1994-1995
Calendar
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Red River Community College (RRCC) reserves the right to make changes to the information contained in this calendar without prior notice. Although every attempt is made to ensure accuracy and adherence to program outlines and policies and procedures as stated, the College reserves the right to make changes to program content, instructional methods, fees, rules and regulations and to cancel programs when deemed necessary.

The Board of Governors, its officers, 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 College's instruction program, wherever conducted, or incidental to other activities on the College's properties or elsewhere.
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Section C — Course Descriptions
As you explore the various career options that are available to you, I hope that you will give serious consideration to enrolling in one of the many programs offered at Red River Community College. Over the years, our graduates have consistently exceeded an 85% overall employment rate which is indicative of our ongoing efforts to provide a quality educational experience. We are extremely proud of our many graduates who continue to be very successful in their chosen careers.

The concept of job security has been changing. Instead of being provided by a particular employer throughout one's working life, security is now associated with the skills possessed by an individual regardless of employer. It is therefore important that you acquire a sound educational base and then continue to expand throughout your life. RRCC is committed to providing programs, courses, and services to assist you in establishing a strong base for your entire career.

RRCC would like to be part of your future. Come and talk with us.

Dr. Tony Knowles
President
# Policies, Procedures and Services

## Section A

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Academic Policies and Procedures

The following policies and procedures apply to all courses and programs at Red River Community College. Students are reminded that it is their personal responsibility to be familiar with these policies and procedures. Divisions may have supplementary policies and procedures available at the time of registration. If students are in doubt about any aspect of these policies and procedures, they should consult their department head or dean.

Security of Academic Records

Guidelines on the disclosure of student records information are intended to protect the individual’s right to privacy and confidentiality of academic records throughout the College. A student’s academic record does not include health or counselling records, which are kept separately from the academic records. Student marks and personal information are released to external parties only with the written consent of the student.

Certain incidents of a disciplinary, safety, health, or criminal nature that lead to suspension or expulsion are noted permanently on the College’s internal records.

Attendance/Absence from Class

Students are provided with a timetable which indicates when and where each class will be held. Requests for changes to a timetable must receive written approval of the Chair. Regular attendance is expected and may be mandatory for some courses in the various divisions. Students are advised of attendance requirements when their classes begin in a course/program.

A student who remains away from classes for five consecutive class days without notifying the Chair and obtaining approval may be considered to have withdrawn (See Student Readmission to Program Policy). Students who receive financial assistance should also consult with the sponsoring agency to determine what special conditions may apply to attendance.

Absence for any cause in no way relieves students of the responsibility for completing the work in courses and programs to the satisfaction of the instructor. Students unavoidably absent or late because of illness or some other acceptable cause are still responsible for classwork or assignments missed. They must advise their instructor and/or Chair and make other arrangements for handing in completed assignments. Students may be required to provide medical certificates, or other documentation as appropriate. This attendance policy does not apply to apprentices attending the College for the institutional component of their apprenticeship program. However, apprentices are required to comply with the attendance policy established by the Apprenticeship and Training Branch, Manitoba Education and Training.

Transferring Programs within Red River Community College

In order to improve accessibility and to provide flexibility, students may transfer between programs. Students wishing to transfer to another program should contact the Chair of their department. An enrolled student may be permitted to transfer from one program to another provided:

a) there is space available in the program to which transfer is requested;

b) the student has the prerequisite(s) for the program;

c) the transfer is approved by the Deans and Chairs of both departments.

Courses submitted for transfer within Red River Community College must meet the following criteria:

1) the course has been examined;
2) the student has a minimum of a D;
3) the course is equivalent in content and duration to the course for which credit is being requested;
4) the standard of the course is acceptable to the receiving department;
5) the course was completed within the past five years (eight years for Continuing Education).

Note: the "N" (e.g. B11-A191N Accounting) following any Continuing Education course code number indicates that the course has been evaluated, and that a credit in the course may be transferred to a day program.

Transfer of Credits to Red River Community College Programs

Credits gained at another post-secondary institution may be transferred to Red River Community College and used as credits toward a College certificate or diploma.

