emphasis on observation and more emphasis on actual teaching. The program will also require greater overall teaching responsibilities including planning, classroom management, evaluation, and extracurricular activities.

B23—V102 Trade Theory and Practice
Practical and professional experience for vocational industrial students in their trade areas. The students will be placed with experienced instructors in the school system and/or with supervisors in an appropriate industry. The purpose of the experience will be to update students in their area of specialization and/or to provide additional teaching experience. Reports on the program may be required.

B23—W102 Cooperative Business/Industrial Education
A special program designed to provide educational experiences relevant to Industrial Arts/Business Teacher Education student in an industrial/business environment. The experience will involve as many aspects of the concerned industry/business as possible. The program will be individualized according to a student's background and according to the nature of the concerned firm. A final project summarizing the student activities will be a major requirement.
CHEF TRAINING DEPARTMENT

B30-A301 Kitchen Management
This course consists of menu planning, costing of food and labour, scheduling aspects of supervision and common management practices.

B30-A302 Carde Manager
This course consists of the planning and the preparation of a variety of buffet items.

B30-A303 Patisserie
This course consists of the making of a variety of pastries, cakes and desserts.

B30-A304 Practitioner
This course consists of a period of on-the-job training and practical work with emphasis placed upon the students' desire to be able to supervise a variety of menus.

B30-A305 Nutrition
Basic nutritional requirements and consideration of nutritional factors as they pertain to menu planning and the application of diet foods on commercial menus.
COMMERCIAL BAKING DEPARTMENT

**B31-B111 Commercial Baking On-The-Job Training**
On-the-job training period of the course

**B31-B112 Breads, Rolls, Sweet Dough Practicum**
Preparation and baking of a basic variety of breads, rolls, and sweet dough items.

**B31-B113 Breads, Rolls, Sweet Dough Theory**
This subject covers all the relevant theory applied to the Breads, Rolls, and Sweet Pastry.

**B31-B114 Plain and Sweet Pastry Practicum**
This subject pertains to the necessary preparation and baking of a variety of plain and sweet pastry.

**B31-B115 Plain and Sweet Pastry Theory**
This subject pertains to the necessary theory associated with plain and sweet pastry.

**B31-B116 Danish and Puff Pastry Practicum**
The preparation and baking of danish and puff pastry.

**B31-B117 Danish and Puff Pastry Theory**
The theory associated with the production of danish and puff pastry.

**B31-B118 Introduction to Sanitation, Safety, Equipment Usage and Ingredients Knowledge**
This subject includes the sanitation, safety, and equipment factors relevant to baking. It includes the type of ingredients used, their uses and application as well as some aspects of business practices pertaining to the industry.

**B31-B119 Cookies and Short Breads Practicum**
This subject includes the preparation and baking of a variety of cookies and short breads.

**B31-B120 Cookies and Short Breads Theory**
The relevant theory pertaining to cookies and short breads.

**B31-B121 Cake Making Practicum**
This subject covers the practical making of cakes.

**B31-B122 Cake Making Theory**
This subject covers the applicable theory to the making of cakes.
COMMERICAL COOKING DEPARTMENT

B32-C104 Aspects of Kitchen Management
An introduction to safety, sanitation and the measuring of foods as applicable to the industry.
Aspects of menu planning, the costing, purchasing, storing, and receiving of foods.

B32-C104 Basic Cooking Theory
This subject covers the relevant theory pertaining to stocks, soups, sauces, cooking methods
and vegetable cookery.

B32-C105 Basic Cooking Practicum
This subject covers the practical aspects of basic cooking. Includes the preparation and uses
of stocks, soups, sauces, vegetables and the cooking methods employed.

B32-C205 Garde-manger Theory
This subject covers the theoretical aspects of sandwiches, salads, appetizers, meat cutting land
buffet work.

B32-C206 On-the-Job Training
The student will spend one block of 8 weeks duration in the employment of a restaurant or hotel
as arranged by the College on a co-operative education basis. This will be monitored by the co-op
co-ordinator.

B32-C207 On-the-Job Training
The student will spend a second block of 8 weeks duration in the employment of a restaurant or
hotel as arranged by the College on a co-operative education basis.

B32-C209 Restaurant Cooking
This subject covers the theory as it pertains to breakfast cookery, fountain work and beverage making.

B32-C210 Restaurant Cooking
This subject consists of the preparation and production of a variety of dishes as outlined by a
series of menus.

B32-C211 Garde-manger Practicum
This subject deals with the preparation of sandwiches, salads, appetizers, buffets and the cutting
of a variety of meats, fish and poultry.

B32-C212 Pastry Shop Theory
This subject covers the theoretical aspects of breads, pastries, pies, cakes and cookies.

B32-C213 Pastry Shop Practicum
The preparation and making of a variety of breads, pies, pastries, cakes and cookies.

B32-C311 Salads & Dressings
The preparing and baking of Danish pastry and variations thereof. The preparation and baking of
Puff Pastry, Sweet pastry, Choux pastry and pie making.

B32-C313 Hot & Cold Buffets
Preparation of basic cold and hot items commonly associated with buffets.

B32-C314 Meat Cutting for Restaurants and Hotels
The grading, storage and costing of meats. The boning and cutting of a variety of meats, fish and poultry.

B32-C317 Nutrition
Introduction to aspects of nutrition as they pertain to the hospitality industry.
HEAT CUTTING DEPARTMENT

333-1105 Introduction and Orientation
This subject provides for the necessary instructions pertaining to the uses and proper handling of tools, and equipment; the rules pertaining to safety and sanitation and the information about course content and general procedures.

333-1106 Shop Management
This subject concerns itself with the aspects of managing a shop, ordering, receiving, storing and recording of goods. Profit and loss and cutting tests.

333-1107 Quality of Meats
This subject consists of information pertaining to the structure and composition of meats, storing, aging and the regulations which govern the quality of meats.

333-1108 Hinds of Beef Practicum
This subject provides for the study and practical experience in breaking down hind quarters into wholesale, primal and retail cuts.

333-1109 Hinds of Beef Theory
This subject provides for the relevant theory pertaining to hind quarters of beef.

333-1110 Front Quarter of Beef Practicum
This subject provides for the students to obtain the practical experience in breaking down front quarters of beef into the various cuts using a variety of methods.

333-1111 Front Quarter of Beef Theory
This subject concerns itself with providing the theory necessary to identify cuts, bone structure and the terminology involved.

333-1112 Sides of Pork Practicum
This subject provides for the student the practical experience necessary in order to efficiently break down sides of pork into the various wholesale and retail cuts.

333-1113 Sides of Pork Theory
This subject pertains to the theory associated, the grading, terminology and specific regulations pertaining to pork.

333-1114 Sides of Veal Practicum
This subject will cover the practical experience for the student in order to efficiently break down sides of veal into the various wholesale primal and retail cuts.

333-1115 Sides of Veal Theory
This subject concerns itself with the relevant theory pertaining to sides of veal.

333-1116 Carcasses of Lamb Theory
This subject pertains to the grading structure and terminology associated with lamb.

333-1117 Carcasses of Lamb Practicum
This subject provides for the practical experience necessary to allow students to break down lamb carcasses into acceptable wholesale and retail cuts.

333-1118 In Store Training
This subject consists of a two-week in-store-training session.
STUDENT SERVICES DEPARTMENT

F01-B001 Physical Education

Physical education credit classes provide instruction in archery, badminton, golf, gymnasium, swimming, tennis, trampolining, volleyball, etc., with emphasis on basic skills. Advanced classes are also available for the more skilled. These classes provide an in-depth study of strategy in theory and practical. Extensive use of video-tape will be made in the advanced classes.
DIPLOMA NURSING DEPARTMENT

HO1-N102 Basic Science
This subject is an introduction to the study of the structure and function of the human body. It is also an introduction to the study of micro-organisms, their relationship to man, and methods used to control them. Throughout the subject, application to nursing is stressed.

HO1-N103 Nursing Fundamentals
This subject presents the knowledge and the skills which provide a basis for nursing actions. The focus is on the promotion of health by facilitating the fulfillment of basic human needs. The concept of the health-illness continuum is introduced. The theory of adaptation is used as a basis for understanding an individual's position on the continuum. The nursing process is introduced as a systematic method of organizing nursing care. Emphasis will be on the first and second step of the process: data gathering and assessment.

HO1-N104 Nursing Practice
This subject provides the student with the opportunity to apply the knowledge gained and to practice the skills attained in HO1-N103.

HO1-N201 The Growing Family
This subject focuses on understanding the health needs originating in the child-bearing period of family life. It illustrates the way in which some of these needs are met within the family group. It provides the student with the knowledge and the skills necessary to assist the family during the maternity cycle. Prerequisite: HO1-N103; HO1-N104.

HO1-N202 Basic Science
This subject, a sequel to HO1-N102, is a study of human anatomy and physiology, with the emphasis on physiology as it applies to nursing. Prerequisite: HO1-N102.

HO1-N203 Introduction to Nursing of Adults and Children
This subject focuses on an understanding of the major homeostatic imbalances and the adaptation measures utilized to correct them. Provision is made in this subject for the student to enhance his/her ability to utilize the nursing process in assisting individuals to adapt to homeostatic imbalances. Prerequisite: HO1-N103; HO1-N104.

HO1-N204 Nursing Practice
This subject provides the student with the opportunity to apply and to become skillful in implementing the knowledge and skills obtained in HO1-N201, and in HO1-N203. Prerequisite: Term 1.

HO1-N302 Nursing in Mental Health
This subject focuses on the assessment and interpretation of behavioural patterns which result when children and adults cope ineffectively with psychological stress. Provision is made in this subject for the students to utilize the nursing process when assisting individuals and their significant others return to a state of psychological homeostasis. Prerequisite: HO1-N201; HO1-N203; HO1-S201.

HO1-N303 Nursing of Adults & Children
This subject focuses on the nursing care of people with various pathological processes and the behavior which may occur when an individual is confronted with the stresses associated with a moderately complex illness. The nursing process is utilized as the method by which nursing acts to supplement or support the individual to cope with stress. Prerequisite: HO1-N201; HO1-N203; HO1-N204.

HO1-N304 Nursing Practice
This subject is designed to permit the student to apply the knowledge gained in the theory subjects of this term to the care of individuals demonstrating some form of moderate illness. The application of the nursing process will serve as the basis for the evaluation of the student's ability to implement nursing actions to meet the needs of assigned individuals. Prerequisite: Term 2.

HO1-N305 Community Health
This subject is designed to assist the student in understanding the organization and delivery of health care in the community. It will emphasize the importance of the continuity of care. The student will assess the needs of individuals in their homes and may initiate activities to facilitate healthful living. Prerequisite: HO1-N201; HO1-N203; HO1-N204.
H01-N402 Nursing in Mental Health
This subject focuses on assessment and interpretation of behavioral patterns which result when individuals are confronted with crisis situations. It discusses therapies utilized to assist individuals to cope with psychological stress. It includes an overview of a community mental health approach to the prevention and care of individuals experiencing emotional stress. Prerequisite: H01-N302.

H01-N403 Nursing of Adults & Children II
This subject focuses on assessment and interpretation of behavioral patterns which occur when children and adults are confronted with acute, life-threatening physiological crises. It indicates ways in which individuals may be assisted in coping with crises in which adaptive mechanisms are inadequate. The nursing process is the method used to assist individuals. Prerequisite: H01-N303; H01-N304.

H01-N404 Nursing Practice
This subject focuses on developing organization and leadership skills in patient care when assigned to individuals who are experiencing varying states of adaptation. The student will be active participants of the health team and will experience situations involving increased collaboration with members of the health team. Prerequisite: Term 3.

H01-N405 Community Health
See H01-N305.

H01-N406 Trends in Health Care
This subject is designed to facilitate the role transition from student to graduate nurse. It will consider systems of health care delivery in the context of current practices and future trends. It will serve as an introduction to the role and function of the organized nursing profession. The historical development of nursing will be considered in relation to current issues and trends in the delivery of health care. Prerequisite: H01-N303.

H01-S101 Psychology
This course is concerned with a thorough study of the basics of human behavior so that the knowledge gained can contribute to the success in dealing with people at work and in other areas of daily life.

H01-S102 Human Relations
To be determined.

H01-S201 Developmental Psychology
This course traces the psychological development of the individual from conception to death. Psycho-sociological consideration of personality development will be emphasized in an attempt to portray an accurate picture of normal human development throughout the life cycle, as well as certain aspects of abnormalities. Prerequisite: H01-S101.

H01-S317 Community and Social Services
To make the student aware of the resources available in the community and to indicate to the student how to use these resources to the best advantage for the children who will come under his/her care.

H01-S527 Family Influences
The effect on the child of child rearing practices, poverty, a single parent, sibling and minority status. The dynamics of family relations in which the child develops his personality.

H01-S567 Family Systems
A study of the family interaction with the society, the various ways families organize themselves and the problems they are facing. The aim is an understanding of situations which the students may meet in their work.

H01-Z102 First Aid
This subject is designed to create an acute awareness of the cause and effect of accidents, making those who take care at more safety conscious and less accident prone. It teaches the fundamental techniques necessary to provide effective treatment at the scene of an accident.

H01-Z111 Physical Care of the Child
The course will provide the student with an understanding of the basic principles of health, health promotion and the physical care that is required during early childhood. Topics will include recognition of specific health problems, interim measures, hygiene, safety, allergies, communicable diseases, etc.
PRACTICAL NURSING DEPARTMENT

H02-N101 Basic Nursing
This subject enables the student to obtain knowledge and to develop skills essential for nursing activities.

H02-N102 Anatomy & Physiology
This subject assists the student to understand the normal structure and function of the body.

H02-N103 Medical & Surgical Nursing
This subject describes the knowledge and develops the principles that underlie all nursing care, in particular, abnormal conditions of the body.

H02-N104 Personal & Vocational Relationships
This course assists the student to understand people and make the necessary personal and vocational adjustments to become an effective team member.

H02-N105 Mother, Newborn & Child
This course enables the student to obtain knowledge, essential for nursing the mother, newborn and child.

H02-N106 Anatomy
No description available
MEDICAL LABORATORY TECHNOLOGY DEPARTMENT

H03-L101 Anatomy and Physiology
The course entails the basic knowledge of the human anatomy and physiology beginning with the cell; its structure and function and division. The primary tissues are examined to structure and location leading to an in-depth study of the systems. In the study of systems, gross and microanatomical structure and the basic physiology and pathology are examined. The following systems are included—skeletal, muscle, cardiovascular, digestive, excretory, endocrine, respiratory and reproductive.

H03-L102 Clinical Microbiology
Principles and practice techniques; the isolation and identification of common medical bacteria, parasites and fungi. Preparation of stains, media and the operation of equipment used. Basic principles of immunology.

H03-L103 Clinical Chemistry
Biochemical analyses of blood and other biological fluids related to disease, e.g., kidney function and liver function tests, enzyme studies, body fluid electrolyte balance studies. Basic instrumentation—spectrophotometers, autoanalyzer, flame photometer, pH meters, microgasometer, and analytical balances.

H03-L104 Haematology
The science of the blood, its nature, functions and diseases. Origin, development and nomenclature of blood and marrow cells. Blood collection procedures; principles and techniques of blood examinations; blood coagulation; disorders of hemostasis; recognition of blood disorders such as anemias and leukemias.

H03-L105 Histology
The principles of routine tissue processing with an in-depth theoretical examination of fixation, protein structure and how fixation affects it. The principles of dehydration, clearing impregnation and blocking. The techniques of sectioning paraffin and frozen specimens, with an in-depth examination of the theory of staining of tissue with twelve different histological stains. Included in the course is an examination of how various fixation affects and influences the different biological stains.

H03-L106 Blood Bank

H03-L201 Anatomy and Physiology
See H03-L101.

H03-L203 Clinical Chemistry
See H03-L103.

H03-L203 Anatomy and Physiology
See description for H03-L101.
MEDICAL RADIOLOGICAL TECHNOLOGY DEPARTMENT

H04-A101 Anatomy and Radiographic Positioning
Description of skeletal anatomy of upper and lower extremities, pelvis, vertebral column, thorax and skull. Description of anatomy of lungs and abdomen. Radiographic positioning of upper and lower extremities, pelvis, vertebral column, sternum, ribs, skull, sinuses, facial bones, chest and abdomen.

H04-A102 Image Recording

H04-A103 Radiation Physics, Protection, Apparatus
Discussion of electromagnetic spectrum, scatter and secondary radiation, units of radiation, maximum permissible doses, radiation hazards, means of protection, electrical hazards. Discussion of X-Ray and X-Ray production, rectification, focal spot size circuits with respect to control of time, mA and KVP, beam limiting devices, filters, tables, chest stands, accessory apparatus.

H04-A104 Terminology
Introduction to the technical language of medical science.

H04-A105 Electrocardiography
Discussion of the electrophysiology of the heart and its relationship to ECG, the use of the ECG instrument, ECG artifacts.

H04-D101 Anatomy and Physiology
A general knowledge of anatomy and physiology of the body based on the nine systems is taught with special emphasis on gross anatomy and basic physiology to provide the groundwork for their professional courses. Specific reference will be given to cell theory and the skeletal system. Common pathological terms of each system are introduced and briefly discussed in preparation for understanding procedures performed in their department. This course is given to Medical Radiography, Radiotherapy and Nuclear Medicine students.

H04-D102 Radiographic Positioning
The format of this course is in keeping with the syllabus of the Canadian Society of Radiological Technicians. The standardized course presentation consists of basic radiographic positioning of the patient for all skeletal parts of the body. These are of the upper and lower extremities, vertebrae, skull (cranial, sinuses and facial), chest and all thoracic structures. A short dissertation of Paediatric radiography is introduced at the end of the course. Radiographic positioning is expanded in an 18 month clinical application at the hospitals following the college didactic period.

H04-D103 Radiation Physics, Radiobiology and Protection

H04-D104 Apparatus and Accessory Equipment
Distribution of electric power transformers, types of rectification, x-ray tube, history and development, focal spot size and cooling charts. Instruments for control of time, K.V.P. and H.A., grids, diaphragms, cones and collimators, viewing devices, filters, spot film devices, stereoscopy image amplification, photo fluorography, body section radiography.

H04-D105 Basic Sciences

Radiotherapy: Introduction, lecture on general aims and principles of techniques used in radiotherapy. A tour of the Manitoba Cancer Research and Treatment Foundation.
H04-D106 Image Recording in Radiography

H04-D107 Hospital Affiliation - Clinical
Student returns to the hospital for one full day every second week over a period of fourteen weeks. Coordination of lecture material and equipment/procedures not available at the College.

H04-D201 Anatomy & Physiology

H04-D202 Radiographic Positioning

H04-D203 Radiation Physics, Radioisotopes, Radiation Protection

H04-D204 Apparatus & Accessory Equipment

H04-D205 Basic Sciences

H04-D206 Image Recording

H04-P101 Residents' Radiation Physics
A complete study of X-ray equipment including circuitry, X-ray beam controls, accessory equipment, and advance equipment is covered. Included in the program in Radiation Physics which reviews production, measurement and interaction of radiation construction and phosphors — intensifying screens and fluoroscopic screens, physical characteristics of X-ray film and film processing, photographic characterization of X-ray film, geometry of the radiographic image, stereoscopy, magnification radiography, subtraction technique and copying radiographs.

H04-T107 Radiotherapy Clinical
Student return to the hospital for one full day and one afternoon each week for a period of 14 weeks. The student will observe equipment and procedures correlated to College instructional program.

H04-T108 Apparatus and Accessory Equipment
Basic concepts of X-ray circuitry, radiation controls, accessory X-ray apparatus, and radiation production. Techniques of beam confinement, interlock circuitry, timing are examined. Influencing factors such as filtration, beam size and distance are covered and means of measuring radiation by ionization, etc.

H04-T109 Image Recording in Radiography
Basic photographic theory, film, intensifying screens, processing, processors, dark room, technical factors of exposure, radiographic density, contrast, definition, fluoroscopy, tomograms, contrast media, lymphangiography, and mammography.
NUCLEAR MEDICINE DEPARTMENT

H05—N101 Nuclear Instrumentation
Model (II) scintillation detectors and ancillary electronic equipment, automatic gamma counters, rectilinear scanner, gamma camera, scintillation spectrometry, in-vitro and in-vivo counting techniques, nuclear counting statistics, Geiger-Müller counters, portable and re-entrant ionization chambers, liquid scintillation - sample preparation and counting, quality control and mechanical and electrical safety of nuclear counting equipment, miscellaneous radiation detection devices.

H05—N102 Nuclear Radiation Physics
Models of atomic structure; periodic table; models of nuclear structure; specification of nuclides; alpha, beta, and gamma emission; decay schemes; half-life and the decay equation; production of radionuclides; interaction of alpha, beta and gamma radiation with matter; absorption and attenuation of alpha, beta and gamma radiation.

H05—N103 Radiation Biology and Protection
Radioactive and radiation protection units and terms; biological effects of radiation (somatic, genetic, acute, chronic) and modifying factors; background radiation; I.C.B.P. primary and secondary radiation exposure guidelines; Atomic Energy Control Act; radiotrace licenses; classification of radioactive laboratories; principles and practices for protection against open and sealed radioactive sources; radioactive spills and monitoring and decontamination procedures; disposal of radioactive waste; radiation therapy care; personnel monitoring; dosimetry.

H05—N104 General Knowledge
Laboratory safety and first aid; types, properties, use and care of glassware, plastic ware, and glass volumetric equipment; manual semiautomatic and remote pipetting and dispensing; principles and techniques of weighing with rough and analytical balances; theory, use and care of centrifuges and compound microscope; types, uses and operation of thermal equipment.