Procedures:
a) a written request for credit must be submitted to the Chair or Dean no later than three weeks after the commencement date of the course. Preferably, requests for credit should be made prior to the commencement of a course;
b) transfer credit will be granted only to students registered in a program at Red River Community College;
c) normally, only courses completed successfully with a grade of C or better will be considered for transfer. Programs using a competency-based-learning format may require higher standards of proficiency for transfer credit;
d) individual courses will be evaluated for credit by the appropriate Chair. Length of time since the course/program was taken will be a factor considered in granting of credit. For Continuing Education students, the evaluation will be conducted in collaboration with the appropriate academic Chair if credit is also being sought in a day program;
e) it will be the student’s responsibility to provide original or certified transcripts and course descriptions to assist in the assessment of equivalency;
f) for the purpose of evaluating previous academic experience, the person conducting the evaluation may request an interview with a transfer student. If necessary, one or more instructors may also participate in the interview.
g) the decision of the person conducting the evaluation must be approved by the Dean of the instructional area (or designate) or, in the case of Continuing Education courses, by the Dean, Continuing Education;
h) credits granted on a transfer basis will appear on the student's record as CR, with no grade point value;
i) no student will be granted more than 75% of the credit requirements for graduation through transfer of credits. The balance must be earned through actual studies at Red River Community College.

Note: Requests to assess out-of-country credentials will be considered on an individual basis.

Prior Learning Assessment/Challenge for Credit

Prior learning assessment (PLA) at Red River Community College is a process in which individuals have the opportunity to obtain credit for skills and knowledge gained outside the classroom and/or through other educational programs. Prospective applicants should contact Registration or the appropriate Chair to obtain specific information about procedures and fees.
Progress in College Programs

Students must maintain a satisfactory scholastic standing to progress from term to term in a program. Satisfactory scholastic standing is determined by individual departments and progression requirements are formally communicated to students at the beginning of the program.

Certain program areas are designated for mastery learning, where there are clearly defined standards of performance. To receive credit in these areas, students must demonstrate mastery of all knowledge and performance requirements.

Students who fail to make satisfactory progress or who show poor attendance may be placed on academic probation. Specific conditions will be identified that must be met by the student within a specific time. If these conditions are not met, the student may be required to withdraw from the program.

Evaluation of Student Progress

The regulations pertaining to the method of evaluation for courses are established by the instructional department and will be available in writing within the first two weeks after classes begin.

1) Evaluation of Students in Programs Delivered in Traditional Mode

A student's final standing is determined by achievement throughout the term or level, taking into consideration evaluation measures such as classroom tests and examinations, laboratory work, essays, reports, projects, supervised practical experience, participation, and attendance.

Instructors normally advise students of the method of evaluation in each course at the beginning of the instructional term. Students have a responsibility to ensure they receive information on evaluation methods and how these will be applied in each course.

In most courses, term essays, projects, reports, labs, and tests account for a substantial portion of the final grade. Students must submit assignments on time as work submitted after established deadlines may receive reduced or failing grades. If unable to meet the established deadlines, students are responsible for making other arrangements with their instructors/department heads.

2) Evaluation of Students in Competency-Based-Learning Programs

Students are evaluated on identified course competencies on a module-by-module basis. The method of evaluation, along with achievement expectations for each module, is evaluated individually and given an individual rating.

For most competencies, students have up to three attempts to demonstrate their competency by completing a knowledge test at a minimum 80% level, and completing a performance test in which all essential criteria are achieved. Chairs and/or instructors in specific program areas may establish limitations on the number of attempts a student may make for specified competencies, and will inform students of these limitations when they enter the program. Mastery standing will be awarded for each competency achieved.

Student grades for each competency will be recorded as:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Mastery</td>
</tr>
<tr>
<td>INC</td>
<td>Incomplete — some requirements outstanding</td>
</tr>
<tr>
<td>CR</td>
<td>Credit awarded</td>
</tr>
<tr>
<td>NM</td>
<td>Non-mastery</td>
</tr>
</tbody>
</table>

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A statement is made on the transcript indicating that "Mastery" means that 80% or higher was achieved in both knowledge and performance tests for that competency. Program maps including time guidelines are provided to students. Instructors, who work with students as student advisors, will assist students in monitoring their progress and planning their approach to the next modules. Deadlines are established for completion of a minimum level of competencies. Students who may be unavoidably absent for some acceptable cause, must advise their instructors and Chair and make other arrangements for completing requirements.

3) Evaluation in Co-operative Education/Work Experience

Students who register for programs that have co-operative education work terms, or in programs that have practical/work experience, must accept that some evaluations may be carried out by persons who are not college instructors.

4) Grading System

The grading system applies to all courses offered for credit, whether in regular day or Continuing Education programs. The level of student achievement in each course of a program is denoted by a letter grade, as follows:

<table>
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<tr>
<th>Letter Grade</th>
<th>Point Description</th>
<th>Grade Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.5</td>
<td>Outstanding</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
<td>Excellent</td>
</tr>
<tr>
<td>B+</td>
<td>3.5</td>
<td>Very good</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>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>P</td>
<td>N/A</td>
<td>Pass</td>
</tr>
<tr>
<td>DNW</td>
<td>N/A</td>
<td>Did not write</td>
</tr>
<tr>
<td>CR</td>
<td>N/A</td>
<td>Credit awarded</td>
</tr>
<tr>
<td>INC</td>
<td>N/A</td>
<td>Incomplete – some requirements outstanding</td>
</tr>
<tr>
<td>PT</td>
<td>N/A</td>
<td>Prematurely terminated from program</td>
</tr>
<tr>
<td>VW</td>
<td>N/A</td>
<td>Voluntary withdrawal</td>
</tr>
<tr>
<td>CMP</td>
<td>N/A</td>
<td>Completed</td>
</tr>
<tr>
<td>NC</td>
<td>N/A</td>
<td>Not completed</td>
</tr>
<tr>
<td>MR</td>
<td>N/A</td>
<td>Mark recorded in subsequent terms</td>
</tr>
<tr>
<td>...</td>
<td>N/A</td>
<td>Mark not yet recorded</td>
</tr>
<tr>
<td>M</td>
<td>N/A</td>
<td>Mastery</td>
</tr>
<tr>
<td>NM</td>
<td>N/A</td>
<td>Non-mastery</td>
</tr>
</tbody>
</table>

Departments that equate letter grades to percentages for courses taught in a traditional format will establish a scale that indicates percentage ranges. Credit (CR) is recorded for competencies awarded through experiential learning or from another recognized training or post-secondary educational institution.

a) Credit Hours: Credit hours attached to a course reflect the relative weighting of that course within a program of study. These credit hours are used as the course weighting when calculating the grade point average. Note that not all courses are assigned credit hours.
b) **Grade Point Average:** A grade point average (GPA) is calculated by multiplying the grade points achieved in each course by the course credit hours. The total product thus obtained is divided by the total credit hours for the courses taken.

\[
\text{GPA} = \frac{\text{Total Grade Points earned}}{\text{Total Credit Hours}}
\]

**Example:**

<table>
<thead>
<tr>
<th>Course Points</th>
<th>Course Credit Hours</th>
<th>Associated Letter Grade</th>
<th>Grade</th>
<th>Grade Points</th>
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<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>B</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>C</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>D</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>A</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>C+</td>
<td>2.5</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>CR</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>39</td>
</tr>
</tbody>
</table>

\[
\text{Total Grade Points} = 39
\]

\[
\text{Total Credit Hours} = 18
\]

\[
\text{GPA} = \frac{39}{18} = 2.16
\]

c) **Cumulative Grade Point Average:** The Cumulative GPA is the grade point average obtained over all terms/years of a program. It is the cumulative grade point total divided by the total number of credit hours attempted at the College.

d) **Student Transcripts:** Terminating students in most programs are provided with a transcript. Each terminating student in a competency-based-learning program is provided with a transcript of competencies attained. Graduating students receive a transcript and a certificate or diploma.

**Final Examinations**

Students who absent themselves from examination sittings without a valid reason acceptable to the applicable Chair will receive a grade of F.

A student who is unable to write a final examination because of illness or other mitigating circumstances, must notify the Chair as soon as possible. Thereafter, the student must provide the Chair with a written advisement within seven days of the date of the exam. Verification (such as a physician’s certificate, etc.) may be required. The student will receive a grade of DNW (did not write). The Chair will make arrangements with the student to write a suitable final examination as soon as possible.

If there are circumstances, such as illness, which may affect the student’s performance on an examination, and the student chooses to write the examination, he/she cannot appeal the results.

If a student misses scheduled examinations because of participation in an event that has the specific written approval of the College President, it is the student’s responsibility to advise the appropriate Chair, in writing, well in advance of the exam sitting.
If a student arrives one-half hour or more after an examination has started, he or she will not be allowed to write at that sitting and must meet with the Chair to determine appropriate action.