H05—N201 Instrumentation (use)
Radioactivity measurement with dose calibrator; exposure rate and contamination monitoring with C-M and ion chamber survey meters; C-M operating curve; advanced scintillation spectrometry; Inverse Square Law verification; detector resolving time determination; half-life and half-value layer measurements; identification and quantitation of unknown radioactive sources; rectilinear scanner and gamma camera collimator sensitivity and resolution measurement; organ phantom imaging; quality control procedures for nuclear instrumentation.

H05—N202 Applied Physiology & Pathology
Classification of diseases; inflammation; bacterial, physical, chemical, and radiation injury; neoplasms; immunity and deficiency diseases; rational and interpretation of Nuclear Medicine testing in relation to specific pathologies of: endocrine system, blood, cardiovascular system, gastrointestinal system, nervous system, pulmonary system, genito-urinary system, skeletal system, and including tumor localization. Hospital affiliation for clinical experience.

H05—N206 Clinical Technology
Practical aspects of static and dynamic imaging procedures, in vivo non-imaging procedures, and laboratory nuclear medicine procedures: radionuclide agents and instrumentation, sources of error and interference, and sequencing of tests.

H05—N207 Radiopharmaceuticals
Aseptic technique; pyrogen and sterility testing; radionuclide generator elution, chemical and radionuclide impurities of eluate, dose measurement, dispensing, handling, levelling and storage of radiopharmaceuticals, sources and limits of radionuclide and radiochemical impurities; chromatography of radiopharmaceuticals; theory and practice of kit and in-house radiopharmaceutical preparation; quality control procedures in a radiopharmacy.

H05—N208 N.M. Study Seminars
A series of seminars covering current topics in Nuclear Medicine Technology, prepared and presented by students, designed to stimulate information researching, topical discussion, and critical thinking.

H05—N209 Related Sciences
Hematology, blood banking, laboratory reagents and solutions, collection of specimens; production of x-rays, x-ray beam and exposure factors, image recording and film handling; radiographic procedures; ethics, body mechanics, isolation technique, unconscious patient, emergency care, oxygen therapy, basic patient care; pharmacological terminology and techniques, preparation, administration, actions of drugs, toxicology; St. John's Ambulance First Aid course; classification and properties of micro-organisms, diseases, the infectious patient, sterilization methods and testing.
H06—C112 Forum and Field Placement I
To familiarize the student with the various child care centres throughout Winnipeg on a one day per week basis. To integrate the theoretical with the practical aspects of child care by relating the principles of child development to actual care procedures according to the philosophy of programs visited. This course will aid the student in his/her awareness of children through observation of the various learning areas in the centres.

H06—C113 Infant Development
This course will provide a detailed description of the first two years of a child's life, both in terms of the developmental landmarks and the behavioral change. The infant's total development will be discussed chronologically. In addition to infant development the students will be presented with methodology for the observation of child behavior.

H06—C116 Independent Study in Child Care
A chance for each student to strengthen any areas of knowledge by researching a topic of his/her interest, exploring materials on that topic and acquiring skills if the student feels that need. The student must relate his/her learning to preschool children.

H06—C203 Philosophies of Child Care
To introduce the student to child care services as they exist in Canadian society to study methods and theories of preschool education which have influenced the development of Child Care in Canada and to determine the trends in early childhood education and child care services today. Among philosophies surveyed will be Montessori, informal and compensatory.

H06—C212 Forum and Field Placement II
To develop basic skills for working with preschool children. To investigate and to understand the roles of the teacher through observation and participation in a preschool center. By relating principles of child development to the preschool program the student will outline and present appropriate activities in two major curriculum areas — art and science. The student will spend one day per week in the preschool setting.

H06—C214 Elements of Music for Children
Learning about the use of music in the preschool, songs, rhythm, activities, instruments for children.

H06—C215 The Preschool Child
This course explores the various aspects of preschool development, possible reasons behind a child's behavior and the implications a child's development and needs have for his/her behavior. The role observation plays in the study of children and their development will also be discussed.

H06—C212 Forum and Field Placement III
A continuation of H06—C212 where the student will further his/her basic skills in working with preschool children and investigate the roles of a teacher through observation and participation. The student will also outline and present appropriate activities in three major curriculum areas — social studies, literature and music and movement. The student will participate one day per week in the preschool setting and in addition a one week block placement.

H06—C315 Child Development — Principles and Approaches
This course will deal with the major streams of thought which have influenced child behavior and development. The topics covered will include historical trends in child development, theory and its role, and methods of studying children.

H06—C412 Forum and Field Placement IV
During Trimester IV the students will spend one day a week, plus one full week in a preschool centre participating under supervision and continuing to refine skills of working with children. The course will also give students an awareness of theoretical principles and methods of guiding the young child toward positive behavioral patterns. It will cover general philosophy of child guidance, practical methods of guidance, specific areas of discipline and the role of the adult. The students will also observe one child throughout the trimester.

H06—C417 An Overview of Exceptional Children
This course is a series of workshops dealing with the education of children who have mental needs. Topics covered are: the deprived child, sensory and communication handicaps, hearing and visual impairments, mental retardation, emotional and behavior disorders, physical disabilities and the gifted child. Existing practices, causes and assessments and referral services for preschool children will be explored.
H06-C425 Approaches to Curriculum
To introduce the student to the variety and complexity of preschool programs offered in early childhood education and to evaluate the relevancy of each. The course will enable the student to propose a personal philosophy of child care based on developmental theories and program studied. Goals and specific objectives of a child care program and methods of facilitating the goals will be studied.

H06-C512 Forum and Field Placement V
Students will spend one day a week plus two full weeks in a preschool centre under supervision refining their perceptiveness to children's needs. This course will involve a discussion of room planning principles and the effects of room planning on the daily operations of a child care center; equipment, types, alternatives, purchase and evaluation; and daily planning. The student will observe one child for the trimester.

H06-C517 Special Education
This course is an in depth study of children who have special needs. The course focuses on the relatively common exceptionalities of young children in normal preschool settings. Practices which could be implemented in the preschool by the child care worker will be explored in detail.

H06-C523 Curriculum Planning
Having developed a personal philosophy and goals for a child care program the student will focus on a planning curriculum for a preschool center. The student will recognize factors that influence preschool planning and organize the daily hours in a center to best meet the needs of children. The course also explores long and short range program planning such that the student will learn to plan a week, a month and a year for preschool children.

H06-C612 Forum and Field Placement VI
Students will spend one day a week plus four full weeks in a preschool center under supervision continuing integration of the practical and theoretical aspects of child care. The course will cover a discussion of the teacher's role in communications both with parents and staff.

H06-C620 Seminar in Child Care
In depth research of problem areas, development of a questioning attitude.

H06-C625 Curriculum Implementation
The course is a study of the various components of a child care center and the integration of services to fulfill the total needs of a child. The student will study how to plan, develop and operate a child care center in relation to the province's child day care program.
DENTAL ASSISTING DEPARTMENT

H07—C101 Life Sciences
Information in basic sciences required by dental assistants. Includes an introduction to general and dental anatomy, microbiology (sterilization and disinfection), pharmacology, pathology and growth and development. The general concepts consider specific examples in the oral and dental environment.

H07—C102 Clinical and Laboratory Sciences
A lecture/lab course divided into: chairside techniques and dental materials. Chairside techniques provide information and skills in four-handed dentistry and instrument identification. Dental materials provide knowledge of properties and characteristics as well as manipulative skills. This includes laboratory procedures which may be delegated to the dental assistant.

H07—C103 Supervised Clinical Experience
Designed to provide the student with practical experience in routine dental activities and an opportunity to express knowledge gained in the in-college portion of the dental assisting program. Consists of seven weeks at a variety of dental experiences.

H07—C104 Office Procedures
Provides the student with basic typing techniques, bookkeeping principles, communication skills, and dental office management duties. This includes scheduling and controlling office appointment, making financial arrangements and communicating effectively by telephone.

H07—E201 Community Dental Health
Prepares dental assistants to assume a role in dental health education. Considers mechanisms of oral diseases, role of personal oral hygiene in disease control, role of nutrition related to oral and dental health, some principles of learning, and the role of community agencies in combating oral disease.

H07—E205 Preclinical and Clinical Practice A
Provides the opportunity for demonstration of the techniques described in H07—E202 and H07—E203. By the end of preclinical laboratory sessions and clinical practice, students will demonstrate patient education and motivation skills, preventive dental techniques, diagnostic data gathering and professional conduct.

H07—E206 Preventive & Diagnostic Aids & Techniques
See descriptions for H07—E202 and H07—E203.

H07—P101 Concepts of Preventive Dentistry
See H07—E201.

H07—P105 Preclinical and Clinical Practice B
See H07—E205.

H07—P301 Intra Oral Techniques
Theoretical preparation for preclinical and clinical practice. Includes reasons, approaches and criteria for rubber dam procedures, impressions for study models, intra-oral radiography, polishing of the teeth, and application for anticariogenic agents such as topical fluoride and sealants.
NURSING CONTINUING EDUCATION DEPARTMENT

H08-L101 Health Care Aide Core
This core of the course is a five week session of 37 modules which will prepare a person to assist clients of varying ages to meet their basic social, emotional, and physical needs. It will prepare a person to work, under supervision, as an aide in a personal care home (nursing home), or as a housekeeper employed by an agency to work in a client's private home.

H08-L101 Licensed Practical Nursing Refresher Theory
The practical nurse is provided with the updated knowledge required to enter the practice of nursing today.

H08-L102 Licensed Practical Nursing Refresher Clinical
Renewal of nursing skills and application of theory is provided the practical nurse through clinical experience with patients in long term/extended and acute care hospitals and institutions.

H08-M101 Diploma Nurse Completer - Maternity Theory
The body of knowledge and attitudes concerning the family in the childbearing process—prenatal, intranatal, postnatal and newborn.

H08-M102 Diploma Nursing Completer - Maternity Clinical
Development of nursing skills and application of theory to the care of the family in the childbearing process. Experiences are provided with prenatal, intranatal, postnatal and newborn patients.

H08-P101 Diploma Nursing Completer - Psychiatric Theory
Mental health and mental illness concepts as they apply to the nurse as well as the mentally and physically healthy and ill patient. Includes content on the needs, feelings, growth and development behavior as these affect the adult.

H08-P102 Diploma Nursing Completer - Psychiatric Clinical
Application of the knowledge and understanding of psychiatric nursing concepts in clinical practice so that effective nursing is given to patients.

H08-R101 Registered Nurse - Refresher Theory
This subject provides the graduate nurse with the update knowledge required to enter the practice of nursing today.

H08-R102 Registered Nurse - Refresher Clinical
Renewal of nursing skills and application of theory is provided through clinical experiences with patients in long term/extended and acute care hospitals and institutions.
5th

NURSING ONE DEPARTMENT

II1—N101 Basic Science
Basic Science is an introductory study of the structure and function of a human body. It is also an introduction to the study of micro-organisms, their relationship to man, and methods used to control them. The metric system and concepts of basic nutrition are included as well. Throughout the subject application to nursing is stressed.

II1—N102 Introduction to Nursing
This subject is designed to introduce concepts of health as they relate to the fulfillment of human needs thereby maintaining physiological, psychical and social integrity. It illustrates the way in which some of these needs are met by the client and his significant others. The concept of adaptation is used as a basis for determining a client's position on the continuum. The subject focuses on clients of any developmental phase whose integrity is not disrupted and who are adapting to stimuli. The knowledge of skills presented provide a basis for nursing interventions based on the nursing process.

II1—N103 Nursing Practice
This subject provides the student with the opportunity to apply the knowledge gained and to practice skills attained in Introduction to Nursing II1—N102.

II1—N201 Basic Science
This subject is designed as an introduction to human physiology. It is divided into units, each of which deals with a specific aspect of physiology or a system of the body. As well, the reproductive functions of conception, fetal development and the birth process will be discussed. Throughout the subject, the emphasis is placed on application to nursing. Prerequisite: II1—N102.

II1—N202 Nursing
This subject focuses on an understanding of the adaptation problems that affect clients of any age, whose problems or potential problems minimally disrupt his integrity. Provision is made for the student to enhance his/her ability to utilize the nursing process in assisting clients and their significant others to cope with adaptation problems that occur in all phases of the life cycle. It will also provide an introduction to the role and functions of the graduate practical nurse. Prerequisite: II1—N102, II1—N103.

II1—N203 Nursing Practice
This subject provides the student with the opportunity to apply the knowledge gained and to practice skills attained in Nursing II1—N202. Prerequisite: II1—N102, II1—N103.

II1—N301 Basic Science
This subject is designed as a sequel to II1—N201 Basic Science. Included are more complex concepts of human anatomy and physiology. Throughout the subject, emphasis is placed on application to nursing.

II1—S101 Social Science
This subject is an introductory study of general and developmental psychology. It is designed for students in health care programs and as such is aimed at practical application of social science knowledge in the helping relationships. During the first part of the course, emphasis will be placed on fundamental principles of growth and development, developmental tasks, key concepts of personality, motivation, relevant aspects of emotions and methods of coping or adapting. An overall objective will be to gain insight into the roots of human behavior from the physical, and psychological perspectives.

II1—S201 Social Science
This second part of the subject traces the development of the individual from birth to death in an ages and stages manner. This section begins with an examination of some key aspects of sociology which are then integrated with the development material which follows. Psycho-sociological considerations of personality development will be emphasized in an attempt to portray an accurate picture of normal human development throughout the life cycle. Each unit of instruction highlights the physical, social and psychological tasks of a particular stage of the life cycle and directs these to the health care relationship. Prerequisite: II1—S101
ACADEMIC UPGRADE: DEPARTMENT

502-C110 Writing Skills
Sentence and paragraph construction: expository paragraph writing; usage and mechanics: punctuation and capitalization.

502-C110 Grammar Supplement
Parts of speech: sentence patterns.

502-C111 Reading Skills
Reading speed and comprehension development; vocabulary development: study skills.

502-C112 Spelling Core
Lessons 1-16 consist of a list of commonly used and commonly misspelled words in the English language: rules to assist in developing spelling skills.

502-C113 Spelling Supplement
Lessons 17-22 consist of a review and elaboration of the first 16 spelling lessons: review of spelling rules.

502-C119 Common Word Analysis
The sound of English are used as a key to word recognition: the structures and functions of the language are emphasized as a key to meaning. Letters and sounds are learned in the context of words, then words are learned in the context of sentences, then paragraphs, then stories.

502-C120 Comprehension Skills
Deals with such subjects as plurals, contractions, abbreviations, suffixes, prefixes, context clues, interesting concepts and labels, synonyms, antonyms, meaning from context, recalling details.

502-C121 Spelling Skills
Spelling words are selected from each story in the lesson. Also, a spelling word list with a reading level below Adult 5 is used in the spelling laboratory.

502-C120 Vocational Exploration

502-C121 Vocational Exploration - Practical
Supervised placement in a work experience setting or training institution for 4 to 10 days per placement.

502-C121 Human Relations

502-C121 Mathematics Core
Development of problem solving skills using whole numbers, fractions, decimals and percents: ratio and proportion: and measurements.

502-C121 Mathematics Supplement
Positive and negative numbers: square root: introductory algebra and geometry: and solving problems algebraically.

502-C121 Math - Whole Numbers
The number system and the money system: addition subtraction, multiplication and division of whole numbers.

502-C121 Math - Fractions & Decimals
Measurements: linear, liquid, weight, time: simple fractions.

502-C121 Science Core
Scientific method: metric measurements.

502-C121 Science - Supplement
Temperature: heat; pressure; density; work; electricity; anatomy and physiology: problem solving.
SDJ-001 Communications
Writing development; spelling development; review of grammar and English usage; sentence construction; writing of paragraphs. Reading development; speed and comprehension; vocabulary development.

SDJ-0191 Mathematics
Exponents and scientific notation; fundamental operations of directed number; fundamental operations of algebra; equations with one unknown; special products and factoring; algebraic fractions; equations; graphic methods; simultaneous equations; trigonometry.

SDJ-0201 Science (Physics)
Matter and energy: force; measurement; work; power; energy and machines; atomic structure; kinetic theory; thermal expansion; change of state; electrostatics; magnetic effects; direct current circuits; heating effects.

SDJ-0201 Communications
Review of grammar; usage, mechanics, and sentence structure; writing of letters, paragraphs, summaries and research papers; reading, speed and comprehension development; study skills.

SDJ-0291 Mathematics
Personal finance: loans and investments; taxation; business problems; business organization.

SDJ-0301 Business & Consumer Fund
Levels of government; distribution of powers; the judiciary; case studies in common law; business and labour organization; personal income tax; consumer credit; investments; insurance; savings; consumer purchasing; advertising.

SDJ-0301 Communications
Grammar: usage; sentence structure; mechanics: paragraph writing, reading, spelling.

SDJ-0391 Mathematics
Equations, factoring, exponents, quadratics, solving simultaneous equations and formula manipulation; mensuration and analytic geometry; trigonometry and logarithms.

SDJ-0401 Science (Physics)
Kinetic theory; vectors; electro-magnetism; radioactivity and electromagnetism; universal gravitation.

SDJ-0402 Science (Chemistry)
Introduction to chemistry; atomic structure and periodic table; chemical composition and reaction; acids; bases; salts; solutions; organic chemistry.

SDJ-0501 Science
Basic scientific concepts: measurements of forces, temperature, heat, pressure, density, work, electricity, systems of measurement, mechanical energy, problem solving, anatomy and physiology. Study of matter, heat and other energy, basic study of chemical substances, atomic organization, acids, bases and chemical reaction.

SDJ-0601 Communications
Writing development; spelling development; review of grammar and English usage; sentence construction; writing of paragraphs. Reading development; speed and comprehension; vocabulary development.
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ENGLISH AS A SECOND LANGUAGE DEPARTMENT

SLO-E100 ESL Basic
The alphabet, articles, plural and verb tenses, simple adjectives, possessives, reading, writing and
warming, time, days, months and seasons, introduction and greetings, groceries and food, numbers,
weather, shopping, names of objects, jobs and professions, family relationships.

SLO-E101 ESL Advanced
Indica, adjectives, adverbs, present perfect, passive voice, conditionals, idioms, spelling, reading,
countries, and customs, sickness and health, leisure, sports, travelling, jobs and professions,
current events, citizenship, applications, interviews, telephone etiquette, conversations
replacing a job.

SLO-E200 ESL Level I
Grammar: verb tenses, modals, adjectives and pronouns, question words, prepositions, nouns, articles,
vocabulary development: names of countries, addresses, nationalities, occupations, weather, directions,
jobs and occupations, syntax: statements, yes/no questions, pronunciation: vowels and consonants,
rhythm, stress, cultural contents.

SLO-E201 ESL Level II
Grammar: passive voice, conjunctions, relative pronouns, relative adjectives, vocabulary and cultural
aspects through dialogues and readings, syntax, pronunciation.

SLO-E202 ESL Level III
Grammar: verb tenses, pronouns, adjectives, adverbs, pronunciation, intonation, rhythm, stress, everyday English
vocabulary, cultural aspects, government in Canada, education in Canada, the school system.

SLO-E203 ESL Level IV
General overview of verbs and conjunctions, passive and active voice, nouns, idioms, everyday English
vocabulary, pronunciation, cultural contents, educational system, immigrant education counseling
services, teacher training, preparation for TEF/PL tests.
S06-A100 Group Process
Exercises slanted towards increasing self-confidence by developing oral/aural skills in expressing oneself. Developing and practising problem solving and decision making processes in everyday reality settings. Identifying job related problems, designing a method of resolution, and then implementation of the design. Developing and implementing the ability to give and receive feedback and contracting and implementing the ability to give and receive feedback and contracting and implementing behavioral change. Use of listening skills, role playing, use of VTR guest speakers, field trips, films, relaxation techniques and physical exercise, and achieving consensus on controversial issues.

S06-A101 Personal Development
Transfer of learnings and new behaviors from the classroom to job, community and home settings, confidence building exercises, coping with stress, fears and relationships, community activities, use of leisure time, relationships to family, friends and colleagues. Decision making, and increasing self esteem.

S06-E200 Work Expos
Students participate in two one week job exposures with an option for a third. This allows students the opportunity to receive hands on experience in the occupations they have researched. Employers hours and regulations are maintained. The experiences may vary from tours and observation to direct work experience depending on the type of occupation and level of student skill.

S06-E201 Occ. Exp. (Practical)
Develop and increase physical and emotional stamina in a work setting, increase personal knowledge and competence in the work experience location, be able to gather information about jobs/occupations and have the opportunity to have trial work experiences throughout the course in order to clarify personal abilities, skill level and their ability to cope with job related stressors. Review of courses available at RRC mock job interviews, resume writing, filling out applications, creative job search techniques workshops and guest speakers related to the work field.

S06-E202 Individual
The individual component focuses on self-awareness and personal growth as it relates to the individual and employment. Students examine their interests, temperaments, aptitudes, skills and experience. Topics include: barrier identification, coping with change and stress, communication skills, group behavior, assertiveness and self confidence, problem solving, decision making and goal setting.

S06-E203 Career Exploration
Includes research of career possibilities, training and educational programs, resource agencies, job search techniques and employer-employee expectations. Individual suitability as well as access to jobs is investigated with an emphasis on finding and securing a job. Issues which affect women as employees are given special emphasis assertiveness in the work force, sex role stereotyping and traditional and non-traditional work for women.

S06-M300 Personal Skills
The personal skills section of the course is designed to show women how to gain confidence necessary to enter training or the labour force. The following topics are covered: Assertiveness training, confidence building, decision making, values clarification, communication skills, and personal barrier identification.

S06-M301 Inform Issues
The information component of the course is designed to familiarize students with their rights, to develop an awareness of protective legislation and community resources. There is discussion of issues that affect them as women, single parents, mature students and workers.