1) Supplemental Examinations

Students who receive a failing grade in a course may write a supplemental examination if supplementals are allowed for the course and based on the following guidelines:

a) supplementals will generally be permitted only where it is feasible to evaluate a student’s mastery of a course by written examination;

b) only one supplemental examination will be permitted in a course unless the Dean of the instructional area authorizes a second on medical or compassionate grounds;

c) the student must have an overall term grade point average of 1.5 to receive supplemental privileges in a failed course;

d) students who fail theoretical courses in the trades programs are permitted to write supplemental examinations at the end of the term, provided they have not accumulated failures in more than one related course or more than two theoretical units of trade theory;

e) students who fail courses in the Business Accountancy Program are permitted to write supplemental examinations at the end of the term provided they have not failed more than two courses;

f) if a student fails a course which is a prerequisite for a course in the next term, he or she is allowed to proceed on a probationary basis with his or her course or practical work, until the results of the supplemental examination(s) is/are known;

g) all supplementals must be written when scheduled and under no circumstance will the period between the receipt of a failing grade and the writing of a supplemental examination exceed one year;

h) the time and location for the writing of supplemental examinations are arranged by the Dean or Chair;

i) part-time students who have failures are allowed to write supplementals within the same guidelines as full-time students. The required term average will be calculated on the basis of courses taken during that registration period;

j) students who fail supplemental exams must re-take the failed course.

When a student writes a supplemental exam, the results of this exam are used to calculate a final course grade by combining term marks and the supplemental mark. Both the new course grade and original failing grade (F) will appear on the transcript. Students who write supplemental examinations in trades programs will not receive a grade greater than a pass (P).

2) Retention of Examination or Major Term Test Papers

All final exam papers are kept by instructors for a minimum of three months into the next term (or level, in the trades programs). Major term tests not returned to students are kept for a minimum of three months after the test. If any challenges or academic issues arise during the retention period, all relevant exam results and term assignments must be kept until the complaint is resolved.

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Auditing Courses

Students may audit courses for personal interest and not for credit. Students may choose to audit courses offered by the College provided vacancies exist in classes and they have received written approval from the Chair/Dean. There are, however, some courses which are not available for audit. Students who wish to audit a course must register for that course and the request to audit must be made prior to registration. Where a program has special selection criteria, the student may be required to meet these requirements to audit the program. Students who are auditing a course are not entitled to examination or other evaluation privileges. A credit will not be granted and the designation “AU” will be assigned at the end of the course. Students auditing any course pay the fee normally charged for the course.

Student Academic Misconduct

Academic standards and the reputation of students and the College are based on, among other things, academic honesty. The unacknowledged use of ideas or published material of others constitutes plagiarism. Other forms of dishonesty include cheating on exams, aiding and abetting cheating, the use of work prepared by others, accessing unauthorized computer accounts/files and/or software, falsification of laboratory results, falsification of academic records, violation of copyright laws, and the like. All of these activities are unacceptable. Academic misconduct may result in a failing grade in the particular assignment or course and could include disciplinary action up to and including expulsion from the program.

Course/Program Withdrawal

Voluntary withdrawal from a course (i.e., “dropping the course”) must be done in writing and communicated to the student’s Chair. The deadline for withdrawals will be three weeks prior to the first day of the final term examinations. Courses dropped before the deadline will have a VW registered on the transcript; those dropped after the deadline will result in an automatic grade of F. Sponsored students should consult with their agency prior to dropping courses and/or withdrawing from the College.

Students who wish to withdraw from their complete program of studies voluntarily must inform their Chair or instructor. The Chair will complete the required documentation authorizing possible refund of tuition fees for non-sponsored students. A copy of this documentation and validated tuition receipts should be submitted by the student to the Controller’s Office. A student who withdraws without completing the necessary procedures noted above will not be eligible for any refund of tuition and fees.

Student Readmission to Program

Students who have withdrawn from a program must apply for readmission through the Chair. When a student reapplies to a program, he or she is subject to the admission/readmission requirements for that program. Upon receiving the written recommendation of the Chair, the Director of Registration will readmit the student based upon space availability in the program.
A student who has been suspended from a program is eligible for the first available seat in the appropriate term once the suspension period has been completed. A student who has been suspended will have tuition fees refunded on the basis of the normal refund policy.

A student who has been expelled from a program normally will not be considered for readmission to the College.

Requirements for Graduation

1) Clearing of an Incomplete Course

   Students who have not completed all the requirements of a course must make arrangements with the Chair to clear the deficiency within one year.

2) Time Limitations

   The maximum time period for the completion of all day program requirements leading to a Red River Community College certificate or diploma will be five years from the date of initial enrollment. The maximum time period for the completion of all program requirements leading to a Continuing Education certificate will be eight years from the date of initial enrollment.

   Students who require more than five years to complete a day program or eight years to complete a Continuing Education program must have the written approval of the Dean. This reflects the fact that course content is continually being revised and updated to parallel developments in business, industry, and the professions.

3) Residency Requirements

   Students must attain at least 25% of their program credits through Red River Community College to be eligible for the College's diploma or certificate.

Honours System

1) Dean's Honour Roll: Full-time students who are enrolled in courses totalling 15 credits or more and who achieve a GPA of 3.5 or higher are recognized for that term as honour roll students.

2) Honours Graduate: Students achieving a cumulative grade point average of 3.5 or higher will graduate with Honours.

Issuing of College Diplomas and Certificates

Diplomas and certificates will be issued by the College to students who have satisfied all program requirements. This policy sets out the conditions that determine which type of document will be granted.

1) Advanced Diploma: Advanced Diplomas are issued to students who successfully complete a program of advanced studies which is a minimum of 600 hours in duration and which includes a formal evaluation. Advanced studies are post-graduate programs or courses which require a diploma or baccalaureate degree as an entrance prerequisite.

2) Diploma: Diplomas are issued to students who successfully complete a program which has a duration of two academic years or longer and includes formal evaluation. The program must be at least 1600 hours in duration.

3) Certificate (Regular "Day-time" Programs): Certificates are (normally) issued to students who successfully complete a program which is a minimum of 240 hours in duration but less than two years, and which includes a formal evaluation.
4) **Certificate (Continuing Education):** Certificates are issued to students who successfully complete a Continuing Education program which is a minimum of six courses and has a minimum of 240 hours in duration. All courses must include a formal evaluation. These certificates are distinguished from the day-time certificates by their different typography.

5) **Certificate (Market Driven Training and Other Training Involving a Sponsor):** Certificates are issued to students who successfully complete a Market Driven Training program which is a minimum of 240 hours in duration (eight weeks to five months in length). All courses must include formal evaluation. Often, the program has been developed in connection with a sponsor who will want to be identified on the document. (There are also programs that are co-sponsored by the College and a business or agency without the facilitation of Market Driven Training.)

6) **Certificate of Achievement:** A Certificate of Achievement may be issued to students who successfully complete a course or program that is less than 240 hours in duration. Credit may or may not be given toward regular College courses. There is some form of evaluation included. This certificate is also issued to students who have successfully completed the College portion of certain joint programs.

7) **Certificate of Participation:** A Certificate of Participation is issued to those who participate in a short course or workshop that has no evaluation and might vary in length from a few hours to a few days. The number of hours of instruction may or may not be given on the document at the discretion of the Chair or Director, as appropriate.
Application Process

An application form may be obtained by writing to the Registration Department, Red River Community College, C306–2055 Notre Dame Avenue, Winnipeg, Manitoba, R3H 0J9 or by telephoning 632-2327.

1) Any person wishing to apply for a Red River Community College program must complete an official College application form and submit it to the College.

2) In order to apply for a program, the applicant must be at least 16 years of age.

3) Applications are accepted on an ongoing basis, and will be processed on the day they are received.

4) Applicants applying for more than one program, must indicate on their application which program is their first, second or third choice for training.

5) Application forms must include legible official transcripts.

6) All transcripts and other supporting documents must be in English or have English translations attached.

7) Applicants applying for programs with Grade 9, 10 or 11 entrance requirements must meet program entrance requirements prior to submitting an application.

8) Applicants applying for programs with Grade 12 entrance requirements must submit their final Grade 11 official transcript and a statement of the Grade 12 prerequisite subjects in which they are currently enrolled.

9) Applicants who do not meet the entrance criteria, may apply as mature applicants. Mature applicants must be 20 years of age or older by September 30 in the year of registration. Mature applicants must include with their application an official transcript and a detailed resume which may assist in determining their eligibility. Mature applicants may be required to write College entrance tests. Some mature applicants may be advised to complete the specific subjects required for entry into the program.