S06-M302 Vocational Planning
See S06-M305.

S06-M304 Inform Issues
See S06-M301.

S06-M305 Voc Planning
Each student is to design a realistic vocational plan which will lead eventually to employment. The process includes: self-search, occupational information, work exposure, training alternatives, barrier identification, goal setting and alternate routes.
506-5101 Adaptive Skills
The work 'adaptive skills' subject undertaken during the course focuses on the development of:
1. job attainment skills and 2. job retention skills. The major emphasis during the 'job attainment' skills portion is on: (a) preparing letters of application; (b) completing job application forms; and (c) participating in a job-interview situation. The major emphasis during the 'job retention' skills portion is on: (a) beginning a job successfully; (b) dealing with supervisors; (c) learning about official and "unofficial" company rules, employee rights, and promotions. The average total subject hours for this subject is 60 hours.

506-5102 Occupational Skills
The focus of the work occupational skills subject is on the Sales Clerk - commodities occupational area. The major emphasis of the subject is on familiarization of the occupational area and on developing such occupationally-related skills as: selling, taking telephone orders, presenting/demonstrating merchandise, closing sales, computing costs, handling customer objections and complaints, operating a variety of cash registers, making change, and parceling/packaging merchandise. The average total subject hours for this subject is 210 hours.

506-5103 Work Experience Skills
This subject focuses on obtaining occupationally related work skills from an employer who provides work experience opportunities in the occupational area. It also serves to confirm the training provided during the work occupational skills subject. Upon completion of this subject, graduates will be able to function in the occupational area at an entry level. The average total subject hours for this subject is 90 hours.

506-5201 Adaptive Skills
See description for 506-5101. The average total subject hours for this subject is 30 hours.

506-5202 Occupational Skills
The focus of the work occupational skills subject is on the Production, Shipping and Receiving/Stock Clerk occupational area. The major emphasis of the subject is on familiarization with the occupational area and on developing such occupationally related skills as: using supply manuals, assisting with inventory, locating materials in a warehouse or storage area, making a shipment, handling goods received and taking proper security precautions. The average total subject hours for the subject is 120 hours.

506-5203 Work Experience Skills
See description for 506-5103.

506-5301 Adaptive Skills
See description for 506-5101. The average total subject hours for this subject is 30 hours.

506-5302 Occupational Skills
The focus of the work occupational skills subject is on the Building Maintenance and Janitorial Services occupational areas. The major emphasis of the subject is on familiarization with the occupational area and on developing such occupationally related skills as: floor cleaning/care and equipment; window cleaning and equipment; exterior landscaping and maintenance; interior plant care; use and maintenance of snow-clearing equipment; washroom maintenance; electrical, plumbing, heating ventilation, and carpentry repairs; and workplace safety and health. The average total subject hours of this subject is 150 hours.

506-5303 Work Experience Skills
See Description for 506-5103.

506-5401 Adaptive Skills
See description for 506-5101. The average total subject hours for this subject is 60 hours.

506-5403 Work Experience Skills
See description for 506-5103.
AUTOMOTIVE DEPARTMENT

T01-B011 Oxy-Acetylene Welding & Cutting
Equipment, fusion welding, braze welding, cutting, theory, safety.

T01-B012 Oxy-Acetylene Welding & Cutting
Equipment, fusion welding, braze welding, cutting, practical, safety.

T01-B013 Hand Tools, Power Grinders, Vibrators
Glossary of terms, tools and their uses.

T01-B014 Hand Tools, Power Grinders, Vibrators
Practical use of hand tools, power grinders, vibrators, sanding discs, care and
maintenance of tools, methods of using types of discs, production paper, wet and
dry sandpaper.

T01-B015 Basic Metal Working & Soldering
Methods of: roughing out, hammering on and off dolly, forging, shrinking, picking
and filing, patching, shaping of flanges, crowns, flat metal panels, body construction
tinning and torch soldering.

T01-B016 Basic Metal Working & Soldering
Practical application of: roughing out, hammering on and off dolly, forging, shrinking,
picking and filing, patching, shaping of flanges, crowns, flat metal panels,
body construction, tinning and torch soldering.

T01-B017 Hydraulic Alignment of Bodies
Method of using hydraulic equipment and attachments. Method of alignment of bodies
doors, fenders and component parts.

T01-B018 Hydraulic Alignment of Bodies
Using hydraulic equipment and attachments for alignment of bodies, doors, fenders
and component parts.

T01-B051 Hardware, Trim and Glass
Methods of removal and installation of door assemblies, windows, headlinings,
upholstery, mouldings, seats, etc.

T01-B052 Hardware, Trim and Glass
Removing in replacing door assemblies, windows, headlinings, upholstery, mouldings,
seats, etc.

T01-B053 Alignment of Frames and Bodies
Methods of aligning frames, doors, trunk lids, hoods, bumpers and mouldings, etc.

T01-B054 Alignment of Frames and Bodies
Use of special equipment to align frames, doors, trunk lids, hoods, bumpers and
mouldings, etc.

T01-B056 Repairing Damaged Vehicles
Actual repair of body damage on customer's cars.

T01-B057 Spray Painting Equipment
Painting equipment, guns, transformers, hoses, compressors, booths and infra-red.
Methods of using equipment and adjustment.

T01-B058 Spray Painting Equipment
Painting equipment, guns, transformers, hoses, compressors, booths, and infra-red.
Use of equipment and adjustments.

T01-B059 Paint Products and Application
Primers, lacquers, enamels, acrylic lacquers, thinners, reducers, etc. Methods of
using these products.

T01-B060 Paint Products and Application
Application and use of - primers, lacquers, enamels, acrylic lacquers, thinners,
reducers, etc.

T01-B062 Re-finishing Vehicles
Cleaning, sanding, masking, priming, glazing and actual refinishing of customer's
cars. Pre-delivery cleaning of cars after painting.

T01-B063 Collision Damage Estimating
Flat rate, time allowance, forms and method for filing, percentages and sublets.
T01-D011 Running Gear I
Use of hand tools, measuring instruments, special equipment, fastening, devices, bearings, gears, drive lines, clutches, steering and suspension.

T01-D012 Running Gear II
Practical application of T01-D011.

T01-D013 STD Transmissions
Construction, principle of operation, synchronizers, splitters and air shift, variable speed diesels, 4 wheel drive transfer case, farm tractor transmission, reversing transmissions, transmission overhaul.

T01-D014 STD Transmissions
Inspection, repair and overhaul of: synchronizers, splitters and air shift, variable speed diesels, 4 wheel drive transfer case, farm tractor transmission, reversing transmissions.

T01-D015 Rear Axles
Types and principle of operation, single speed H.D. Eaton rear axles, traction equalizers, power dividers, electric and air shift systems.

T01-D016 Rear Axles
Overhaul of single speed H.D. Eaton rear axles, traction equalizers, power dividers, electric and air shift systems.

T01-D017 Brake Systems
Theory of operation, repair and adjustments of hydraulic, manual and power brakes, air brake repairs, adjustments and maintenance, lubrication of diesel powered equipment.

T01-D018 Brake Systems
Practical application of T01-D017.

T01-D019 Automatic and Powershift Trans.
The theory of operation of repair and overhaul of automatic and powershift transmissions.

T01-D020 Automatic and Powershift Trans.
The repair and overhaul of automatic and powershift transmissions.

T01-D021 HVY Duty Power Train Overhaul
Theory of repair overhaul of crawler undercarriages and rear end assemblies; loader repairs.

T01-D022 HVY Duty Power Train Overhaul
Repair overhaul of crawler undercarriages and rear end assemblies, loader repairs.

T01-D023 Engine Overhaul I
Theory of gas engine cycles, types, components, lubrication and cooling systems.

T01-D024 Engine Overhaul I
Repair of gas engine cycles, types, components, lubrication and cooling systems.

T01-D025 Engine Overhaul II
Theory of servicing diesel cylinder block assembly, cylinder head and valve train.

T01-D026 Engine Overhaul II
Repairs and servicing of diesel cylinder block assembly, cylinder head and valve train.

T01-D027 Engine Testing
Fundamentals of: mechanical tune-up, electrical tune-up, trouble shooting, dynamometer testing, overhaul and servicing.

T01-D028 Engine Testing
Mechanical tune-up, electrical tune-up, trouble shooting, dynamometer testing, overhaul and servicing.

T01-D029 Hydraulics Lab
Theory of: operation and repair of the more common mobile hydraulic systems.

T01-D030 Hydraulics - Overhaul and Testing
Operation and repair of the more common mobile hydraulic systems.
T01-D031 Electrical Lab
Fundamentals of: storage, testing, charging and care of batteries, DC and AC generators and regulators, ignition systems, transistor units.

T01-D032 Electrical Circuits Trouble Shooting
Practical aspects of storage, testing, charging and care of batteries, DC and AC generators and regulators, ignition systems, transistor units.

T01-D034 Fuel Systems Gas & Diesel
Fundamentals of: carburetion types and methods of supercharging, principles of compression ignition engine, and inspection and complete servicing of pumps and nozzles.

T01-D034 Fuel System Components, Cleaning, Servicing
Repairing carburetion types and methods of supercharging, compression ignition engine and inspection and complete servicing of pumps and nozzles.

T01-T011 Shop Practice and Hand Tools
Theory of: use of hand tools measuring instruments, use of special equipment - hoist, jacks and stands, safety chassis, lubrication, and servicing. Use of special lubricants, light servicing, tire repair.

T01-T012 Shop Practice and Hand Tools
Use of hand tools, measuring instruments, use of special equipment - hoists, jacks and stands, safety, chassis lubrication, and servicing, using special lubricants, light servicing, tire repair.

T01-T013 Engine I and II
Fundamental operating, construction and design features and characteristics of two stroke and four stroke cycle internal combustion engines. Fundamental service, maintenance and overhaul methods and procedures, precision measuring, diagnosis and correction of automotive engine problem.

T01-T014 Engine I and II
Disassembly, cleaning, precision measuring, inspection, machining, fitting and reassembly of internal combustion engines to manufacturer's specifications.

T01-T015 Electrical Systems
Wiring diagrams and circuits, generators, regulators, cranking motors, solenoids, and switches, gauges, ignition systems, etc.

T01-T016 Electrical Systems
Disassembly, testing, repairing, and reassembly of electrical components, attaching and use of testing meters and electrical diagnostic equipment.

T01-T017 Fuel Systems
Carburetors, fuel pumps, filters, gas lines, fuel tank ventilation, exhaust emission controls and air cleaners.

T01-T018 Fuel Systems
Disassembly, cleaning, assembly and calibration of component units. Use of diagnostic test equipment and meters.

T01-T019 Tune-up
Tune-up machines, compression and vacuum gauges, ignition circuits, carburetor adjustments, gas analysis, engine performance, testing and operation.

T01-T020 Tune-up
Use of tune-up test equipment for diagnosing and calibrating running engines.

T01-T021 STD Transmissions
Clutch and pressure plate assemblies, three and four speed synchromesh transmissions, simple planetary gears and overdrive, construction, operating and service fundamentals.

T01-T022 STD Transmissions
Disassembly, inspection of parts and reassembly of components to manufacturer's specifications.

T01-T023 Rear Axles & Drivelines
Gears and bearings, tooth patterns, universal joints, positraction and limited slip differentials, transaxles, axle shafts, etc.

T01-T024 Rear Axles & Drivelines
Disassembly, inspection and reassembly of gears and bearings, tooth patterns, universal joints, positraction and limited slip differentials, transaxles, axle shafts, etc.
TOI-T025 Brakes-Hydraulics
Hydraulic principles, single and dual master cylinders, brake lines and couplings, wheel cylinders, drum brakes and machining drums, disc brakes and machining rotors, power units, controls and switches, bearings, seals and brake fluid.

TOI-T026 Brakes - Hydraulics
Disassembly, inspection, honing and machining, assembly and bleeding of hydraulic systems. Testing and repairing of lower units and adjustment of cable brake systems.

TOI-T027 Steering & Suspension
Springs, shocks, wheel balance, steering geometry, steering gears, steering alignment.

TOI-T028 Steering & Suspension
Removal and installation procedures on suspension components, steering gears, power assist units and pumps. Calibrating by use of special machines so suspension and wheels are in proper relation to frame of vehicle.

TOI-T029 Automatic Transmissions
Fluid couplings and torque converters, compound planetary gears, clutches, bands, servos and hydraulic system, construction, operating and service fundamentals.

TOI-T030 Automatic Transmissions
Disassembly, inspection, reassembly and adjusting assemblies, sub-assemblies and component units. Pressure testing with air and hydraulic fluid.

TOI-T054 Engines
This includes engine removal, disassembly, inspection, cleaning, and measuring of all components to determine their serviceability. Precision fitting of pistons, pins, rings, bearings, and shafts is also covered as well as reconditioning of cylinder heads and valve mechanisms. Complete engine reassembly, installation, adjustment and breaking is also included. All work is performed on vehicles in daily use.

TOI-T056 Electrical Repairs and Adjusting
Diagnosing wiring circuit problems, repairing and calibrating electrical components, such as instruments, starter motors, solenoids, relays, A/C generators and regulators, etc.

TOI-T058 Fuel Systems - Repair and Adjusting
Repairs to fuel system components such as tank, filters, pumps and air cleaners. Diagnosis of carburetor circuits, analysis of air fuel ratios, repairs and calibration of carburetors.

TOI-T060 Tune-up
Diagnosing and testing of all engine, fuel, ignition and electrical systems. Calibrating to specifications necessary to produce maximum engine efficiency.

TOI-T062 Transmissions Overhaul STD
Proper procedures will be emphasized for the removal, disassembly, cleaning, inspection and repair of clutches and three speed and four speed synchronmesh transmissions. Problem diagnosis and adjustment of these units will also be included. All work will be performed on units in daily use.

TOI-T064 Rear Axles and Drive Lines
This unit deals with the construction, operation and service procedures for the various types of rear axle assemblies and their related parts. This includes housings, (integral, removable carriers, and independent), crown and pinion sets, (spur level, spiral level, hypoid, hunting, non-hunting, partial non-hunting, straddle and over hung mounted) differential units (2 & 4 pinion design conventional and spec 1 traction-positracion, equal -lock, limited slip non-spin, power lock, and sure-grip design) bearings(friiction and anti-friction loads), axle mountings (dead and live-full floating, 3/4 floating and semi-floating), seals (dynamic and static), drive liner (torque tube, hatch-kin) Universal joints (ball and trunnion, cross and roller, constant velocity)
T01-T066 Brakes—Hydraulic & Disc Power
The concerns are the construction, operation and service features of the braking systems presently in use today (drum & disc). This includes the effects of weight, speed, heat, friction, and hydraulic principles. The student also receives instruction and practice in, machining, drums and rotors, cam grinding, shoes, servicing the hydraulic units (master cyl. wheel cyl. lines and testing metering and proportioning valves), disassembly and assembly and adjustment of the various wheel brake units, parking brake service (drive line and rear wheel), and the wheel bearing service.

T01-T068 Steering Repairs
This course is intended to give the student an insight into the construction, operation, and service features of present suspension systems (mono-beam, twin I beam, long and short arm types). The student receives instruction on inspection and replacement, height adjustments, alignment machine calibration and use. Practical projects are provided for the student to apply his knowledge of suspension service, alignment of the front wheels and use of a wheel balance.

T01-T070 Automatic Trans. Repairs
This will cover the removal, disassembly, cleaning, inspection and measuring of all transmission parts to determine their serviceability. Also included is the correct procedure for reassembly, adjusting, installation, and testing of automatic transmission as well as problem diagnosis and trouble shooting.

T01-T072 Air Conditioning
An introduction to automobile airconditioning operating principles and competent part functions. Safety procedures when using refrigerant gases. Practical application of discharging, evacuation, charging and testing the system for leaks.

T01-T074 Oscilloscope, Dyno & Emission Controls
Oscilloscope to perform a complete electronic engine diagnosis to find defects in the following areas, ignition, compression, alternator, regulator, starter and carburetion. Dynamometer to perform vehicle tests while under load to determine engine performance.
CONSTRUCTION DEPARTMENT

TO2—001 Hand Tools, Theory
Measuring tools, layout tools, testing tools, sawing tools, bench and special planes, edge cutting tools, boring tools, fasteners: Nails, screws, smoothing tools.

TO2—002 Hand Tools, Practical
Practical use of all tools in projects such as woodworking joints, coping mouldings, quarter round, brackets, drawers, sharpening hand saws, chisels, and plane blades.

TO2—003 Woodworking Machines Theory
General safety rules, operations and maintenance of the following: Table saw, radial arm saw, bandsaw, jigsaw, planer, saber, mortiser, tenoner, wood lathe, sanding machines, portable power tools, powder actuated tool.

TO2—004 Woodworking Machines, Practical
Sharpening circular saw blades, layout shop drawings, prepare bills of material, layout, machining and assembling cheek roll window, door frame, cut wedges, make mouldings, cribicle legs, practice with operation of stationary and portable machines.

TO2—006 Concrete Form Construction, Theory
Footings, foundation walls for single and multiple dwelling units, concrete slabs, sidewalk steps, piles, columns, beams, ceilings and the stripping of forms.

TO2—005 Concrete Form Construction Practical
Construct model basement forms, projects working with beam, column and slab construction, wall construction using wood and metal forms; curb forms, teleport pedestal forms, rough bucks.

TO2—007 General Framing, Theory
Basic principles of framing procedures; One story house, balloon framing, procedures for framing opening for doors, windows, stairs, etc., basic principles involving wooden members in masonry buildings, insulation, building papers, vapor barriers.

TO2—008 General Framing, Practical
Models of single and two storey house, framing of cottage or garage full size complete with all partitions, blocking, backing, etc.

TO2—009 Flat Pitch Roofing, Theory
Types of roofs: flat roofs, gable roofs, equal pitch hip roof, equal pitch intersecting hip roofs.

TO2—010 Equal Pitch Roofing, Practical
Model roof framing, actual size project using all necessary rafters in the roof, both gable and hip roofs, complete with dormer, sub gable, soffits and fascia boards.

TO2—011 Stair, Theory
Basic types of stairs, mathematical terms and calculations, building code requirements, simple, straight stairs, mitered and housed stringers, handrails.

TO2—012 Stair, Practical
Model of straight flight of basement stairs; flight with one housed and one mitered string, complete with handrail, ballusters and newel posts; flight of window; concrete stair forms.

TO2—013 Finishing, Theory
Siding, cornices, door and window trim, inside and outside doors, closets, baseboards, feature walls, tile ceilings, etc.

TO2—014 Finishing, Practical
Installation of interior and exterior doors, window pocket doors, bypass doors, bifold doors; application of sidewing and exterior trim, application of interior trim.

TO2—015 Cabinet Work, Theory
Shop layouts, billing of material, kitchen cabinets, book shelves, vanity sets, furniture, wood bending, veneering, wood finishing and history of furniture.

TO2—016 Cabinet Work, Practical
Kitchen cabinets and vanities, complete with hardware and laminate tops.

TO2—017 Unequal Pitch Roofing, Theory
Intersecting roof: of unequal pitch.

TO2—018 Unequal Pitch Roofing, Practical
Layout, cut and erect full size project of an unequal pitch roof.

TO2—019 Surveying, Theory
Familiarization with the building level and transit to check elevations and to layout building lines.
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<tr>
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<td>T02-C901</td>
<td>Concrete Form Construction Theory</td>
<td>Description not available</td>
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<tr>
<td>T02-C902</td>
<td>General Framing, Theory</td>
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<td>General Framing, Practice</td>
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<td>Equal Pitch Roof Framing Theory</td>
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<td>Equal Pitch Roof Framing Practice</td>
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<td>T02-C906</td>
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<td>T02-C908</td>
<td>Interior &amp; Exterior Finishing, Theory</td>
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<td>Interior &amp; Exterior Finishing, Practice</td>
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**T02-C900** Introduction, Materials and Tools used in Masonry

- History of trade, employment conditions and opportunities, objectives of course, masonry materials, concrete, tools, scaffold and modern power equipment.

**T02-C900** Practical Work

- Slitting line, measuring materials, mixing mortar, adding additives, mortar boards, handling brick, travel and hand tools; laying out or chaining bonds; lining up and packing cement; form work, including: flitching, making storey holes and gauge rods; Laying out or chaining bonds; forming concrete; making sure of level; Laying out for openings; Bonding connecting walls and partitions; Pick up and back packing cement; cutting concrete units; Checking level; Laying down levels; Copying, Bracing, blocking, placing corner line blocks, line plumb, stretching line, sight line, setting strips (ties), tamping brick, setting brick to line, perpendicular, square, and inward; Anchoring techniques, offsets, corbels, setting frames, striking joints, building joints, fill; coping, lintels, capping masonry, chair work habits taught.

**T02-C903** Masonry Bonds, Theory

- American, Common, English 1/4 and 3/4 bond; Flemish 1/4 and 3/4 bond; Dutch; English Crow; Flemish Cross; Monk; Garden Wall; All Rowlock.

**T02-C907** Definitions, Theory

- Trade Terms: Arched; Acoustic; Arched; Arterial; Arterial; Artery; Arch; Angle Iron; D.F.C.; Impey; Javelin; Back filling etc. (over 700 in 11).

**T02-C908** Walls, Theory

- Wall types, layout out procedure, blueprint reading, anchoring method, control joints, joint finishing.

**T02-C909** Sizing, Theory

- Sizing of bricks and concrete blocks and all materials required on specific projects, including concrete.
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TO2—P001 Introduction, Safety, History, Tools & Equipment
Objective is to familiarize student with requirements for in-school training, conduct on job, and short history of trade.