10) Applications for training from individuals currently enrolled in Red River Community College Preparatory Programs will be processed conditional to successful completion of the program.

11) Applicants who have completed the Occupational Entrance High School Programs may be administered College entrance testing to determine their level of basic skill preparation.

12) Application forms and supporting documentation will become the property of the College.

13) Applicants who are reapplying, including students previously enrolled in the program, must submit a new application form and supporting documentation. The application will be processed the day it is received.

14) Applicants will receive written notice of any changes to entrance criteria. Applicants who met the original entrance requirements, and were not as yet accepted into the program, will be required to meet any new program prerequisites prior to acceptance into the program.

15) It is the responsibility of the applicants to notify the College of any changes of their personal information.

16) Applicants submitting requests for a name change, must provide supporting legal documents verifying the change.

17) Applicants who do not respond to College correspondence, as requested, will have their application cancelled.
18) Applicants who are rejected at any step in the admission process, may request a review of their application status.

19) Applicants submitting falsified documents will be referred to appropriate authorities for prosecution under the Criminal Code of Canada.

20) Applicants reapplying after having been expelled for disciplinary measures would be required to undergo further assessment.

**Application Fee**

*Effective July 1, 1994,* applications received in the Registration Office must be accompanied by a $21.40 application fee for each program applied for. Payment should be by cheque or money order, made payable to Red River Community College, or debit card. If the application is submitted without the fee, it will not be processed.

*Effective September 1, 1994,* applicants will be requested to identify program choices in order of preference. However, applications will be processed on a first-come, first-served basis, regardless of program choice.

**Application Review Process**

1) Applicants must meet the academic, special selection, and physical requirements of the program for which they are applying.

2) Applications for programs controlled by hospital/agency selection boards or other agencies, will be submitted to the College for initial review of entrance criteria.

3) As English is the language of instruction at the College, applicants must demonstrate proficiency in English at the level required by the program for which they are applying.

4) Applications for Special Selection programs received after the program deadline date will not be processed for the upcoming program intake.

**Admissions Process**

1) Unless otherwise stipulated, admission to programs will be on a first-come, first-served basis for qualified applicants.

2) Applications for training will be considered complete when all admissions criteria have been met and all required documents are supplied.

3) Admission of part-time students will be subject to availability of space and the approval of the Vice-President Academic or designate.

4) Admission preference will be given to applicants in the following order:
   a) Manitoba residents who are Canadian citizens or Landed Immigrants;
   b) Residents outside of Manitoba who are Canadian citizens or Landed Immigrants;
   c) Others.

5) Applicants may be required to provide proof of Canadian citizenship or Landed Immigrant status at the time of application.

6) If space is not available, qualified applicants from outside of Manitoba will be informed, in writing, that their application cannot be considered.
7) Student visa applicants accepted for training must submit proof of medical and hospital coverage to the Registration Department at least three weeks prior to program start date. Failure to provide this may result in cancellation of their application.

8) Once all program dates and quotas are finalized, qualified fee-paying applicants, will be notified, in writing, if they have been accepted for training.

9) All applicants accepted for training will be accepted as fee-paying students. It is the applicant’s responsibility to provide the College with written confirmation of any sponsorship agreement prior to registering for the program.

10) Applicants offered training will be allowed to postpone their acceptance twice. A third refusal of training will result in the application being cancelled.

11) Applicants must, at the time of acceptance, pay a non-transferrable/non-refundable deposit fee.

12) Decisions regarding acceptance for hospital/agency selection programs will be at the discretion of their selection boards.

13) Should vacancies exist in programs after all fee-paying students are accommodated, qualified individuals 60 years of age or older, who are unemployed, will be accepted on a first come, first-served basis and will be exempt from the payment of program tuition fees. All other program fees must be paid by the student. Proof of age will be required.

14) The College reserves the right to refuse admission to applicants who are deemed unsuitable for entry into the program.

Registration Process

1) Applicants will receive a statement of payment procedures and schedules with their acceptance letters.

2) All fees must be submitted by the due date indicated in the College correspondence. Applicants who do not submit fees by the due date, will forfeit their acceptance and their application will be cancelled.

3) In the event of a fee increase, students will be required to pay the new rate.

4) It is the applicant's responsibility to contact the College if they will be unable to submit payments within the time frame.

5) Applicants will receive validated tuition receipts for any tuition payments made to the College.

6) Applicants must report for registration as outlined in the acceptance letter.