TO2—P002 Tools and Equipment - Practical
Care of brushes, roller, spray equipment, ladder, trestles and scaffold.

TO2—P003 Basic Components of Paint, Theory
Pigments, extenders, vehicles, blenders, thinners, driers, formulators.

TO2—P004 Basic Components of Paint, Practical
Students will be able to recognize opaque coatings. Be able to select the proper paint for all types of surfaces. The use of solvents for each type of paint.

TO2—P005 Preparation & Application Coating Int/Exterior
Students will use his skills and knowledge applying the different types of paints to all surfaces, brushing, rolling, and spraying techniques.

TO2—P006 Preparation & Application Coating Int/Exterior
Prepare surface and apply primers, undercoats, and finish coats, oil base paints, latex paints, and clear coatings.

TO2—P007 Repainted Surfaces, Theory
Plaster, wood, concrete, brick.

TO2—P008 Repainted Surfaces, Practical
Prepare old surfaces for repaint, sand fill damaged areas, prime, apply finish coats of paint.

TO2—P009 Paint Failure, Causes, Remedies, Theory
Plaster surfaces, stone board, concrete, brick.

TO2—P010 Paint Failure, Causes, Remedies, Practical
Define the cause of the paint failure, treat the damaged area, prime, apply finish coats.

TO2—P011 Wood Finishes, Theory
Hardwood, open grain, hardwood close grain, soft woods, oil stains, spirit stains, water stains, chemical stains.

TO2—P012 Wood Finishes, Practicals
Prepare surfaces of the different types of woods, recognize the type of wood as to "hard open grain or closed grain". Select the proper filler or stain, mix stains and apply to wood, apply sealer, number of coats required, apply finish coats, by brush or spray.

TO2—P013 Basic Colour Theory and Mixing, Theory
Systems of color theory, color pigments, classification of color pigments, color preparation, color retention, psychological effects and color styling.

TO2—P014 Basic Colour Theory and Mixing, Practical
Tint oil types of paints, latex oil base, enamel, mix oil base stains, mix paints to samples, design color arrangement with psychological effects and color styling, apply to different areas.

TO2—P015 Paper Hanging and Wall Covering, Theory
Preparing surfaces, size, cutting and pasting, hanging, stair walls.

TO2—P016 Paper Hanging and Wall Covering, Practical
Students will prepare surfaces to receive fabric, remove old wallpaper and fabrics. Hang vinyl, foil, flock, high price fabrics, apply adhesives, size, estimate rolls required. Students will hang all types of fabrics under supervision.

TO2—P017 Spray Painting, Theory
The student will learn the principles of the basic spray gun, the maintenance and safety precautions. Application of varnishes, lacquers and stains is discussed and the necessary adjustments of the gun if faulty spray pattern occurs.

TO2—P018 Spray Painting, Practical
The student will have the opportunity to dismantle and re-assemble a spray gun, followed by a limited amount of spray work.

TO2—P019 Wood Finishing, Theory
Hardwood, open grain, hardwood close grain, soft woods, oil stains, spirit stains, water stains, chemical stains.

TO2—P020 Wood Finishing, Practical
Staining, repairing, and refinishing furniture.
TO2-U001 Basic Tools and Equipment, Theory
Use of various hand tools, cushion machine, picking machine, sewing machines, electric shears, foam cutting machine.

TO2-U002 Basic Tools and Equipment, Practical
Practical use of all tools in projects such as cutting foam rubber, stapling fabric, stapling spring clips, sewing and attaching coil springs.

TO2-U003 Spring Construction, Theory
Webbing, platted seat, fastening springs, no-sag springs, unit springs, spring edge, typing springs.

TO2-U004 Spring Construction, Practical
Measuring, cutting and installing various types of springs on furniture. This includes coil springs on a wooden slot seat on webbing, no-sag springs with a hard edge or soft edge.

TO2-U005 Burlap and Stuffing Up, Theory
Attaching burlap, sewing burlap, lining on open frame, edge rolls, single stuffing, double stuffing, stitching up, shaping.

TO2-U006 Burlap and Stuffing Up, Practical
Attaching burlap over coil springs, no-sag springs with a hard edge or soft edge. Stitching burlap to springs and applying various types of stuffing.

TO2-U007 Trimmings, Theory
Making and fitting panels, attaching outside covers, blind tacking, hand sewing, applying leather and mercerized gimp, cutting furniture nails - attaching skirt.

TO2-U010 General Upholstery, Practical
The actual upholstering and reupholstering of chesterfield suites, foot stools, occasional chairs, etc.

TO2-U011 Coverings, Theory
Measuring projects, laying out plans, material layout, cutting material to size, fitting covers, cutting and plowing, putting on cover, making cushions, sewing material together.

TO2-U012 Foam Rubber Applications, Theory
Cutting and shaping of foam rubber, fabricating and cementing, applying tack strips.

TO2-U013 Foam Rubber Applications, Practical
Types of foam rubber and the best use of each. Cutting and shaping rubber for seat and back cushions and attaching foam to furniture frames.

TO2-U016 Advanced General Upholstery, Practical
Advanced upholstering including tufting and channeling on chesterfield and chair, etc.

TO2-U017 Woodworking, Theory
Simple woodworking principles. Operation of basic woodworking machines, hand tools, practical projects.

TO2-U018 Woodworking, Practical
Projects requiring the use of hand and machine tools of the woodworking trade used in the upholstery trade.

TO2-U020 On-The-Job Training
Give an opportunity to experience working in a custom and production shop.

TO2-U021 Wood Finishing, Theory
Hardwood, open grain, hardwood close grain, softwoods, oil stains, spirit stains, water stains, chemical stains.

TO2-U022 Wood Finishing, Practical
Striping, repairing and refinishing furniture.
DRAWING DEPARTMENT

TO3-A011 Fundamentals of Delineation
Practice in the use of architectural and engineering scales, basic letter form, material symbols, architectural conventions and techniques, orthographic and pictorial drawing.

TO3-A012 Applied (Arch) Drafting I
A study of current building practices, the production of working drawings for residential dwellings and industrial, commercial, and institutional buildings. Included is the interpretation and application of simple structural steel frame design & detailing according to the C.I.S.C. practices.

TO3-A013 Quantity Take-Off
Elementary material, take-off, cost analysis.

TO3-A017 Surveying and Topographical Drawing
Practice in the use of the transit and level, the plotting of cuts and contours, and the techniques of topographical drawing.

TO3-A019 Specifications
Interpretation of tendering procedures, division of trades and responsibilities, local and national building codes.

TO3-A021 Applied (Arch) Drafting II
A study of residential and commercial building construction practices and the production of working drawings for the same.

TO3-A022 Applied Strength of Materials
Stress, strain, analysis and design of bolted and welded structural joints, calculation of shear force and bending moment, shear force and bending moment diagrams, maximum shear and moment, selection of steel beams.

TO3-F011 Electrical Drafting
Essential electrical theory and practice in electrical drafting techniques. Various projects in residential, commercial, industrial and motor control areas give the student exposure to the typical circuitry, symbols, and components used. Pictorial, diagrammatic, schematic and one-line diagrams are drawn as appropriate. In the course of the projects the student becomes familiar with the requirements of the electrical code and other applicable standards.

TO3-N011 Fundamentals of Delineation
Practice in the use of architectural and engineering scales, basic letter form, geometric and orthographic construction, sectional and pictorial drawing.

TO3-N012 Applied Machine Drafting I
Mechanical construction, multi-view projection, auxiliary projection, sections, axonometry, dimensions, tolerances, fastening devices, shop drawing projects.

TO3-N015 Applied Machine Drafting II
Process piping layouts, welding and fabrication shop drawings, rears and ears, sheet metal layout, engineering graphics. Also, interpretation and application of simple structural steel frame design and detailing according to current C.I.S.C. practices.

TO3-N017 Applied Drafting Science
Stress, strain, modulus of elasticity, analysis and design of bolted and welded structural joints, calculation of shear force and bending moment, shear force and bending moment diagrams, maximum shear and moment, selection of steel beams, expansion, contraction, stresses due to thermal effect, torque, work power, torsional stresses.

TO3-R011 Blue Print Reading and Sketching for Carpentry
Drawing interpretation and preparation as applied to the carpentry trade.

TO3-R013 Blue Print Reading and Sketching for Plumbing
Drawing interpretation and preparation as applied to the plumbing trade.

TO3-R015 Blue Print Reading for Painting and Decorating
Drawing interpretation as applied to the painting and decorating trade.

TO3-R019 Blue Print Reading and Sketching for Masonry
Drawing interpretation as applied to the masonry trade.
03-R031 Blue Print Reading and Sketching for Machinists
Drawing interpretation as applied to the machinist trade.

03-R032 Blue Print Reading and Sketching for Welding
Drawing interpretation as applied to the welding trade.

03-R035 Blue Print Reading and Drafting for Sheet Metal
Use of drafting instruments for layout, drawing interpretation as applied to the sheet metal trade.

03-R041 Blue Print Reading and Sketching for Electronics
Freehand sketching, multiview projection, isometric drawing, block diagrams, electronic schematics.

03-R043 Blue Print Reading and Sketching for Electronics 2
Use of drafting instruments, printed circuit methods, printed circuit layout.

03-R051 Blue Print Reading and Sketching for Refrigeration
Drawing interpretation as applied to the refrigeration trade.

03-R163 Mechanical Drawing for Advertising Art
Application of drafting instruments and technical pens. Use of scale geometric construction.

03-R263 Mechanical Drawing for Advertising Art
Orthographic drawing interpretation. Technical pictorial drawing in ink and pencil.

03-R011 Mechanical Systems Drafting
A study of mechanical systems, i.e. plumbing, heating and air conditioning as are commonly designed for residential, commercial and industrial building projects. Included in design and building code interpretation, material take-off and estimating specification writing and production of related schematics and layout drawings.
METALS DEPARTMENT

T04-A021 Safety Precautions in Arc Welding
Description not available

T04-A022 Arc Welding Theory
Circuit, arc, machines, electrodes, polarity, arc blow, effects of welding heat on metals, welding definitions, amount of current for the job, types and position of welded joints.

T04-A023 Arc Welding Position
Arc welding practice in vertical up and vertical down, horizontal and overhead position on flat plate.

T04-A026 Gas Metal Arc & Tungsten Inert Gas Theory
Theory of processes using shielding gas. Types of gases and control systems. Electrode materials and feeding system use and maintenance.

T04-A027 Light Gauge (Sheet Metal) Welding and Arc Air Gouging
Welding in all positions: flat, horizontal, vertical-down, overhead.

T04-A028 Review of All Chapters - Final Theory Test

T04-A029 Gas Metal Arc Welding (Semi-automatic)
Maintenance and use of equipment, flow gages, wire feeders, hand guns, etc. Applications of various shielding gases (Helium, Argon, Nitrogen, CO₂, etc.) Machine control settings.

T04-A032 Tungsten Inert Gas Welding Tig.

T04-A037 Structural Welding
Weldment design, weld joint types and application. Fabrication of welded structures.

T04-A038 Pipe Welding
All position (horizontal, vertical-up, vertical-down, and overhead) welding of pipe to test standards.

T04-A039 Special Welding Applications
Special process techniques and application. Hard surfacing, metal spraying, arc-air gouging. Preparation of materials, safety precautions, etc.

T04-A042 Projects and Field Trip
Fabrication and repair welding on projects to provide meaningful experience. Visitations to manufacturing and repair shops and construction sites to provide job insight.

T04-A043 Welding Refresher - Practical
Practical weld practice in positional pipe welding to provide experienced welders updating and/or upgrading towards certification.

T04-A044 Related Arc Welding Theory

T04-A045 Related Arc Welding Practice
Basic stick electrode arc welding techniques and practice in the horizontal position on materials related to the particular trade area.

T04-G011 General Principles of the Oxy-Acet. Welding Process
Historical development, oxygen and acetylene, flame characteristics, equipment, setup and operation of equipment, general precautions, identifying metals, preparation for welding, expansion and contraction.

T04-G012 Oxy-Acetylene Welding and Brazing of Ferrous Alloy
Common ferrous alloys, steel metallurgy, fusion welding mild steel, principles of sheet metal jigging, welding in all positions, braze welding steel, braze welding cast iron, fusion welding cast iron, procedure control.

T04-G021 Oxy-Acetylene Cutting
Principles of oxygen cutting, various flame cutting applications, cutting steels, castiron corrosion resistant steels, machine flame cutting, edge preparation, cutting heavy sections, gouging.
T04-G022 Oxy-Acetylene Cutting
Principles and operation of flame cutting equipment, manual and semi-automatic, techniques and application to varying metal shapes and thicknesses.

T04-G031 Miscellaneous Applications (Basic)
Miscellaneous welding theory, code, testing basic welding of aluminum, cast iron, stainless steel, arc air gouging, cutting with the electrode, basic pipe welding, field trips, projects.

T04-G511 Related Gas Welding Theory
Theory of Oxy-Acetylene gas welding, brazing and soldering equipment, procedures as applied to the particular trade.

T04-G512 Related Gas Welding Practice
Application of Oxy-Acetylene gas welding, brazing and soldering equipment and procedures as would apply to the particular trade.

T04-G521 Related Gas Welding Theory
Oxygen and acetylene flame characteristics, equipment, set-up, and operation of equipment, general precautions, identifying metals, preparation for welding, expansion and contraction due to heat.

T04-G522 Related Gas Welding Practice
See T04-G512.

T04-H011 Bench Work
Theory pertaining to selection use and care of hand tools, files, punches, chisels, lay out tools, taps, dies, etc. Fitting and assembling techniques.

T04-H012 Bench Work
Practical shop work pertaining to selection use and care of hand and bench tools such as files, punches, chisels, lay out tools, taps and dies. Fitting and assembling.

T04-H013 General Operation & Control of Machine Tools
Theory pertaining to the safety, care and maintenance and basic operation of the lathe, drill, shaper, planer, milling machine, grinders, and power saws. Types of machines, the principles of operation, features, control systems, power systems.

T04-H014 General Operation & Control of Machine Tools
Practical experience in the care, maintenance and safe and efficient operation of basic machine tools, drill, lathe, shaper, planer, milling machine, grinders, and power saws.

T04-H015 Measuring Devices
Theory pertaining to the care, maintenance, and safe and efficient use of measuring tools, scales, calipers, dividers, micrometers, gauges, indicators, etc.

T04-H016 Measuring Devices
Practical experience in the care, maintenance and safe and efficient use of measuring tools, scales, calipers, dividers, micrometers, gauges, indicators, etc.

T04-H017 Power Saws
Theory pertaining to types, care and safe operation of power cut-off and contour saws. Blade and band selection types and application. Work holding and feeding.

T04-H018 Power Saws

T04-H019 Lathe Operation
Theory pertaining to turning. Lathe principle and types. Work holding and set-up. Straight and cylindrical turning, tapering, thread cutting and boring. Face plate work. Lathe gearing for feed and thread cutting.

T04-H020 Lathe Operation
Practical experience in lathe operation. Work set up, cylindrical turning, taper turning, boring, face-plate turning, threading.

T04-H021 Milling Machine Operation

T04-H022 Milling Machine Operation
Practice pertain to milling machine operation. The use of radial plain and formed cutters, face mills, end mills, fly cutters, etc. Practical application of attachments, vertical head and indexing head in gear cutting and spiral milling.
T04—M023 Jig Borer Operation
Theory pertaining to the set-up, operation and care of Jig Borer machines and accessories. The co-ordinate point system for lay out and location is studied. The use of tools makers buttons, gage blocks, wigglers and edge finders are explained.

T04—M024 Jig Borer Operation
Practice in the set up, operation and care of jib boring machines and accessories. Gage blocks, in locating work tool makers buttons, edge finders and newer optical readout systems are explained and used.

T04—M025 Horizontal Boring Mills
Theory pertaining to the safe workset up operation and care of boring mills. Types of boring mills, vertical and horizontal and their application.

T04—M026 Horizontal Boring Mills
Practical shop work pertaining to work set up, operation, care and safety of boring mill operation.

T04—M027 Grinding Machine Operation
Theory pertaining to grinding machine operation, set up and care. Types and principles of grinding machines, surface, cylindrical, universal tool and cutter grinder, centerless grinders. Principles of grinding wheels, types, manufacturing processes, identification (wheel markings).

T04—M028 Grinding Machine Operation
Practical shop work pertaining to grinding machine operation. Set up of work and machines for surface, internal and external cylindrical grinding and tool and cutter grinding.

T04—M029 Heat Treatment

T04—M030 Heat Treatment
Practical shop experience in the operation for furnaces; heating and annealing. The heating quenching, drawing and tempering of metals.

T04—M031 Drilling Machines
Types, set up, operation and care of drilling machines. Speeds and feeds for drill press operations, maintenance of drill press tools; drills, reamers, counterbores, spot facing cutters, etc.

T04—M032 Drilling
Practical shop operation of drilling machines, sensitive and power feed column types and radial arm drilling machines, drilling, reaming, tapping, and boring in the drill press. Work lay out and set up on the drilling machine. Maintenance and care of drills and drilling machine tools and accessories.

T04—M041 Physics of Metal Cutting
Theory pertaining to metal cutting tools. Tool materials; carbon and high speed steel, carbide ceramics, diamond, and manufactured abrasives. Cutting tool geometry, rakes and clearances. Speeds and feeds.

T04—M042 Shaper, Planer, Slotter
Theory pertaining to plain surface generation. Types of machines and their use. Work set up. Tooling and speeds and feeds.

T04—M043 Shaper, Planer, Slotter
Practical shop work involving work set up operation and care of shapers, planers, slotters. Cutting tool geometry and application. Cutting speeds and feeds. Horizontal vertical and angular surface machining.

T04—M051 Related Machine Shop Theory
Basic machine shop practice and theory on layout, bench work, hand tools, measuring tools, drill sizing, and grinding, thread terminology, standards and forming as related to the trade.

T04—M052 Related Machine Shop (Practical)
Practical shop work on projects involving layout, bench work, hand tools, measuring tools, drill sizing and grinding and the use of thread forming taps and dies. Basic machine shop practice as is related to the trade.

T04—M051 Related Machine Shop Theory
See T04—M051.

T04—M052 Related Machine Shop Practice
See T04—M052.
### T04—M531 Related Machine Shop Practice
See T04—M512.

### T04—M532 Related Machine Shop Theory
See T04—M511.

### T04—M901 Basic Machine Shop Practice
Primarily practical shop experience in the use of basic hand tools, layout tools, and measuring tools. Basic lathe operation in turning (parallel and taper) threading, facing, knurling, honing, and drilling. Drilling machine operation including drill pricking and sizing. Shop safety and orderliness is promoted.

### T04—S011 Sheet Metal Hand Tools
Theory pertaining to the recognition, application care and safety of sheet metal hand tools such as snips, hammers, soldering irons, compasses, dividers, awls, square, scales, punches, etc.

### T04—S012 Sheet Metal Hand Tools
Practical use of hand tools emphasizing selection adjustment and general care of tools such as snips, hammers, punches, soldering irons, awls, compasses, dividers, scribers, squares, scales, etc.

### T04—S021 Hand Operated Sheet Metal Machines
Theory pertaining to the selection, safe operation and care of hand operated sheet metal machines such as roll formers, wire edgers, crimping machines.

### T04—S022 Hand Operated Sheet Metal Machines
Practical shop projects are constructed to facilitate the adjustment, operation and care of roll forming, wire edging, and crimping machines.

### T04—S031 Power Hand Tools
Theory pertaining to the selection, safe operation and care of such power hand tools as drills, riveters, nibblers, hammers, shears, and cutters.

### T04—S032 Power Hand Tools
Practical shop projects are constructed to provide the student with the proper selection, safe operation and care of such power hand tools as drills, riveters, nibblers, hammers, shears, and cutters.

### T04—S041 Power Operated Machines
Theory pertaining to principles, operation, safety and care of power operated sheet metal forming equipment such as, hydraulic press brake, air operated gap shear, metal cutting band saw, power operated punch, drill press, etc.

### T04—S042 Power Operated Machines
Practical shop projects incorporating the operating principles, safety and care of power operated sheet metal forming tools such as hydraulic press brake, air operated gap shear, metal cutting band saw, drill press, and power operated punch.

### T04—S051 Sheet Metal Sciences and Techniques
Theory pertaining to the basic knowledge of the sheet metal trade. Scale reading, standard gauge practices, metals, (coatings, properties, ductility and strength, selection and storage), use of drafting tools, locks, seams and edges, riveting and other fastening techniques.

### T04—S052 Sheet Metal Sciences and Techniques
Practical shop projects pertaining to the basic knowledge of the sheet metal trade. Scale reading, standard gauge practice, metal identification, (coating, properties, selection and storage), use and care of drafting tools, locks, seams and edges, riveting and other fastening techniques.

### T04—S061 Pattern Development
Theory and practice of simple layout, parallel line development, radial line development, triangulation. Patterns for projects are drafted, transferred to metal, and transformed by use of sheet metal tooling into completed projects.

### T04—S062 Soldering
Theory pertaining to soldering including care, selection and application of various copper shapes. Preparation of copper and metal. Tinning - use of acids and fluxes - various solder joints eg. sweat, button, stitch, etc.

### T04—M511 Tungsten Inert Gas Welding Theory
Description not available.

### T04—M512 Tungsten Inert Gas Welding Practice
Description not available.
CIVIL ENGINEERING TECHNOLOGY DEPARTMENT

T05-B301 Job Control & Costing
Critical path method of planning and scheduling network theory; project scheduling; resource allocation; costing and manpower allocation. Applied industrial psychology.

T05-B305 Building Construction
The manufacture, testing, properties, types, uses, storage, site handling, inspection, equipment and the methods and procedures of application of ready mixed concrete, concrete systems forming systems, steel and masonry block construction and blue print reading.

T05-B306 Concrete Construction
Review and design of beams, one way floor slabs, columns and footings. Introduction and applications of prestressed concrete design. Continuous beams and slabs. Complete design and working drawings of reinforced concrete project. Prerequisite: T05-C202, T05-C203.

T06-B404 Construction Administration
Construction company management and control, both in head office and field. Relationship between owners, designers, company personnel, public bodies contractors and subcontractors. Canadian construction contract law including formation of contract, breach of contract, mechanics liens, etc. Prerequisite: T14-R214.

T05-B405 Building Construction
The manufacture testing, properties, types, uses, storage site handling inspection, equipment and the methods and procedures applied to brick, stone, roofing, structural steel, foundations and wood. Site and building layout, excavation procedures and equipment. Labs to consist of tours to manufacturing plants and construction sites.

T05-B406 Reinforced Concrete Design
Materials and specifications including concrete and steel properties, design methodology. Design of simple beams for flexure, shear, deflection, and reinforcement details. Design of simple columns for eccentric loading. Design of simple and continuous one-way slabs SI units used throughout. Prerequisites: T05-C202, T05-C203.

T05-B407 Building Services and Specifications
Introduction to the building services heating — range of temperature and the related effect on building materials, humidity, insulations, weathering — lighting — air conditioning and ventilation — water supply and waste disposal — acoustics — communications — power services and their related control systems — vertical and horizontal transportation systems — interpretation of specifications. Prerequisite: T14-R214.

T05-B410 Foundation Design
Stress distribution beneath loaded areas; bearing capacity evaluation; design of footings (square, rectangular, combined) and raft foundations; end bearing and friction pile design; evaluation of lateral pressure; analysis of retaining walls; sheet piling and anchor blocks; methods of dewatering excavations; foundation layout construction equipment and techniques. Prerequisite: T05-T317, T05-C317.

T05-B412 Estimating
Pre-tendering investigation; specification, working and shop drawing interpretation; quantity take-off; direct and indirect costing; cost accounting cycles and keys. Contract Management: analysis of actual to estimated costs; subtrade bidding and estimating practices for foundation, concrete, steel, masonry, wood, roofing and finishes. Filing and information retrieval systems.

T05-B413 Structural Steel Design
Design of the individual components of buildings based on CSA Standard SL6 using the CISC handbook. To include design of tension members, columns, column base plate, simple beams, laterally unsupported beams, bolted and welded building connections. Prerequisite: T05-T308.

T05-C102 Mechanics
The basic concepts of statics as applied in the analysis of structures. Forces, moments, free body diagrams, trusses, frames, centres of gravity, centroids and moments in inertia for simple areas. Parallel axis theorem.

T05-C103 Surveying
TO5—C103 Strength of Materials
Stress, strain, temperature stress, Poisson's ratio, bolted and welded connections, thin walled pressure vessels, tension, shear force and bending moment.

TO5—C106 Engineering Graphics
Principles of engineering drawing based on Canadian Standards Association series in the field of drawing practice, instruments and their use, applied geometry, lettering, orthographic drawing and sketching, pictorial drawing and sketching, dimensioning, sections and conventions, intersections and developments; applied descriptive geometry, timber structures.

TO5—C202 Mechanics
Moments of inertia for steel and timber cross sections. Mass moments of inertia. An introduction to fluid statics including forces exerted by fluids on plane and curved surfaces, and the analysis of gravity dams and simple retaining walls. The application of graphical statics in the solutions of frames and trusses. Prerequisite: TO5—C102.

TO5—C203 Surveying
Topographic mapping and determination of volumes using the polar planimeter, cross-section and calculation of areas, theory and use of simple, spiral and vertical curves, special curve problems, moving the back tangent, moving the forward tangent, inaccessible PI's and intersection of a simple curve and straight line, methods of stadia, grade staking and slope staking, construction surveys.

TO5—C205 Strength of Materials
Shear force and bending moment diagrams, points of inflection, maximum shear and moment for moving loads. Flexure formula, general shear equation, steel and timber beam design, combined stresses, Mohr's circle, the three moment equation. Prerequisite: TO5—C102, TO5—C105.

TO5—C206 Engineering Graphics
Detailing of steel, concrete and timber structures, commercial building project, underground services project: street and highway project. Prerequisite: TO5—C106.

TO5—C312 Hydraulics
Hydrostatics including intensity of pressure, manometers, pressure heads, and measuring of pressure. Closed Conduit Flow including Bernoulli's Equation and Continuity Equation; flow measurements with orifices, weirs, Pitot tubes and Venturi meter; pipe, pump and reservoir problems, open channel flow including types; Manning Equation Froude Numbers; specific head diagrams; and their use in solving problems in open channels; Hydraulic Jump description, uses, and calculations of related elements. Prerequisite: TO5—C202, T10—H229.

TO5—C316 Photogrammetry

TO5—C317 Soil Mechanics

TO5—C320 Structural Design
Steel - analysis and design of tension members, columns and beams. Design of simple building foundations such as piles, casings and footings. Concrete - basic reinforced concrete theory; analysis and design of simple beams and slabs; design of column. Prerequisite: TO5—C205.
T05—C211 Street and Highway Design

Preliminary survey of a section of roadway including all notes necessary for design. Location and construction survey requirements. Design factors for street and highway design: projected traffic volumes, speed, curvature, superelevation, sight distances, grades, drainage, culvert design, right of way, width. Design of rural and urban roadway sections from field notes including cross sections, quantities, mass diagram; profiles, plans, cost estimates required for tendering. Soil considerations including sub-grade, sub-base, base course and load carrying capacity of various pavements. Construction methods. Prerequisite: T05—C203, T05—C206.

T05—C221 Job Control

Critical path method of planning and scheduling; network theory; project scheduling; resource allocation; costing and manpower allocation; applied industrial psychology.

T05—C418 Pavement Mix Design

Rigid Pavements — Portland cements, aggregate requirements, water and admixtures for concretes, proportioning of mixes, properties of fresh concrete, inspection, testing and control of material, testing of concrete; construction practices. Flexible Pavements — types of asphalts, properties and tests of asphaltic materials, specifications for asphaltic material, evaluation and blending of aggregates, design of asphaltic concretes, production and placing of asphaltic concrete mixes, liquid asphalt plant and road mixes, asphalt surface treatments and sealcoats. Prerequisite: T05—C317 or T05—C317.

T05—C419 Terrain Classification

Air photo recognition of the major land forms of the following origins — glacial, fluvial, colluvial, marine, lacustrine and aeolian. Background data on the major rock types, igneous, sedimentary and metamorphic, the work of water, wind and glaciation. The formation of organic and permafrosted organic land forms. Recognition of the more common types of softwoods and hardwoods, found on the Canadian Shield.

T05—C423 Water Supply and Waste Disposal


T05—C424 Hydrology

Hydrologic cycle; hydrologic equation, conversion factors, precipitation — types, measurement, presentation of data, frequency data as a basis of design, stream gauging discharge measurements, velocity measurements, rating curves, mass curves, hydrographs, snow melt. Prerequisite: T05—C312, T10—H329.

T05—C425 Stabilization


T05—D205 Architectural Drafting

The study of styles and techniques for architectural proposal drawings for a row housing development for H.R.C. using C.N.C. site planning standards, complete with the design of individual units and their structural components to national building code standards. The study of styles and techniques for architectural working drawings for a simple office warehouse, complete with design and structural analysis to code standards. Prerequisite: T05—C105.

T05—D208 Strength of Materials

Shear force and bending moment diagrams. Flexure formula, general shear equation, stresses in beams, beam design, combined stresses, Mohr's circle. Prerequisite: T05—C102, T05—C105.

T05—D210 Materials

An introduction to the physical and chemical properties of the commonly used construction materials including steels, non-ferrous metals, concrete, timber, plastics, adhesives, etc. Introduction study of Workshop technology including metals, their alloys, treatments and their uses, machine tools, manufacturing processes and metal joining techniques.
T05—D212 Basic Building Science
Light — light sources and their characteristics, light and illuminations.
Color — basic principles and their application to simple color design in buildings
Sound — basic principles and characteristics of sound and its control.
Electricity — basic principles, materials, wiring design, motor and generator fundamentals.
Psychrometry — heat and change of state, pressure, volume, temperature relationships, introduction to psychrometry and its practical applications.

T05—D221 Machine Drafting
Screw threads, fasteners, keys, rivets, and springs, limits and precision welding drawings, design practices, power transmission, standard symbols and conventions.
Prerequisite: T05—C108.

T05—D305 Architectural Detailing and Design
Iastic architectural aesthetics, presentation drawing techniques, advanced architectural working drawings, advanced structural drawings — application of these in the production of drawings for a student designed rural hotel, followed by the production of proposal presentation drawings for a student designed high rise urban apartment building. Included in these studies are the application of applicable building by-laws and zoning by-laws, and the use of massing models in architectural design.
Prerequisite: T05—D205, T05—D206, T05—D210, T05—D212, Concurrently T05—D311, T05—D322.

T05—D308 Structural Design
The design of simple building foundations such as footings, cast in place concrete piles, spread bores, caissons and driven piles. Design of reinforced concrete building components using ultimate strength, simple and continuous beams and slabs, axially loaded columns, shear walls and retaining walls.
Prerequisite: T05—D208, concurrently T05—D312.

T05—D311 Building Construction
The study of building science principles including function of the building enclosure, water vapour and condensation, rain penetration and moisture removal, principles of enclosure design followed by application of design principles to walls, windows and roof. The study of the methods of construction; qualitative aspects of structural design; and code engineering.
Prerequisite: T05—D210.

T05—D312 Theory of Structures
Structural loads and procedures, load analysis and transmission of structural loads, wall loads including shear, basement and retaining walls, shear and bending moment review, concrete coefficients for beams and slabs.
Prerequisite: T05—D208.

T05—D221 Machine Drafting and Design
Introduction to and practical design of manufactured machines and components, mechanisms, manufacturing controls, industrial processing plants, fluidics and control systems. Introduction to building science including relationship of internal and external environments on the building enclosure, comfort, air quality, air conditioning load analysis thermal and vapour gradients across building enclosures.
Prerequisite: T05—D210, T05—D212, T05—D321, T14—R216.

T05—D322 Materials and Specifications
A detailed study of the physical and chemical properties of the commonly used engineering materials including concrete steels, roofing materials, adhesives, insulations using an analytical approach to material selection using material standards, specifications and codes. The above study to be incorporated into specification writing using the Canadian Building Construction Index and the Specification Writers Association of Canada Format.
Prerequisite: T14—R216, T05—D212, concurrently T05—D305, T05—D411.

T05—D405 Architectural Detailing and Design
Application of previously learned principles and techniques and the study of advanced architectural aesthetics, basic building program analysis, advanced techniques in presentation drawings, coordinated architectural working drawings, complete structural drawing techniques using design techniques learned in structural design subjects. By the application of the above to the production of drawings for a student selected student designed building project that serves a current public need.

T05—D408 Structural Design
The design of individual steel components in accordance with CSA Standard S-16 such as tension members, compression members and base plates, flexural members, bearing plates bolted and welded connections and trusses. Design of simple timber members such as sawn timber beams, built up beams and floor joints, blue laminated beams, plywood box beams and simple timber trusses.
Prerequisite: T05—D208, Concurrently T05—D412.

T05—D412 Theory of Structures
Introduction to three-moment equation and moment distribution for continuous beams, quantitative and qualitative ITDs, truss analysis, deflection calculations using tables and conjugate beam methods.
Prerequisite: T05—D312.
TU5—D421 Mechanical Drafting and Design
Introduction to and practical design of mechanical and electrical equipment and systems for buildings. The course includes: water sources and supply, design for building water distribution systems, waste treatment design of building waste and vent systems, heating systems - hot water, steam, forced air, and electric; design of hot water systems, design of duct work for forced air heating system; design of electric heating systems, refrigeration and cooling systems - design of multizone cooling system using central cooling equipment. Electric wiring and equipment - application of lighting design and building power distribution. Fire protection - methods of alarm and sound and signal systems. Elevators, escalators, moving walks, etc. Prerequisite: TU5—D322.

TU5—D422 Materials and Specifications
A continuation of the format developed for TU5—D322 including doors, windows, glass, finishes such as paint, plasters, floor finishes and ceiling systems. Prerequisite: TU5—D322 concurrently TU5—D405.

TU5—D424 Quantity Surveying
Methods of construction quantity estimating, and unit costing of foundations, concrete, steel, masonry, wood, roofing, finishes.

TU5—S203 Surveying
Systems of survey, township layout and monumentation, topographic surveying and methods determination of volumes using the Polar Planimeter, cross-sections and calculation of areas, theory and use of simple circular, spiral and vertical curves, special curve.

TU5—S204 Theory and Use of Instruments
A study of modern survey instruments, conventional and optical distance measuring - the tape, submense bar, tachometer and the principle of stadia measurements. The field testing and adjustments of the dumpy level and the engineer's transit. Prerequisite: TU5—C103, T10—M129.

TU5—S205 Plan Preparation
Methods of plotting survey information from field notes, the National Topographic Map System symbols, topographic maps. Plotting of preliminary and location plans for route surveys. Site plans for building construction. All plans and maps drafted on linen and India ink where applicable. Prerequisite: TU5—C103, TU5—C106.

TU5—S209 Computer Application
The use of BASIC with a teletype terminal for input, output, arithmetic expressions and functions, decisions, repetition and orderly storage of data. Flow charting a problem. Writing programs for use in surveying (BASIC) Use of a packaged program (COGO) on a terminal. Prerequisite: T10—M139, concurrently T10—M229.

TU5—S215 Survey Camp
The purpose of this field school is to acquaint the students with basic survey techniques and party-chief responsibilities. The field work to include a closed traverse, a closed level circuit, the peg test, reciprocal leveling, angle by repetition and construction surveys. Emphasis is on clear, neat, concise field notes.

TU5—S216 Photogrammetry

TU5—S301 Advanced Surveying
Obstruction surveys - measurement, special curve problems, intersection of a curve with a straight line, intersection with two or more curved right of ways. Replacing spirals with terminal curves. Advanced problems in open and closed traverse. Use of legal survey plans. Emphasis on compiling and use of clear, neat, concise field notes. Prerequisite: TU5—C203, TU5—S204, TU5—S215, T10—M229.

TU5—S304 Theory and Use of Instruments
The main emphasis will be an extensive field practice in the use of modern survey instruments, including the Tachometer, distometer, tellurometer, gyrotheodolite, and the investigation of their capabilities, limitations and precision. Prerequisite: TU5—C203, TU5—S204, TU5—S215.

TU5—S305 Plan Preparation
Drafting of plans under the Manitoba Land Surveys Acts such as right of way, mineral claims, legal plans, certificated for mortgage purposes. Plotting survey plans using angle and distance and rectangular coordinates. All plans to be prepared in accordance with the regulations of the Land Titles Office. Prerequisite: TU5—C203, TU5—C205.
T05—S307 Route Surveys
Circular curve work — tangent shift, inaccessible P.L., compound curves, reverse curves, broken back curves, vertical curves with unequal legs, transition curves for superelevation, C.G.R.A. design standards, quantity design including grades, earthwork quantities, balance points, mass diagrams, over haul, waste and borrow. Preparation of plans, profiles, cross-sections and mass diagrams, contract specifications and tender quantities. Prerequisite: T05—C203, T10—M229.

T05—S316 Photogrammetry
Determination of air base, the parallax bar and parallax bar constant, height determination by parallax bar, correction graphs, profiles and contours by parallax bar, tilt analysis, determination of swing, tilt and exact flying height, theory of analog-photographic stereo plotters, interior, relative and absolute orientation of the Kelsh plotters, laboratory work is designed to give maximum experience with manipulation of the floating dot. Prerequisite: T05—C106, T05—C316, T10—M129.

T05—S317 Soil Mechanics
Nature of soils, soil structure and texture, soil moisture, wet and dry density, void ratio, porosity and degree of saturation, Atterberg limits, grain size analysis, engineering soil classification methods, soil formations. Moisture density relationship standard and modified proctor compaction tests, compaction procedures and equipment, sand cone and volumeter for measurement of in place densities. Soil surveys and sampling procedures.

T05—S402 Terrain Classification
Air photo recognition of the major land forms of the following origins: glacial, fluviol, colluvial, marine, lacustrine and scolian. Background data on the major rock types, igneous, sedimentary, and metamorphic, the work of water, wind and glaciation. The formation of organic and permafrosted organic land forms. Recognition of the more common types of softwoods and hardwoods found on the Canadian shield.

T05—S403 Control Surveys
Principles, equipment and methods of geodetic surveying covering triangulation, trilateration, traverses and leveling. Theory and use of a high order directional theodolite, geodetic level and invar rods, intervisibility of tower sights to establish high order control stations. Precise distance measurements, corrected for curvature and reduced sea level. Conversion of geographic co-ordinates to plane co-ordinates, theory of errors and adjustment of measurements. Strength of figures and reliability of results. Reduction of observations and balancing angles in triangulation nets. Solution of problems illustrating the application of least squares to the adjustment of observations. Empirical constants and formula. Emphasis on compiling and use of clear, neat, concise field notes. Prerequisite: T05—S303, T05—S304.

T05—S406 Legal Surveying
History of legal surveys in the prairie provinces. Survey systems, land registration, legal authority and liability of a surveyor, legal descriptions, water boundaries, monuments, survey acts, principles of evidence, mineral claim surveys, emphasis on methods and importance of compiling clear, neat, concise field notes. Prerequisite: T05—S304.

T05—S407 Town Planning
Objectives of planning, authorities responsible for planning in Manitoba, role of the planner, elements of subdivision design, regulation and acts, development plans and zoning regulations, land subdivision techniques, land utilization and usage to obtain maximum benefit for municipal services and aesthetic value. Drafting subdivision plans. Prerequisite: T05—S205.

T05—S408 Astronomy
The celestial sphere, systems and spherical co-ordinates. Co-ordinates of the observers position. Solution of the astronomical triangle, time system, conversion of one kind of time into another, equation of time, use of the Star Almanac for Land Surveyor corrections to be applied to observations of the sun and stars, elongation and culmination of Polaris, calculation of latitude, local time, azimuth and meridian from observations, observation and calculation of longitude with aid of radio receiving set, use of striding level for observations, field observations on sun, Polaris and Time Stars, emphasis on compiling and use of clear, neat, concise field notes. Prerequisite: T05—S304, T10—M327

T05—S415 Survey Camp
The purpose of this camp is to acquaint the students with advanced and practical survey techniques. The field work to include retracement surveys, closed level circuits, astronomical observation for azimuth, geodetic surveys in trinomometric leveling and second order methods of triangulation and trilateration. Emphasis is on clear, neat, concise field notes. Prerequisite: T05—S307, T05—S403, T05—S406, T05—S408.
T05—S316 Cartography
A study of map projections. Exercises in positive and negative scribing. Map compi-
lcation using plotter and other reproduction methods. Colour reproduction tech-
niques including colour separation. A minimum of 40 hours of plotting at different
scales using the Kelib plotter. Prerequisite: T05—S316.

T05—S424 Hydraulics
Bernoulli's continuity equation - flow measurements with weirs and flumes, open chan-
nel flow, Manning equation, backwater curves. Collection and presentation of precipi-
tation data and run-off data, measuring discharge, stream gauging and graphical presen-
tation of run-off data. Peak discharge and flood run-off, drainage design, flood
protection, sedimentation sampling and methods of soundings. Prerequisite: T05—S229.

T05—T201 Testing Materials
The laboratory portion of this course is to make available all construction materials so the
students can build typical structural and architectural systems and test these systems under loads of
environmental conditions.

T05—T108 Theory of Structures
Shear and bending moment diagrams for beams and frames, the three moment equation,
truss analysis by the method of sections, approximate analysis of indeterminate struc-
tures, structural loads and procedures, fundamentals of moment distribution. Prere-
quise: T05—C202, T05—C205.

T05—T311 Timber Design & Formwork
Design of the individual components of buildings based on CSA standard O86 using the
CTIC handbook to include design of sawn timber beams, glulam beams, joists, rafters,
decking, design of simple sawn columns, single glulam columns, spaced columns, design
of timber fasteners including connectors and bolts, plywood design including stressed
skin panel, stiffened panels and plywood beams. Design of formwork to consist of
basic theory including load and pressures, design procedures from available tables.
Complete design of wall forms, slab forms, column forms, beam forms, shoring and
scaffolding and lateral bracing of forms. Prerequisite: T05—C205.

T05—T317 Soil Mechanics
Nature of soils, soils structure and texture, soil moisture content, wet and dry
density, void ratio, porosity and degree of saturation. Atterberg limits, engineering
soil classification systems and methods of visual identification. Occurrence of
soil water, evaluation of coefficient of permeability, pump test, moisture density
relationships, Standard and Modified Proctor Compaction Tests, compaction procedures
and equipment, use of sand cone, volumeter, and nuclear densimeter to measure in-place
densities. Theory of consolidation, test procedures and settlement calculations.
Theory of shear strength, evaluation of C and Q factors, frost action in soil,
permafrost, soil survey, methods of soil sampling, disturbed and undisturbed,
penetration tests vane shear test. Prerequisite: T05—C205, T14—R214.

T05—T406 Reinforced Concrete Design
Concrete construction, design of simple, doubly reinforced and "T" beams, deflection
and torsion considerations, design of short and long columns, eccentrically loaded col-
umns, design of two way slabs, available computer programs for analysis and design
of concrete systems, design of masonry and R.C. walls. Prerequisite: T05—C206, T05—
B305.