7) Applicants unable to register at the designated time and date, must advise the Director of Registration prior to the registration date. Failure to do so will result in the acceptance being forfeited, and the application cancelled.

8) All applicants, accepted for training, will be required to pay Students' Association fees. The fees, which are set by the Students' Association, will be collected by the College on behalf of the Students' Association.

9) Once an application is cancelled, the applicant's acceptance is no longer valid, and the applicant will be ineligible to register.
10) Student identification cards will be issued to all registered students.
11) Failure to notify campus security of lost identification cards may result in students being liable for any loss or damage to materials obtained with the card.

Special Selection Programs
1) Programs that do not admit applicants on a purely first-come, first-served basis are considered special selection programs.
   a) These programs sometimes require additional documentation, testing, interviews, or demonstrations of special aptitudes.
   b) For these programs, the criteria applied are based on additional skills and abilities needed to succeed in the program.
   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 programs is available from the Registration Department in the College.
   e) Because some special selection programs may have an application deadline after which applications cannot be considered for the annual Fall intake of students, applications should be submitted at the earliest possible date. Contact the Registration Department at 632-2327 in regard to the deadline date for a specific program.

General Process
1) The College will acknowledge, in writing, receipt of the application and further will provide, in writing, information related to the admissions process.
2) The College reserves the right to make changes to the fee schedule, and to charge an application fee.
3) The College reserves the right to cancel or revise College programs at any time.
4) Applicants who have been accepted for a program intake which is subsequently cancelled or where the space in the intake is reduced by the College will be offered the following options:
   a) acceptance into the next program intake on a priority basis;
   or
   b) a space in an alternate program, provided space is available, and the applicant meets all program prerequisites.
International Education/Admission of International Students

Red River Community College recognizes the value of international education in promoting international understanding, trade and economic relations as well as the positive benefits created by an environment where staff and students from different cultures interact. The Board of Governors recognizes the importance of participating in international development and exchange projects as well as assisting with the education and training requirements in other countries in order to advance the internationalization of the College and the province of Manitoba. To this end, Red River Community College will undertake the following:

a) International development and exchange projects where the College has appropriate resources, expertise and experience.

b) Registration of individual international students in College programs such that Canadian students are not displaced and international students pay the full cost of their programs.

c) All international students must possess a valid visa at the time they enroll into College programs. The College will attempt to meet the educational needs of individual international students in programs where space is available. Since College programs and services are delivered preferentially to local residents, it may not be possible to meet the needs of all international students who wish to study at the College. The College welcomes applications from students sponsored by local community groups and international development agencies, individuals on student visas and students applying from overseas.

The College is committed to establishing formal relationships with recognized organizational sponsoring groups, or educational agencies which act on behalf of groups of students as per agreed-upon criteria and cost recovery fees. These special arrangements are subject to the approval of the College Board of Governors. The annual fees for individual students enrolling into College programs (based on 10-month duration) range from $6,000 to $10,000. (These fees include tuition fees, Students' Association fees, lab fees, endowment fees and other related program costs. They do not include textbooks and supplies.)

Language Program for International Students

Additional programs in language training are available to international students. These programs are designed to develop the practical English speaking, listening, reading and writing skills of learners as well as the language and information required for future study and employment in a specific area. They also include a cultural adaptation component in order to provide students with an orientation to living in Winnipeg and Canada. These programs are offered at Red River Community College's Language Training Centre located in the College's downtown Winnipeg campus. Further information can be obtained through the International Education Office.

The English for Specific Purpose language programs for international students at intermediate and advanced levels are full-time (25 hours per week). These programs are intended to meet the language development needs of students for the purpose of preparing to study in a post-secondary academic program, communicating in English in daily life situations or for seeking employment where English is required. Programs are 17 weeks in length with intakes in September and February.
International students may apply for acceptance into language training programs at the College by submitting an application form and application/tuition fees. While students can apply from outside of Canada, official results of secondary and post-secondary education must be included along with certified English translations. Official CANTEST scores (a minimum of 3.0—Band 3) or TOEFL results (a minimum of 450) must be submitted in order to obtain entry into language training programs. Admission to language programs is subject to space availability.

All second-language students must write English Language Training Centre placement tests upon their arrival in Winnipeg to determine placement into an appropriate program and level.