T05—T410 Foundation Design
Stress distribution beneath loaded areas, bearing capacity evaluation; design of
footings (square, rectangular, combined) and raft foundations. End bearing and
friction pile design, evaluation of lateral pressure, analysis of retaining walls,
sheet piling and anchor block, methods of dewatering excavations, foundation layout.
Prerequisite: T05—T317, T05—C317.

T05—T412 Structural Steel Design
Design of the individual components of buildings based on CSA Standard S-16, 1969 us-
ing the C.I.S.C. handbooks, design of rolled tension members, build up tension mem-
ber columns, three plat edwelded columns, hollow structural sections, column base
plates and columns subject to combined axial and bending stress, simple beams, contin-
uous beams, plate girders, lintels, beams subject to biaxial loading, bolted and
welded building connections, design procedure to include both plastic and elastic
methods where applicable. Prerequisite: T05—T308.

T05—T414 Bridge Design
AASHTO specifications, hydrology, hydraulics and soil considerations, culvert design, selection
and installation, reinforced concrete bridge, composite steel and concrete bridge, bridge surveys,
inpection correlated with the design detailing and drawing of plans for a complete bridge,
treated timber bridge.

T05—T415 Estimating
Pretendering investigation, specification, working and shop drawing interpretation, quantity take-off
direct and indirect costs, cost accounting systems and keys. Contract management, analysis of actual
to-estimated costs, subtrade bidding and tendering practices filing and information retrieval systems.
T05-T422 Theory of Structures
Moment distribution for frames, side-way, nonprismatic frames, and wind load, movement and temperature effects, use of computer programs, deflection in beams and frames, deflection methods of structural analysis, determinate arches, shear walls, influence line diagrams. Prerequisite: T05-T308.
MECHANICAL TECHNOLOGY DEPARTMENT

T06-H126 Thermodynamics
The study of the conversion of heat and energy; thermodynamic laws and processes; heat engines and their cycles; gases, vapors, and mixtures. Prerequisites: T06-H201, T06-H209

T06-H127 Library Research
Supervised technical research with current periodicals. This includes work on air conditioning, refrigeration, machine design, I.C. engines, etc.

T06-H130 Air Conditioning and Instrumentation
Heat transfer, air psychrometry, comfort heating and cooling, air conditioning load analysis and heating systems; in addition, study is made of basic instruments and their uses for measurement and indication of typical variables as well as modes of automatic control: indicators, recorders, and controllers in pneumatic, hydraulic, and electronic control systems. Prerequisites: T10-4154, T06-H109, T06-M104, T06-H125

T06-H107 Human Relations & Technical Report
The human relations portion involves case study for understanding people, selection and induction, training employees, developing and maintaining morale, effective communications, appraising employee performance, discipline and corrective action. The technical report portion is designed to make use of the technical theory and practice gained throughout the four terms. The data required for the compilation of a major technical report is to be obtained from work conducted on the shop equipment. Prerequisite: T06-H200

T06-M102 Electrical Fundamentals
An introductory course dealing with the fundamentals of electricity, basic electrical units, battery, principle of Direct Current, circuits, magnetism.

T06-M103 Manufacturing Processes
Shaping and planning, milling, broaching, boring, sawing, filing, grinding, measurement and inspection, machin shop practice, forming and time standards.

T06-M104 Mechanical Drafting
Principles of engineering drawing based on Canadian standard: lettering; instruments and their use; blueprint reading; geometrical drawing; pictorial representation; orthographic projections; sectional views; auxiliary views; isometric and other forms of pictorial drawings; dimensioning; special project.

T06-M105 Applied Mechanics
Statics: force and vector; resolution of forces, free body diagram, equilibrium, simple frame; law of dry friction, first and second moments of area.

T06-M106 Management Methods
A general study of the procedures of industrial management: economic geography; business organization; finance of government; introduction to work study; contract law: analysis of bids; introduction to accounting; contracting practice.

T06-M107 Industrial Materials
A general and detailed study of the properties of the materials of industry, including water and steam, industrial gases, ceramic and organic materials, steels, non-ferrous metals.

T06-M102 Industrial Electronics
Fundamentals of electronics including such topics as: vacuum tube; power supplies, amplifiers, oscillators, relays, transistors, timers, electronic measurement, fundamentals of electronic control. Prerequisite: T06-M102, T06-M101

T06-H204 PERT & CPM
An introduction to the management techniques of PERT and CPM. PERT is the planning and scheduling technique used to answer the question of completion dates. CPM is basically concerned with obtaining the trade-off between cost and completion date for large projects.

T06-M105 Applied Mechanics
Dynamics: rectilinear and circular motion, force, motion and mass moment of inertia, work, energy, and momentum, mechanisms. Prerequisites: T06-M101, T06-M105

T06-H107 Production Welding
A study of the basic physics of the welding processes and influence of material properties on quality. The course emphasizes MIG, TIG, submerged arc, and resistance welding methods, welding power supply; use of welding positioners, effects of different shielding gases, the effects of heat in the fusion zone, heat-treating, together with destructive and non-destructive testing methods, and metallurgical investigations. Prerequisite: T06-M107

T06-M108 Stress Analysis
Poisson's ratio, stress-strain relationship; temperature stresses; pressure cylinders, torsion, welded joints, torque, shear and bending; simply supported beams, design of beam, columns, selection of suitable sections for beams and columns; tensile, fatigue, hardness, impact and experimental stress analysis. Prerequisites: T06-M105, T06-M101
T06-M209 Industrial Fluid Mechanics
Introductory concepts of fluid pressure, head, force, buoyancy, Bernoulli's equation, offices, nozzle, hydro-dynamic, flow of fluid in pipes, Reynolds's number, viscosity, fluids. Prerequisite: T06-M101

T06-M301 Work Study
Methods study, motion study, work sampling, work measurement, case study, report writing, cost analysis, productivity, working conditions, network theory, project scheduling, job overlap, critical path, float, manpower allocation, schedule compression, advanced network techniques and project analysis. Prerequisites: T06-M200, T06-M201, T06-M204

T06-M311 Fluid Power
Introduction to oil hydraulics; principle of power hydraulics; hydraulic fluids; hydraulic piping, and sealing, reservoirs and fluid conditioners; hydraulic actuators; directional control; servo valves; pressure control; volume controls; pumps, accessories; and industrial hydraulic circuits. Prerequisite: T06-M209

T06-M312 Machine Design
Application of strength of materials to mechanical design; simple stress analysis; materials and their properties; variable loads and stress concentrations; couplings; brake. Prerequisite: T06-M201, T06-M205, T06-M204, T06-M208

T06-0101 Automation
A course of study in the design of low-cost automation systems, and simple logic devices, using electrical, pneumatic, fluidic, and hydraulic components. The integration of material handling components into such systems is included — conveyors, sensors, feeders, and orientors. Prerequisites: T06-M102, T06-M104, T06-M210

T06-0102 Electricity
Electron theory; Ohm's Law; magnetism and induction; D.C. circuits; parallel and series; Lenz's Law; B.C. measuring instruments; B.C. meters and generator; principles of A.C. current.

T06-0103 Instrumentation & Controls
Fundamentals of temperature; pressure and flow measurement. Control valves; semi-automatic and programming flame failure protection systems; flame rod and photo electrical cell types and applications; self-correcting controls for refrigeration systems.

T06-0106 Elementary Thermal Studies
Work, energy and power. Calorimetry, thermal expansion, conduction, radiation, convection. A basic law of thermodynamics. A quantitative approach with applications.

T06-0108 Drafting & Blueprint Reading
The language of drafting; use and care of instruments; pictorial representation; views; dimensions and tolerances, sections.

T06-0111 Refrigeration
Theory of mechanical compression refrigeration, cycle of refrigeration, types and characteristics of refrigerants, use of tables, detail of system components, basic controls.

T06-0201 Power Plant Theory & Practice
(a) Section 1 - Steam Generation—Uses and Codes; types of boiler, boiler and furnace construction; heat transfer; theory of combustion; draft, fuels and firing equipment, boiler fittings, pumps and pipe fittings; pumps and injectors.
(b) Section 2 - Steam Use—Heating systems; use of steam tables. Simple steam engines and pumps. Turbine theory; types; and operating conditions.
(c) Section 3 - Shop Practice—Students will undertake a project involving use of hand tools and an introduction to the operation, capabilities, and care of machine tools.

T06-0202 Electricity
Single and three-phase circuits. A.C. transformer, motor and generator; A.C. measuring instruments; relays, circuit breakers, motor starter, Preventive and running maintenance of plant electrical equipment; code; elementary electronics, inductance, capacitance, impedance, power factor. Prerequisites: T06-0101

T06-0203 Instrumentation & Controls
Theory of on-off, proportion, ratio, rate and floating control. Typical pneumatic and electrical boiler combustion control systems; automatic draft regulation; electrical controls for refrigeration and air-conditioning systems. Prerequisite: T06-0103

T06-0205 Applied Mechanics
Stresses and strain. Thermal stresses. Motion, friction and equilibrium. Energy and mechanical advantage. Fluids at rest and in motion. Prerequisite: T06-0105
TO6-0208 Drafting & Blueprint Reading
Shop sketching; orthographic, oblique and isometric sketching and drawing practice. Electrical and pipe-fitting symbol and layout drawings. Prerequisite: TO6-0108

TO6-0210 Welding (Practical)
Students will be introduced to oxyacetylene. The capabilities and the safe operation and proper care of welding equipment.

TO6-0211 Refrigeration (2 For 2 Tr. Only)
Operation and maintenance of direct and indirect systems. Trouble shooting on basic systems. Theory of air conditioning, basic controls. The absorption system. Prerequisite: TO6-0111

TO6-0301 Advanced Power Plant Theory
More advanced study of code, construction details, and plant applications of TO6-0101

TO6-0401 Advanced Power Plant Theory
In depth background to TO6-0701, types of specialized equipment.

TO6-0302 Metallurgy
Mechanical and non-destructive tests, macro examination of metal, micro examination, solidification of metal, phase diagrams and their interpretation, iron and carbon steel, heat treatment of steel, alloy steel, cast iron, light alloys, miscellaneous non-ferrous alloys, corrosion phenomena, high temperature alloys, metallurgical aspects of metal joining. Prerequisite: TO6-0307

TO6-0403 Advanced Manufacturing Processes
Induction heating methods and design of induction heating coil, machinability and the free-cutting metals, tooling and production in single and multiple spindle automatic lathe, precision grinding, distortion and distortion control in heat treating, metal cleaning, finishing, and plating, programming for numerically-controlled machine tool using word address and tab sequential tape formats and APT language, optical comparator method, and surface roughness recording and analysis. Prerequisite: TO6-0301

TO6-0507 Technical Research & Report
This course is designed to make use of the technical theory and practice gained throughout the four terms. The data required for the compilation of a major technical report is to be obtained from work conducted on the shop equipment. Prerequisite: TO6-M200

TO6-P611 Production Planning & layout
The shop and office organization of job and production work in manufacturing, including the principal and procedures of paper systems, material handling, equipment, inventory management and procurement, process planning, estimating, scheduling, plant loading, dispatching, controlling, design of unit load, shipping and receiving, transportation, work station design, general plant layout material flow, packaging, analysis, special handling problems, cost analysis, learning curves, Organization charts, linear programming, and economic lot size. Prerequisite: TO6-M103, TO6-M304

TO6-P630 Management Studies
A study of industrial marketing and human relations in industry, including communication, motivation and labour relations.
108-303 Industrial Electronics
A comprehensive course on electronic amplifiers which discusses preamplifiers, power amplifiers and operational amplifiers, the use of amplifiers is illustrated with specific applications from electrical technology.

108-304 Electrical Measurements
Wave forms and AC meters, potentiometric wave forms, potentiometer, rectifier instruments, thermoelectric instruments, electronic voltmeters, power and energy, balance effects, wattmeters, thermal converters, polyphase power measurements, power factor meters, instrument transformers, current transformers, potential transformers, standard burdens, accuracy classes, effect of C.T.'s and P.T.'s on metering.

108-305 Electrical Practices and Design
Underwriters, Canadian Electrical code, resistance and wire sizing, basic circuits and devices, overcurrent devices, conductor selection, grounding, wiring methods, motor conductor, sizing and control, electrical design and layout, wiring in hazard locations, auxiliary systems, main distribution design, electric heat, illumination.

108-307 Linear Circuit Analysis
Circuit concepts are developed with the aid of mathematical tools to provide a more illuminating understanding of electrical networks and devices, matrix methods of analysis, application of the Laplace transform method to the solution of transient problems, computer solutions, balanced and unbalanced three phase circuits.

108-308 Electrical Machines
Armature reaction and commutation in DC machines, alternating current generators and motors, basic electrical behavior and constructional features, synchronous motor electrical features, squirrel cage and round rotor induction machines, induction motor equivalent circuits and torque speed curves, introduction to amplitidyne, fractional horsepower machines.

108-309 Digital and Computer Control Techniques
Computer control of industrial processes, programming and documentation, operation of the computer system, interfacing the computer to the control environment, program overlays, control algorithms, application examples.

108-310 Industrial Electronics
Various rectifier and filter circuits for single and three phase, AC to DC and DC to AC conversion by means of SCT and saturable reactor circuits, SCR power control circuits with application to motor speed control and welder control, digital circuits, discussion of several special devices.

108-311 Electrical Transmission Measurements
Transformer concepts, equivalent circuits, polarity testing, exciting and inrush current, harmonics in three phase banks, parallel operation of transformers, automatic transformers, transmission line theory, analog telemetry systems, digital telemetry systems, power system grounding consideration.

108-312 Switchgear and Protection
Various types of switches, various types of relays, various types of circuit breaker, fault current calculations, protective devices.

108-313 Manufacturing Techniques
Double sided and multilayer printed circuit techniques, plating, drilling, punching, soldering, cleaning and finishing, panel etching, assembly techniques, human engineering, maintenance, environmental and economic considerations, component selection, potting materials and techniques.

108-314 Fluid Mechanics
Properties of fluids, conversion of units, physical properties of gases, manometers, buoyancy and flotation, fundamentals of fluid flow, fluid flow in pipe, properties of steam, head flow meters, orifice, venturi flow nozzle, calculations for mixing head flow meters, variable area flow meters, meters for measuring differential pressure, turbine flow meter, magnetic flow meter, positive displacement meters.

108-315 Industrial Electronics
A comprehensive course on electronic amplifiers which discusses preamplifiers, power amplifiers and operational amplifiers, insight into amplifier operation is gained by discussion of several instrumentation measurement problems.

108-316 Final Control Elements
The different valves, sizing techniques, noise calculations, correct application of trim, positional control elements, spring force balance, piston, valve positioners, DC stepping motors, drives.

108-317 Electrical Principles
Single phase circuits, three phase circuits, loading techniques, conductors, insulation, wiring methods, fuses, breakers, grounding, motors, various connections, DC and AC motors, controllers, insulation specifications and testing.
T08-1106 Process Measurements
Art and science of measurements, calibration, accuracy, errors, instrument flow plan symbols, control instruments mechanism, motion balance, force balance, pressure measurement, mechanical pressure elements, strain gage pressure transducers, electrical pressure transducers, high vacuum measurement, level measurement, float type mechanisms, force balance diaphragm systems, sonic level detectors, solids level detector density measurement.

T08-1402 Computer Control Systems
Computer control of industrial processes, programming and documentation, operation of the computer system, interfacing the computer to the control environment, program overlays, control algorithms, application examples.

T08-1403 Industrial Electronics
The following topics are discussed: DC power supplied, SCR control, oscillators, inverters, wave shaping, logic and counting circuits, electrical noise in circuits, transducers, electronic instruments and signal conditioners.

T08-1406 Process Measurements
Temperature measurement, theory and practice of thermocouples, theory of null balancing systems, theory and practice of resistance thermometry, theory and practice of thermistors, filled systems, radiation pyrometry, optical pyrometry, typical applications for temperature measurement and control, moisture and humidity measurement, psychrometric properties of air, dry wet bulb humidity measurement, industrial weighters, viscosity and consistency measurements, velocity and acceleration sensors.

T08-1407 Industrial Control Application
Control valves, control valve bodies, plug characteristics, actuators, positioners, control valve sizing for fluid steam, electrical power control systems, controllers, applications relating to pulp and paper processing, mineral processing, water treatment turbo-compressor, surge controls.

T08-1410 Process Analysis
Control criteria of good control, pneumatic control mechanism, control modes proportional, reset, rate, resistance, capacitance, dead time, self regulation, process characteristics, transient response, system frequencies, controller adjustments, cascade control, ratio control, selective control systems, feed forward control systems.

T08-1413 Technical Research & Report
Research, design, construction, testing and writing a report on a project of interest in the Instrumentation field.
Electronic Technology Department

T09-E301 Electric Circuits
- Ohm's law; power and energy; series and parallel circuits; series-parallel circuits; AC network analysis; Introduction to AC concepts; impedance; series and parallel AC circuits; series-parallel AC circuits; AC network analysis.

T09-E302 Basic Electronics
- Safety; soldering techniques; physical characteristics of components; factors affecting resistance; temperature effects; wire tables; capacitors; types and color coding; tolerance; dielectric strength; wiring and fabrication techniques; vacuum tubes; diodes; triodes; basic amplifiers; biasing techniques. Prerequisite: T09-E101

T09-E303 Electrical/Electronic Drawing
- Techniques and lettering: pictorials; device symbols; production drawings; block diagrams; schematics; industrial control drawings; major project.

T09-E304 Basic Electrical Instruments
- Units & prefixes; lab orientation; practical lab familiarization; care and use of instruments; theory and operation of DC meters; voltmeters, ammeters; multimeters; testing circuits; DC bridge; AC bridge; AC bridge and impedance measurements. Prerequisite: T09-E101

T09-E301 Electric Circuits
- AC network analysis; power in AC circuits; resonance; magnetic circuits; transformers. Prerequisite: T10-M33, T09-E101

T09-E302 Basic Electronics
- Semiconductor characteristics; transistor biasing; transistor circuit configurations; DC analysis; graphical analysis. Prerequisite: T09-E101, T09-E102, T09-E104

T09-E305 Manufacturing Techniques
- Double sided and multilayer printed circuit techniques; plating, drilling, punching, cold; cleaning and finishing; panel etching; assembly techniques; human engineering maintenance; environmental and economic considerations; component selection; potting materials; and techniques.

T09-E306 Introductory Logic
- This course covers introduction to solid state logic, number systems, binary, logic circuits, boolean algebra, flip-flops, latches and counters.

T09-E307 Introductory Programming
- This course is divided into two parts: I. Introductory programming using BASIC - programming concepts, flow charts, programming techniques and examples - uses the College PDP 11/70 timeshare system. II. This covers assembler level programming on the 6800 microcomputer.

T09-E303 Electronic Device
- Semiconductor characteristics; amplifiers; bias techniques; small signal equivalent circuit analysis; analysis of small signal amplifiers; power amplifiers; cascade amplifiers; oscillator circuits. Prerequisite: T09-E200 Corequisite: T09-E303

T09-E304 Electronic Measurements
- Electronic measuring instruments; AC, DC, and UHF measuring techniques. Prerequisite: T09-E201, T09-E204

T09-E304 Linear Control Systems
- Analog Control - System Terminology and example; block diagram reduction; system equations; system components; frequency response analysis; stability criteria. Prerequisite: T10-M33

T09-E305 Communication Theory
- Ammeter Circuits
- RF Amplifiers
- IF Oscillator
- Modulation Modulation
- Frequency Modulation
- Single Sideband
- Pulse Modulation
- Multiple Transmission
- Corequisite T09-E205

T09-E306 Digital Theory
- TTL Characteristics; Logic, Counter, Dividers, Shift Registers, Latches, Decoder Driver; Seven Segment LED and Cold Cathode Display, Multiplexer, Multiplexer; Memory, Multiplexer and Decoders, Expander; and Expandable Gates, Non-Static. Prerequisite: T09-E203.
TO9-E301 **Electronic Circuits & Fields**
Transmission lines; parameters and equations; high frequency and applications of transmission lines; guided electromagnetic waves; selected types in microwave antennas and propagation. Prerequisite: TO9-E305

TO9-E302 **Electronic Devices**
Tunnel diodes, unijunction transistors, Silicon Controlled Rectifiers; Triacs; Diodes; Optoelectronic devices; Puls, Zero Cross-Over switches, Ceramic Filters. Prerequisite: TO9-E302

TO9-E303 **Integrated Circuits**
Monolithic and Film Technology, Linear Circuits: (OP amps, Comparators, Voltage Regulator, Phase Lock Loop, Switching Regulators, Active Filters, Ultra Sonic Transceivers), Introduction to MOS and BIL Circuits. Prerequisite: TO9-E306

TO9-E304 **Radio Systems**

TO9-E305 **Microwave Systems**
Functional and schematic diagrams of a RCA 3102 dual microwave system covering multiplex, receiver, transmitter, antenna feeders and branching networks. Microwave terminology, measurement, performance testing and evaluation of a system. Prerequisite: TO9-E304 Corequisite: TO9-E301

TO9-E306 **Digital Control Systems Using Microprocessors**
Review of Number Systems, gating circuits, Flip-Flops, Counters, Shift Register; Logic Applications; System Design; Input and Output Interface; Calculators; Microprocessors. Prerequisite: TO9-E306 Corequisite: TO9-E307

TO9-E307 **Television Systems**
B & W TV theory - servicing and fault finding procedures. Colour TV theory. Prerequisite: TO9-E904, TO9-E305

TO9-E308 **Audio Systems**
Design of preamplifiers, power amplifiers, mixers and equalizers; Analysis of tuners, tape recorder, turntables, microphones, cartridges. Design of speakers and enclosures: acoustics. Corequisite: TO9-E303

TO9-E309 **Radar Systems**
Subsystems - receiver, transmitter, antenna; types of radar - search, tracking, fire control, early warning, weather, air traffic control. Design, testing of a specific application reception, noise, propagation, sensitivity, noise figure. Prerequisite: TO9-E303, TO9-E305

TO9-E310 **Business Topics**
Study in business management, financing, selling advertising and personnel.

TO9-E311 **Systems Project**
Investigation of approved topic. Construction and Testing of the system in consideration, followed by submission of a formal report. Prerequisite: Complete Term 1.
T10-M115 Algebra and Trigonometry
Elementary Statistics, errors and uncertainties in computations with measured values; elementary algebra, calculators, logarithms, trigonometric relations and identities, vectors; equations solution methods, determinants, introduction to matrices, quadratic and higher order equations, straight line circle, parabola, ellipse, polar co-ordinates.

T10-M117 Algebra, Trigonometry and Computer Programming
Numbers, Arithmetic operations, Algebraic equations, functions, plotting, exponents, logarithms, equations - linear and quadratic, trigonometry, Introduction to Basic Programming.

T10-M129 Algebra and Trigonometry
Right-angled triangle, trigonometric functions, $0^\circ$ to $360^\circ$ and radians. Exponents and logarithms. Linear equations, algebraic products and factoring, quadratics, roots of equations. Trigonometric identities. Straight line and circles.

T10-M132 Algebra and Trigonometry
This is an introductory course in Engineering Mathematics. Those topics in algebra and trigonometry applicable to Electrical, Computer and Electronic technologies are emphasized. These include topics in algebra, trigonometry, matrices and complex numbers. The course also serves as a preparation for courses in applied Calculus.

T10-M141 Mathematics I
This is a skill development course in arithmetic, applied geometry and lower level algebra - topics commonly found in high school courses - but which recognize the need for their mastery among adult students who have (in the main) been away from high school courses for some time. Emphasis is also placed upon held-held calculator skills, and in simple but realistic applications.

T10-M146 Algebra and Trigonometry

T10-M152 Mathematics I
Review of arithmetic operations, algebraic operations; exponential and logarithmic operations, ratio and proportion, linear and quadratic equations; simple descriptive statistics and the normal distribution; errors and error analysis; introduction to computer time-share and application.

T10-M215 Introductory Calculus
Derivatives with applications; related rates, curve sketching max-min problems, differentiation of transcendental functions with applications. Differentials. Integration with applications: area under a curve, volume of revolution, work, Numerical Integration.

T10-M220 Introductory Calculus
This course is an introduction to calculus. The approach is basically intuitive rather than unduly rigorous, yet it follows an algebraic and trigonometric foundation. Aside from the usual introductory applications, areas, volumes of revolution, and moments of inertia are emphasized.

T10-M221 Introductory Calculus
This course is an introduction to calculus. The approach is intuitive and conceptual rather than rigorous. The emphasis is on problem solving with graphical representation and curve sketching.

T10-M227 Surveying Mathematics
Plane triangles and circles, basic statistics and graphs, plane and analytical geometry, differentiation of simple expressions and trigonometric functions. Problems relating to triangles in surveying.

T10-M229 Introductory Calculus
3-d geometry. Differentiation of algebraic functions, slopes, maxima, rates, derivatives. Definite and indefinite integration, areas, use of computer, arithmetic, input and output, formats, volumes, moments of inertia, work as a result of variable forces, logarithms, flow chart.

T10-M232 Introductory Calculus
Differentiation of powers, products, sums, trigonometry functions, logs and exponentials, slope, velocity, maxima and minima. Integration, definite and indefinite, area under a curve.

T10-M241 Mathematics II
This course extends the Term I course from algebra into logarithms, trigonometry and the practical measurement of areas and volumes. Rather than simply involving skill development, this course begins to introduce the student into field applications.

T10-M246 Introductory Calculus and Programming
Limits, differentiation, curve sketching, related rates, max-min problems, differentials, integration, area under a curve, numerical integration, differential of transcendental functions, integration of transcendental functions. Introduction to Basic programming.

T10-M315 Calculus and Programming
Applications of the calculus to chemical problems, rates, min-max, inflection, approximations, uncertainty, areas by Simpson's rule, volumes of revolution, work, heat capacity, partial differentiation and applications in thermodynamics, Maclaurin, Taylor and Fourier series, introduction to differential equations, matrix algebra and basic Fortran programming.
T10-N316 calculus and Programming
Applications of the calculus to chemical and biochemical problems, min-max, inflection, approximation, uncertainty, areas by Simpson's rule, work, heat capacity, partial differentiation differential equations applications to kinetics and rate processes and basic Fortran programming.

T10-N327 Advanced Surveying Mathematics
Corrections of the geodetic quadrilateral, J-c, the right angled tetrahedron, spherical triangles,。

T10-N329 Calculus and Statistics
Statistics: Descriptive (parametric) distributions, measures of central tendency, measures of dispersion, the standard deviation, standard scores, probability distributions, bimodal, poisson and normal distributions, sampling theory, statistical decision theory, null hypothesis and significance, the chi-square test, correlation and regression, Calculus; differentiation of transcendental functions, integration of some integration methods: algebraic substitution, trignometric substitution, integration by parts, expansion of functions in series, first order linear differential equations and their application.

T10-N332 Topics in Mathematics and Computer Programming
Power series. Fourier series, differential equations with emphasis on Laplace transform solutions and applications in electric circuit theory. Computer programming in TANIC and FORTRAN languages with applications in Electronics Technology and the CM3 application program for solution of continuous systems.

T10-N333 Advanced Calculus
Integration involving partial fractions, Maclaurin and Taylor series, Fourier series, Laplace transforms, Differential equations, Multiple Integration and Partial Derivatives.

T10-N334 Advanced Calculus
Integration involving partial fractions, Maclaurin and Taylor series, Fourier series, Laplace transforms and Differential equations.

T10-N335 Advanced Calculus

T10-N346 Calculus and Programming
Integration by use of tables, volumes by integration, centroids, moment of inertia, work, arc length surface area, calculation of two independent variables, three dimensional sketching, partial differentials with applications, multiple integrals with applications, Taylor series, Maclaurin series, Introduction to differential equations, basic programming.

T10-N345 Numerical Methods
Laplace transforms - wave forms, complex numbers, arc lengths, volumes, attraction, multiple integration, convergence of series, analogue computers, binary arithmetic, FORTRAN IV programming.

T10-P20 Computer Programming
This course provides an introduction to computer programming in the BASIC language. In "interactive keyboard" provides immediate access to and response from the computer. Two hours class time per week will be evenly divided between lecture and laboratory time. The course will include topics on data manipulation, input, output, arithmetic operations and some file handling techniques.

T10-P412 Applications Programming For Electronics
Computer aided analysis for electronic circuit design and applications. Use of Electronic Circuit Analysis Program (ECAP). Selected topics using advanced FORTRAN programming language.

T10-P130 Physics I
Physical quantities, units and measurement, kinematics and dynamics of translational motion, conservation of energy and momentum, Electrostatic force, field and potential, capacitance, Magnetic fields due to current carrying wires. Force on a current carrying wire in a magnetic field, Induced emf, atomic and molecular structure bond theory of crystalline Solids, electric magnetic and optical properties of materials and physics of Semi-conductor devices.

T10-P141 Elementary Thermal Studies
This is a physics theory course which emphasizes both non-SI and SI units in quantitative problem solving applications. Thermal studies form the body of this course as they relate to expansion in the three states of matter, calorimetry, heat transfer, steam tables, and thermal resistance.

T10-P141 Physics II
Linear mechanics and dynamics of motion, elastic properties of solids and liquids, fluid mechanics and heat transfer. Mechanical and electromagnetic oscillations, waves in elastic media, electromagnetic waves, lasers and fibre optics.
T10-5431 Mechanics
Though this is a short theory course in mechanics, it leans strongly toward problem solving applications. Fluid mechanics (hydrostatics and hydraulics) are included along with the usual topics of kinematics, vectors and moments, friction and mechanical advantage.

T10-5152 Elementary Statistics and Quality Control
Review of simple descriptive statistics, errors, probability, quality control charts using mean, range, and sum, testing, confidence limits, chi, T and F tests, simple analysis of variance, linear regression and non-parametric methods, application problems and computer programs and applications. Prerequisite: T10-M152.

T10-5432 Statistics and Quality Control
Modern quality control combines effective testing and inspection with statistical aids. Statistical methods permit sampling procedures that minimize sampling risk while at the same time maximizing the relative quality protection attainable. Statistically established limits on control charts signal a warning when a production process has gone out of control. This course examines the statistical techniques which are related to quality control.

T10-5446 Statistics and Quality Control
See T10-5432.
INDUSTRIAL - ELECTRICAL DEPARTMENT

T11-A001 Fundamental of Electricity
Voltage-current relation in a.c. and d.c. circuits; magnetism and effects of the changing magnetic field; measuring instruments, pilot devices.

T11-A002 A.C. Fundamentals
Voltage-current relation in a.c. circuits containing resistance, inductance, capacitance.

T11-A003 A.C. Motors
Single-phase; construction, operating principles and characteristics.

T11-A004 Electrical Code
Application of the Canadian Electrical Code in the appliance field leading to a limited licence.

T11-A007 Elementary Circuitry Theory
Theory and practice of circuits containing switches, relays, pilot devices, etc.

T11-A009 Elementary Circuitry Practical
Practical wiring of bell circuits, switching method, relay, pilot device and alarm systems.

T11-A011 Electric Renewable Theory
Theory of disassembling, testing and replacing parts, checking out circuits, diagnosis of faults and repair required.

T11-A015 Electric Repair Practical
Disassembling, testing and replacing parts, checking out circuits, diagnosis of faults and repair required.

T11-A017 Microwave Ovens
Application of microwave ovens. Servicing procedures and safety checks of electrical interlocks.

T11-A019 Electric Dryer Theory
Theory of operation of dryer, testing and checking out circuits, diagnosis of faults, emphasis on circuitry and air circulating system.

T11-A021 Electric Dryer Practical
Disassembling, testing and replacing parts, checking out circuits, diagnosis of faults and repair required.

T11-A023 Automatic Washing Machines Theory
Theory of washing machines, testing and replacing of parts, checking out circuits and diagnosis of faults. Emphasis on the mechanics of the machines.

T11-A025 Automatic Washing Machine Practical
Disassembling, testing and replacing of parts, checking out circuits and diagnosis of faults. Emphasis on mechanical operation.

T11-A027 Refrigeration (Household) Theory
D.c. refrigeration cycle. Replacing compressors, controls, repairing leaks, recharging system with refrigerant. Testing equipment, etc. (The student will use service manual, parts and price lists, shop work orders, make out invoices, etc.)

T11-A029 Refrigeration (Household) Practical
Testing units electrical systems. Testing refrigeration circuits and probes. Repairing of refrigeration system, order parts. Ship and receive goods. Using service manuals and work order procedures.

T11-S001 Fundamentals of Electricity
Electrical theory and Ohm's Law. Atistance of wire, volt drop and power applications. Measuring instrument, magnetism and electro-magnetic induction.

T11-S003 D.C. Machines and Control
Characteristics of D.C. motor and generator, types, applications and control methods used.

T11-S005 Electrical Laboratory
To connect electrical equipment to D.C. and A.C. source to prove theories taught in E-001.

T11-S007 Residential Blueprint Reading
Blueprint reading and calling. Application and use of code rules pertaining to residential wiring. Residential circuit calculations and services.

T11-S009 Residential Wiring
To practice the method and technique of residential wiring.

T11-S011 Alternating Current Fundamentals
Voltage and current relations in series and parallel A.C. circuit containing resistance, inductance and/or capacitance.
TIL-53 Three Phase and Transformers
Voltage and current relationship in single and three phase systems. Principle of operation of single and three phase systems. Transformer connections and polarity testing. Special type transformer applications. A.C. and A.C. instruments.

TIL-55 A.C. Machines and Controls
The operating principle of alternator and motor in single and three phase systems and their control.

TIL-57 Electrical Laboratory A.C.
To connect electrical equipment to an A.C. source to determine their behaviors and characteristics.

TIL-59 Commercial Blueprint Reading
Blueprint reading and applied code in commercial type occupancies. Electrical code calculations.

TIL-65 Commercial Wiring
To practice the method and technique as they apply to commercial buildings. A.C. wiring of motor control equipment.

TIL-68 Electric Motor Repair
Theory of operation of single phase motors. Procedure for analyzing motor faults, stripping and rewinding motors.

TIL-68 Electric Motor Repair (Practical)
Analyzing of motor faults, stripping, rewinding and bearing renewal, if necessary, testing.

TIL-81 Safety and Fundamentals Theory
Types of injuries from mechanical causes, electrical and refrigerant burns, explosions, toxic gases, etc. Trade terms, types of heat, heat transfer methods, volumes, pressures, density. Formulas used in calculations. Tools of the trade, fittings and other materials.

TIL-83 Safety and Fundamentals Practical
Types of injuries from mechanical causes, electrical and refrigerant burns, explosions, toxic gases, etc. Trade terms, types of heat, heat transfer methods, volumes, pressures, density. Formulas used in calculations. Tools of the trade, fittings and other materials.

TIL-85 Refrigeration Systems Theory
The refrigeration cycle. Compressors, condensers, refrigerant metering devices, evaporators, refrigerants, oils, temperature controls, charging and testing systems.

TIL-91 Refrigeration Systems Practical
The refrigeration cycle. Compressors, condensers, refrigerant metering devices, evaporators, refrigerants, oils, temperature controls, charging and testing systems.

TIL-93 Commercial Systems Theory
Types of systems - Low-temperature, medium temperature; remote; multiple; open type; and sealed units. Defrosting systems - Reverse cycle systems; heat pumps. Types of installations. Application and selection of equipment and accessories, installation of and servicing of equipment, adjusting of controls.

TIL-97 Commercial Systems Practical
Types of systems - Low-temperature, medium temperature, remote; multiple; open type; and sealed units. Defrosting systems - Reverse cycle systems; heat pumps. Types of installations. Application and selection of equipment and accessories, installation of and servicing of equipment, adjusting of controls.

TIL-99 Calculation of Heat Transfer Theory
Compressor capacities, speed ratios, evaporator capacity, pipe sizing and component selection.

TIL-01 Calculation of Heat Transfer Practical
Compressor capacities, speed ratios, evaporator capacity, pipe sizing and component selection.

TIL-05 Air Conditioning Systems Theory
Direct expansion, water chiller. Single, multiple, air and its properties. Types of compressors used. Fans, filters, and air distribution systems.

TIL-09 Air Conditioning Systems Practical
Direct expansion, water chiller. Single, multiple, air and its properties. Types of compressors used. Fans, filters, and air distribution systems.

TIL-11 Refrigeration Electrical Theory
Electrical circuits, magnetism, motors, relays, controls, and control systems. Electrical code pertinent to refrigeration equipment.

TIL-15 Refrigeration Electrical Practical
Electrical circuits, magnetism, motors, relays, controls and control systems. Electrical code pertinent to refrigeration equipment.
ELECTRONICS INDUSTRIAL DEPARTMENT

T12—O01 DC Fundamentals
Conductors, resistors, insulators, Ohm's law, resistance measurements and calculations, magnetism, capacity, inductance, time constants, VOM, VTM, capacity testers.

T12—O03 AC Fundamentals
Basic AC generators, frequency spectrum, reactance, impedance, resonance, phase relationships, oscilloscopes.

T12—O05 Electronic Fundamentals
Vacuum tubes and OFRs and their characteristics. Semiconductors and their characteristics. Gain, microphoners, speakers, audio amplifiers, LC and RC oscillators, modulation and demodulation, mixing and the superheterodyne principle, power supplies, tubes and transistors.

T12—O07 Radio Receivers and Servicing
R.F. amplifiers, converters, IF amplifiers, detection, AF amplifiers, AGC systems, alignment and alignment generators, superheterodyne tracking, image and beat interference, servicing techniques.

T12—O51 Television Standards and Fundamentals
Bandwith requirements, interlaced scanning and vestigial sideband transmission, composite signal, standards for black and white television.

T12—O53 Television Signal Circuits
The tuner, video IF amplifiers, video amplifiers, sound systems, alignment equipment and alignment techniques. Troubleshooting the signal circuits.

T12—O55 Television Deflection Circuits
Deflection generators, vertical deflection systems, horizontal deflection and high voltage systems. Horizontal AFC circuits. Troubleshooting the deflection systems.

T12—O57 Television Auxiliary Circuits
Vertical and horizontal sync signals, sync separation and sync circuits. Simple and keyed AGC systems, Power supplies. Troubleshooting sync, AGC and power supplies.

T12—O59 Antennas and Master Antenna Systems
Types of antennas, balanced and unbalanced transmission lines, multielement antennas, all channel antennas, distribution systems.

T12—O61 Shop Planning and Management
Equipping and planning a television shop. Service calls and charging for service work. Bench service and charges for micro work. Customer relations.

T12—O63 Circuito Television
Applications of CCTV, Vidicon camera, sync and deflection generators, switching units and remote control units, monitors and slave receivers.

T12—O65 Safety
Safe use of hand and power tools, cleaning solutions and solvents. Safe handling and working with large high vacuum cathode ray tubes. Safe use of electronic test equipment when working with very high voltages.

T12—O67 Field Orientation
Student observes first hand the working of a television service shop and accompanies the technician on home service calls. The student writes a report on the orientation and receives an evaluation by the service manager of the participating shops.

T12—O75 NTSC Standards For Color Television
Light and color, the NTSC system, composition of the color video signal.

T12—O77 Controls and Adjustments
Consumer controls, technician controls, degaussing, purity, static and dynamic convergence. Practice in adjusting purity and convergence. Troubleshooting and repair of TV sets.

T12—O79 Monochrome Circuits
Tuner and VIF response in a color set. Sound take off. Video amplifiers, vertical deflection, horizontal deflection and alignment, HV regulators, LV power supplies. Troubleshooting and repairing of color TV sets.

T12—O81 Chroma Circuits
Chroma IF and required response. Aligning chroma I.F. High and low level demodulators, matrixing systems, chroma amplifiers, Keyed rainbow generator, testing demodulator and chroma circuits. Troubleshooting and repairing of color TV sets.

T12—O83 Color Sync Circuits
Burst amplifier, 3.58 mhz oscillator and AFC control, Crystal ringing circuits, APFC alignment. Repairing color TV sets.
T12-D085 FM and FM Stereo
Monaural broadcasting of FM block diagram of FM, monaural receiver, combination toners, stacked FM detectors, stereo broadcasting, FM composite signal and multiplexing, carrier insertion, degrading and matrixing, S/A, Phase locked loop system.

T12-D087 Basic Audio Amplifiers
Classes of amplifiers, single ended and push-pull amplifiers, tone and balance controls, measuring gain, frequency range, distortion and power trouble shooting.

T12-D089 Tape Recording and Tape Transports
Magnetic recording principles, magnetic heads, bias oscillators, cassettes, 8-track and reel to reel system, aligning and cleaning heads, troubleshooting and servicing tape recorders.

T12-D091 Signal Sources
Characteristics of crystal, ceramic, dynamic and ribbon microphones, crystal, ceramic and reluctance pickups.

T12-D093 Speakers and Speaker System
Leads, horns, and wide angle, woofers, midrange and tweeters, speaker enclosures, cross-over networks, phasing speakers.

T12-D095 Changers and Turntables
Synchronous motors, simple turntable and changers, correcting changer problems, servo controlled direct and belt drive turntables.

T12-T001 DC Fundamentals
Structure of atoms, conductors and insulators, electric charges, units of measurement, Ohm's law, circuit measurements and calculations, magnetism, capacity, inductance, time constants.

T12-T003 AC Fundamentals
Sine waves, frequency spectrum, reactance, impedance, calculations, resonance, phasor relationships, practical considerations.

T12-T005 Test Equipment
VOM, TVOM, oscilloscopes, sine and square wave generators, tube and transistor testers.

T12-T007 Transistors and Tubes
Tube structure, characteristics, operating parameters, semiconductor physics, alpha and beta gain, types of transistors, handling techniques.

T12-T009 Power Supplies
Transformers, half and full wave rectifiers, voltage doublers, bridge rectifiers, filters, voltage regulators.

T12-T011 Amplifiers
Circuit configurations, coupling methods, stage gain, negative feedback, differential and operational amplifiers.

T12-T013 Oscillators, Multivibrators and Flip-Flops
Common types of RC and LC oscillators, sine wave and square wave oscillators.

T12-T051 Timing Fundamentals
Review of RC time constants and sine wave values.

T12-T053 Gas-filled Electron Tubes
Ionization, glow discharge, VR tubes, phonotrons. Inductive carryover in inductive loads.

T12-T055 Thyatrons and Controls
Thyatrons, control of firing time, bias control, phase shift circuits.

T12-T057 Electron Tube Time Delay
Vacuum and gaseous tube grid control, time delay circuits.

T12-T059 Semiconductors
Basic theory and construction, junction diodes, transistors, circuit configurations, integrated circuit

T12-T061 Photo-sensitive Devices
Light sensitive materials, phototube construction and operation, circuit applications.

T12-T063 Relays
Theory and types of relays, DC and AC circuit applications. Time delay circuits.

T12-T065 Voltage Regulators
Voltage regulation defined. Circuit analysis of various types of regulators.

T12-T067 Field Effect Transistors
Theory of operation, J-Fets, Mos-Fets, Characteristics and applications.

T12-T069 Pulse and Gating Circuits
Analysis of solid state circuits using discrete and integrated circuit components.
T12-1071 Closed Circuit Television
Applications and systems, video and control circuits, detection and failure protection, sync
generator, slave receivers and typical circuits.

T12-1010 Morse Code (Receiving and Sending)
Instruction and practice to enable the student to send and receive International Morse code at a
rate of 15 WPM in plain language and 16 groups per minute in cipher.

T12-1011 Electrical Fundamentals
Electrical theory, sources of electric current, AC and DC, resistance and Ohm's law, Magnetism,
inductance and transformer action. Primary and secondary cells. Measuring instruments for AC
and DC for voltage, current and resistance.

T12-1020 Normal Traffic Procedure
International commercial procedures designed to insure message traffic can be passed between
transmitting and receiving stations of any nation.

T12-1021 Basic Electronics Theory
Vacuum tube and transistor fundamentals. Rectifiers, tube and solid state. Amplifiers, tube and
solid state.

T12-1024 Special Service Procedure
Special service procedures for procedural of administrative message traffic. Distress traffic.

T12-1021 Basic Electronic Circuits
Oscillators, amplifiers, frequency doublers, power supplies.

T12-1030 Toll Computation
Calculation of message charges (tolls) which are internationally standardized.

T12-1041 Communication Receivers
HF and superheterodyne receivers. Bandspread and oscillator tracking. Alignment and elementary
fault finding. AF, IF and AF amplifiers, detection and filtering.

T12-1041 Communication Transmitters
AM and FM transmitters, keying, modulation, parasitic suppression, power supplies.

T12-1051 Antenna Theory and Propagation
Propagation of radio signals, antenna theory, vertical and horizontal antennas and radiation patterns,
directive and gain. Transmission lines and characteristic impedance.

T12-1071 Test Equipment
RF, VHF, or microwave, RF and RF signal generators.

T12-1081 Test Equipment
Current and voltage, circuits and troubleshooting.

T12-1021 Direction Finders and Emergency Equipment
Normal marine emergency transmitters and receivers. Direction finders and lifeboat equipment.

T12-1073 Electronics Fundamentals
Series and parallel DC circuits, magnetism, motors, generators, series and parallel AC circuits,
inductance and inductive reactance, current and capacitive impedance, resonant circuits. Time
constants, resonators, oscillators, transistors, signal generators, impedance bridges. Practical test equipment
use and care.

T12-1081 Semiconductors and Vacuum Tubes
Tube and transistor electronics, operating parameters, biasing techniques, terminal
identification, handling techniques, transistor and tube testing, specifications and interpretation.

T12-1085 Basic Radio Receivers and Transmitters
Power amplifiers, AF amplifiers, AM detectors, IF amplifiers, oscillators, superheterodyne,
receiver alignment and troubleshooting. Amplitude and frequency modulation, transmitter principles
and diagrams.

T12-1061 Transmission Lines, Antennas and Introduction to Microwave
Characteristics of transmission line antennas, wavelength and electrical characteristics of transmission lines, SWR
measurements and calculations, basic antenna types and characteristics, microwave frequency spectrum, E and H fields,
propagation modes, waveguides, attenuators, resonant bands, irises, couplers, bends, dielectric lenses. Microwave devices, Gunn oscillators, cavities, directional couplers, switches, duplexer.

T12-1052 Communications Receivers and Transmitters
Theory of operation of CW, AM, SSB, DSB, FM and FM transmitters and receivers; analysis of practical
circuits. Performance testing, alignment, adjustment and troubleshooting of VHF FM transmitters.
T12-T055 Basic Telecommunications Concepts
Basic organization of telephone systems, frequency division multiplex carrier systems, balanced
bridge and lattice modulators, filters, attenuating pads, in and out band signalling, pilot signals,
alarms. Time division multiplex techniques, PAM, PCM, PPM, PAM. Microwave, VHF, coaxial cable,
toll multiconductors, open wire lines.

T12-T057 Pulse Techniques and Digital Logic
The nature of the pulse and how it is reacted upon by differentiators, integrators, clippers, DC
restorers and pulse amplifiers and their related compensation networks. Multivibrators of all
types, Schmidt trigger, JK and D type flip flops, AND, OR, NAND, NOR gates in DOL, DTL, TTL
configurations, Diode matrices, half adders, full adders, NAND gate flip-flops, binary, octal,
BCD and hexadecimal notation.

T12-T059 Introduction to Data Transmission
Information flow, media limitations, synchronous and asynchronous transmission, duplexing, modulation
techniques, FSK, AM-USB, DCPM, bipolar transmission parameters, attenuation distortion, envelope delay,
impulse noise, phase hits and phase jitter, parity, Baudot code, Ascii code, error rates.

T12-T061 Circuit Reading
Schematic diagrams, wiring diagrams, project drawings, symbols, attached and detached drawings,
cross references, interpretation of notes and options.
110.

MATH AND SCIENCE DEPARTMENT

T13-M120 Meat Cutting Math
The SI metric system is used exclusively. Four basic operations with whole numbers, fractions, decimals, simple equations, percent (mark-up, discount) meat shrinkage ratio and proportion, denominate numbers. (Introduction to metric work shop given where necessary.

T13-M501 Upholstery Math I
Individual progress program - Diagnostic tests to identify remedial requirements for each student. Each student is required to complete basic assignments on each of these topics: Whole Numbers, Fractions, Decimals, Elementary Algebra (one unknown), Percent, Ratio and Proportion, Metric Measure/Calculation, Denominate numbers, Squam, Square Roots, Pythagoras Theorem, Measure Distances, Perimeters, Circumferences, measure area of various geometric figures, calculate volume/capacity for various shapes of containers.

T13-M502 Masonry Math
Math concepts: whole numbers, fractions, decimals, equations, percent, ratio and proportion, square roots, Pythagorean Theorem, arc lengths, Parabolic arch, geometric designs, volumes. Practical Exercises: masonry exercises #1, #2, perimeter, area, volume. ME #3, 4 Percent calculations and estimating masonry unit quantities, arc lengths of semental arches, estimating costs. Three multiple choice tests.

T13-M504 Welding Math Gas
Individual progress mathematics program utilizing diagnostic tests to identify remedial requirements for each student. Students are required to complete basic assignments on each of the following topics: Operations with whole numbers, fractions and decimals, solving and writing simple equations with one unknown, percent calculations, ratio and proportions, denominate numbers, metric measurement and calculation, squares and square roots, right angle triangle, phythagoras theorem, measure of distance, perimeters and circumference, measure of surface area of various geometric figures, calculation of volume/capacity/mass for commonly used shapes of containers.

T13-M506 Sheet Metal Math
See T13-M504.

T13-M507 Painting & Dec. Math
Addition, subtraction, multiplication and division of: whole numbers, fractions, decimals, linear measurements, perimeters, circumferences. Surface area measurements, squares, rectangles, triangles, trapezoid, irregular shape.

T13-M508 Automotive Math I
Individual Progress Math. Program utilizing Diagnostic Test Material to identify remedial requirements for each student. Students are required to complete basic assignments on each of the following topics: 4 operations with whole numbers, fractions, decimals, elementary algebra using one unknown, percent, ratio and proportion, denominate numbers, metric measures and calculations, exponents, scientific notation/significant digits, squares/square roots, pythagoras theorem, perimeter/circumferences, areas, various figures, volume/capacity of commonly used shapes of containers.

T13-M509 Autobody Math I
Whole numbers, fractions, decimals, equations, percent and ratio and proportion.

T13-M511 Machine Shop Math

T13-M512 Carpentry Math
Fractions, decimals, percent, board measure, area, rectilinear, square root, circular measurement, ratio and proportion, volume, cylinder, cones, pyramids.

T13-M513 Plumbing Math
Mathematics which is directly related to the trade. It covers fractions, decimals, square root, area, volume (both rectilinear and cylinder) and offset calculations.
T13-M514 Drafting Math
Review of basic operations, square roots, areas and volumes and weight, algebraic expressions, linear equations and transposition, graphs, geometry, trigonometry, vectors.

T13-M515 Appliance Servicing Math

T13-M516 Refrigeration Math
See T13-M515.

T13-M517 Electrical Math I
Whole number operations, fractions, decimals, percent, denominate numbers, ratio and proportion, signed numbers, basic area and volume, right triangle, sine, cosine, tangent, equations, powers of ten, square roots, algebra, trigonometry, vectors and logarithm, law of sines, law of cosines.

T13-M518 Domestic Electronics Math
Survey test of math concepts for adding and subtracting to trig. Equations applying Ohm's law to DC circuits, ratio and proportion, reciprocals, powers of ten, scientific notation, electronic measurement units, pythagorean theorem, square roots, trig functions, trig applied to phasors in AC theory, calculating impedance, voltage drops, phase shifts and power dissipation in AC circuits, vector analysis of AC parallel circuits, common logs and decibels, simultaneous solutions of three equations, applying Kirchoff's laws to multiple power source circuits.

T13-M519 Radio Ops Math
Survey test of math concepts from adding and subtracting numbers to trig. Reciprocals, equations applying Ohm's law to DC circuits, ratio and proportion, powers of ten, trig functions, trig applied to sine wave and vectors, trig applied to phasors in AC theory, calculating impedance, voltage drops, phase shifts and power dissipation in AC circuits, vector analysis of AC parallel circuits, common logs and decibels.

T13-M520 Electronics Math II
Algebra, powers of ten, exponents, ratio, trigonometry, logarithms, simultaneous equations, problem solving (AC and DC circuits) decibels, network analysis, number system, Boolean algebra.

T13-M620 Electronics Math II
AC series and parallel circuit calculations. Logarithms and decibels, number system and switching logic.

T13-S114 Photo Tech Science
Review of mathematics - fractions, decimals, scientific notation, algebra, formula transposition, positive negative numbers, common logs, 1st quad trig. Light and illumination - nature of light, wave theory, photometric units, calculations of illuminance, point source, live source, spot light, reflection, refraction, geometric optics, image formations by spherical mirrors, lenses, magnification, aberration, spherical, chromatic, coma, polarization, fundamentals of chemistry, atomic structure, periodic table, molarity, molality, compounds, acids, bases, valence, electronic flash, basic electricity.

T13-S214 Power Eng. Science I
Consists of a basic introduction of chemistry including the structure of the atom, oxidation no's, writing chemical formulae and equations, stoichiometry. Consists of the discussion of water including pH, solutions, titration impurities in boiler water, detrimental effects of impurities removal of impurities and test for impurities, discussion of theoretical combustion of fuels, exhaust gas analysis.

T13-S314 Power Eng. Science II
The application of basic chemical theory to power plant processes. Chemical analysis of treating of industrial water, corrosion, boiler scale, combustion of fuels, air required for combustion of various fuels and requirements of metals in power plants.

T13-S501 Meteorology Science
To be determined.

T13-S504 Welding Science Gas
Mining methods, refining of ore, steel making furnaces, types of steel, heat treatment of steel and critical temperatures, effects of welding on steel and lattice structure, influence of expansion, mechanical properties, alloys and stainless steels.
T13-S506 Sheet Metal Science
Matter and energy, heat measurement, heat transfer, conversion and heat loss calculations, ventilation, measurement of air flow, pressure losses in duct systems, psychrometrics, properties of air, humidity.

T13-S507 Paint and Dec. Science
Structure of matter, chemical and physical change, solutions and emulsions, paint components, pigments, properties of pigments, manufacture and uses of pigments, comparison of important pigments, comparison and uses of various vehicles, driers, solvents, thinners, lacquer solvents and thinners, reinforcing agents, color — spectrum color systems, color harmony, types of abrasives, coated abrasives, selecting abrasive products, structure of wood, seasoning, veneers and plywood, staining defects, wood preservatives.

T13-S508 Power Mechanics Science
Electricity and magnetism, Atomic theory, static electricity, condensers, circuits, batteries, transformers, DM motors, DC and AC generators, hydraulics, pressure, Pascal's principle, brakes, brake fluids, kinetic energy, centripetal force, matter, Properties of solids, liquids, and gases. Heat — temperature scales, expansion due to heat, heat transfer, machines — simple machines, work power, gear trains gear ratios.

T13-S509 Autobody P/E Term 1 Science
Heat and its effect on metals, corrosion, abrasive materials, bands, grinding wheels, color and the spectrum, pigments and pigment mixing, paint and lacquer, basic DC electricity and electrical wiring, cleaning fluids.

T13-S510 Mach. Shop P/E Science
Metallurgy, expansion, heat, stress and strain, forces and moments and torque, beams, work power, horse power and gear drive systems, belt and pulley systems, centroids.

T13-S511 Carpentry Science
Study of wood — general information, classification, structure types, seasoning, sawing, grain, defects, preserving, plywood and grades. Timber Fasteners — holding power, types of nails, application, Abrasives — types, sizing, use, basic elements. Insulation and heat loss fundamentals — methods of heat transfer and loss from buildings, new method of rating and identifying insulation, different building materials and types of construction, general classes and types, application, vapor barriers, causes of condensation, curing.

T13-S512 Plumbing Science
Fractions, decimals, measurements, percent, square root, area (rectilinear and circular sphere), pressure head, ratio and proportion, 45° - 60° offsets, properties of water, matter, compounds, states of matter, heat and temperature, sensible and latent heat, temp. conversion, specific heat, relative density, pH, hardness, water treatment, mechanics — simple machines, M.A. efficiency calculation. Corrosion — Chemical and electrochemical, galvanic series, galvanic cell, methods of protecting against corrosion. Metals and Alloys — reasons for alloying, conductivity expansion, physical and mechanical properties. Hydraulics — pneumatics, adhesion-cohesion, forces of pressure and weight, atmospheric pressure, absolute pressure, Boyle's law, siphons, buoyancy flow rate, resistance to flow, head, venture, tables and charts.

T13-S513 Appliance Servicing Science
Work and power, gas pressure, heat energy, friction and lubricants, strength of materials, water solutions and water treatment, pH scale, psychrometrics, air and its properties, principles of refrigeration, corrosion, basic semi-conductor theory, abrasives and abrasive products.

T13-S514 Refrigeration P/E Science
Heat energy, heat transfer formulas, heat conductances, pressure, enthalpy diagram relationships, principles of psychrometrics, psychrometric processes, fan laws, pressures in duct systems, refrigerant oils, small load calculations.

T13-S515 Elect P/E Term 1 Science
Structure of matter (Electron physics), Electrostatics (Electric fields), magnetism (magnetic fields), Electro-magnetism, electro-magnetic devices (DC), applied AC to Electrical and Electro-magnetic devices, physics of heat, (Thermo-Electric), Light (Photoelectric), Sound (Piezo-Electric), solid state physics (semi-conductor physical) machines, lighting.

T13-S516 Domestic Electronic Science I
Structure of matter, electrostatics and magnetism, electromagnetism and electromagnetic devices, applied AC to electrostatic and electromagnetic devices, physics of heat, light and sound, solid state physics transistor IC's, antenna and transmission line theory.
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**T13-5519 Radio Ops Science**
Structure of matter, electrostatics and magnetism, electromagnetism and electromagnetic devices, applied AC to electrostatic and electromagnetic device, physics of heat, light and sound, semiconductor theory, transistor theory.

**T13-5520 Electronics Science**
Structure of matter, electrostatics and magnetism, electromagnetism and electromagnetic devices, applied AC to electrostatic and electromagnetic device, physics to heat, light and sound, semiconductor theory, transistor theory, applied solid state controls.

**T13-5618 Domestic Electronics Science 2**
Vacuum tubes, triode, dentode, CRT, Colour CRTS, delta-gun, in-line, Vidicon Camera, basic antenna and transmission lines, light and colour, transformers and reactors, Solid state devices, VDRS Thermistors, varactors, FETS, CS, Switching and Gating devices (CCTV).
COMMUNICATIONS DEPARTMENT

Til—C116 Communication
An essentially practical course designed to give technologists experience in preparing writing and presenting technical information in the form required by industry.

Til—C126 Communication I
An essentially practical course designed to give Power Engineers experience in preparing, writing and presenting technical information in the form required by industry.

Til—C126 Communication II
The emphasis is on improving written and oral communication skills required in an industrial environment. Topics include writing instruction and information sheets, conducting technical briefings, giving oral instructions, interviewing and writing letters of application. Prerequisite: Til—C126 or Til—C116.

Til—C502 Communication
A program similar to Til—C504, but only 20 hours duration.

Til—C503 Communication
A program similar to Til—C504, but only 30 hours duration.

Til—C504 Communication
A self-paced practical course that develops communication skills from four viewpoints: job-seeker, employee, junior supervisor, small business owner. The course is tailored to fit the needs of individual students and the requirements of the Advisory Boards.

Til—C512 Communication I
First half of Til—C504.

Til—C522 Communication 2
Second half of Til—C504. Prerequisite: Til—C502.

Til—C531 Communication
A self-paced short practical course to develop communication skills of the student as job seeker and employee.

Til—R216 Report Writing
Communication topics emphasize formal report writing and oral presentation of technical information covering illustration of reports, letter of application, and employment interview. (Specific topics include interpretation of specifications, the preparation and writing of specifications, standard forms, requisitions, work orders, changing orders, purchase orders, etc.) Prerequisite: Til—C116.

Til—R216 Report Writing
This course emphasizes formal report writing and oral presentation of technical information. Additional topics covered include preparing reports, instruction and description writing, letter of application, employment interview. Prerequisite: Til—C116.

Til—R238 Report Writing
A program similar to Til—R216; includes 20 hours of industrial psychology.

Til—R503 Report Writing
A practical course in oral and written business communication, report writing, and job finding techniques.

Til—R614 Report Writing
A short course that teaches students to write clearly, concisely and directly in both the objective and subjective modes. Students write short reports, summaries, analyses, and make brief oral presentations.
T15-A01 Appliance Repair - Gas
This is a 3 week course designed to give appliance service students some understanding of gas piping, service, repair and correct methods of connecting and disconnecting gas appliances such as dryers and ranges.

T15-P001 Introduction to the Piping Trades and General Information
Type of work, tools, materials, equipment, safety.

T15-P002 General Shop Work, Practical
Identification and use of tools, fittings, and materials; material handling, safety and rigging; use of torches and lead work.

T15-P003 Piping, Materials and Pumps, Theory
Cast iron, galvanized iron, copper, lead, plastic, glass, uses of each, methods of assembling, supporting, handling, storing, and types of tools used with each.

T15-P004 Piping, Materials and Pumps, Practical
The joining of cast iron, galvanized black iron, copper, plastic and asbestos cement pipe by methods such as screwed, soldered, caulked, mechanical joints, glued, victanic, flanged and compression ring fittings. The assembly of valves and some basic pump installations.

T15-P005 Regulations and Project Installations, Theory
Interpretation of plumbing code, sizing of sewers, drains, stacks, vents, etc. drawing layouts and constructing actual installations from layouts and blueprints.

T15-P006 Project Installations, Practical
With the knowledge of materials and code previously covered, rough in a common bungalow, rough in a rural home, rough in a commercial project, install fixtures for residential and commercial, do water piping and test all products.

T15-P007 Hot Water Heating, Theory
An introduction to space heating, types of heat, transfer equipment, hot water boilers, circulating pump and controls, a study of hot water systems.

T15-P008 Hot Water Heating, Practical
Hanging and grading mains, installing radiation, connecting to the boiler, testing and operating the system.
T7-E101. Pre-Trade Training for Women, Theory
This course will contain confidence building, self assessment, decision making and evaluation of all experiences gathered in this course.

T7-E102. Pre-Trade Training for Women, Practical
This unit of instruction will provide female students with a hands-on experience in various trades normally occupied by men. These are: Automotive, Construction, Plumbing, Masonry, Electrical, Sheet Metal, Welding, Machine Shop, Painting and Electronics. The intent is to provide experiences which will aid in the selection of a non-traditional occupation.

T7-E103. Pre-Trade Training for Women, Training in Industry
The student will be exposed to actual situations in industry.

T7-T101. Knowledge of Equipment
Students learn the rudiments of professional driving, such as types of equipment, engines, clutches, transmissions, rear axles, tires, maintenance, electrical systems, etc.

T7-T102. Practical Driver Training
The student learns to drive vehicles over 24,000 lbs. gross weight except buses and semi-trailers. These vehicles are of various types, such as tandem dump trucks, vans, and tractors. They have different engines, rear ends and transmissions.

T7-T103. Safety & First Aid
Safety and First Aid are taught constantly but a formal 8 hours training session conducted by the St. John's Ambulance staff is included.

T7-T104. Air Brake, Practical
The student learns the air brake system and its actual operation.

T7-T105. Air Brake, Theory
The student learns the air brake principle and the checking procedures.

T7-T106. Final Driver Test, Class III
The student submits to the final driver's test conducted by the Motor Vehicle Branch. The successful graduate will receive a class III driver's licence with an air brake endorsement.

T7-T107. Rules of Operation
The students learn the theoretical aspects of the industry. Emphasis is placed on rules of the road, weights, licences, regulations and freight handling.

T7-T101. Knowledge of Equipment
The student learns the different kinds and types of tractors, trucks and trailers, their components and instruments.

T7-T202. Practical Driver Training
The student will physically operate and drive the vehicles. The exercises are steering, backing up, turning, and clearing obstacles. He/She will advance to driving in traffic on multilane highways and in the city. Each trainee will be given the opportunity of driving about 300 miles.

T7-T203. Safety and Fire Prevention
Safety is an integral part of the course and focus is on road hazards, good driving habits and fire fighting and prevention.

T7-T204. Final Driver Test, Class I
The student submits to the final driver's test, conducted by the Motor Vehicle Branch of the Department of Highways. Upon successful completion the graduate will have a class I licence with air brake endorsement.

T7-T205. Driving Theory
The students learn about public and human relations, commodity handling, documentation, trip orientation and the pertaining laws and regulations.