Students can apply individually or under a special contract for groups. The Language Training Centre may, under special circumstances, arrange a contract to accommodate a limited number of applicants sponsored by an organization. The College will offer specific language training throughout the year to meet the specific needs of international students. Entrance requirements for these programs will be based on the specific aspect of the program focus.

Application and Admission of International Students

The admission of international students to College programs will be guided by the following processes.

1. Any person wishing to apply for a Red River Community College program must complete an official application form and submit it to the College. It is in the best interest of the applicant to identify two choices for training programs and indicate which program is your first and second choice. Incomplete or inaccurate information may cause delays in the processing of the application.

2. In order to apply for a program, the applicant must be at least 16 years of age.

3. Applications are accepted on an ongoing basis, and will be processed on the day they are received.

4. Correspondence regarding a) general College and program information, and b) contract training opportunities for groups of applicants, should be directed to:

   Red River Community College
   International Education Office
   D214-2055 Notre Dame Avenue
   Winnipeg, Manitoba, Canada R3H 0J9
   Telephone: 204-632-2143
   Fax: 204-632-7834.

   The International Education Office will provide information on program availability, program fees, program dates, and specific information on College programs and services. Detailed information regarding the application procedures will be provided. All inquiries regarding contract training opportunities for groups of applicants should be directed to the International Education Office.

5. Application forms must be accompanied by the following:

   • A non-transferrable/non-refundable processing fee of $100.

   • Official transcripts (original or certified copies) indicating the applicant's academic standing in the prerequisite requirements for the College program.

   • A one-page written description of work and/or training experience related to the program.

   Note: Documents submitted to the College are retained by the College. All documentation must be in English, or have a certified English translation attached.
College language requirements:
- Applicants must provide documentation indicating they have completed one of the following:
  a) TOEFL with a score of 450 for language programs.
  b) TOEFL with a score of 550 for academic programs.
     An official copy of the applicant's TOEFL scores must be attached.
  c) CANTEST score of 4.0—Band 4 is required for entry into academic programs.
  d) Successful completion of Red River Community College English Language Training programs
     at the appropriate level for entry into academic training programs.

6. Applicants will receive the following:
- Written confirmation of their application status, described by one of the following terms:
  a) Accept. The application is complete when all admission requirements are met and a place
     is reserved in the program for the applicant. Acceptance is non-transferable. Note: At the time
     of acceptance, applicants will be requested to provide the following:
     - valid visa: applicants must consult with the Canadian Immigration Department to con-
     firm status and eligibility to enroll in training in Canada;
     - proof of Manitoba medical, dental and hospital coverage.
  b) Wait List. If there are more qualified applicants than can be accommodated in a program,
     applicants who are not accepted will have their names placed on a wait list.
  c) Reject. When the applicant fails to meet full admission requirements, has not submitted the
     necessary information requested by the College within the time specified, has not paid the
     required program fees by the time specified in the acceptance letter, or has requested the ap-
     plication be cancelled, the application is assigned a reject status. Should rejected applicants wish
     to be considered for future acceptance, they must submit a new application and documentation
     for the next intake of their chosen program.
- Orientation package for Red River community College on programs and services available to
  applicants. Note: Applicants must have sufficient funds to meet all costs related to training and
  living expenses as financial assistance is not available from within Canada for student visa appli-
  cants.
- Schedule of upcoming registration dates.

Registration Procedures

Acceptance
Applicants are notified, in writing, of their acceptance and are required to pay a program processing
fee to ensure a place is reserved for him or her in the program. Should the applicant subsequently
 decide not to register, this payment is non-refundable and non-transferable.

Payment of Fees
A statement of procedures for payment of fees is sent with the acceptance letter. Upon payment of
fees, a validated tuition fee receipt is issued to the applicant to confirm that payment has been
received. Applicants are cautioned that non-payment of fees by the due date may result in cancella-
tion of the application or registration status unless other previous arrangements have been made with
the appropriate Dean. Please note that all fees are subject to change without notice.
Registration
For official student status, accepted applicants are required to report for registration, in person, at designated areas on campus on the date and time specified in the acceptance letter. All accepted applicants must complete the registration process.

Student Identification Cards (Student ID Card)
The student ID card, issued as part of the registration package, is required to obtain instructional materials, athletic supplies, and for accessing the Library, physical education facilities, and Students' Association activities. Because the student named on the card is responsible for any loss of or damage to materials used or borrowed with this card, he or she must report the loss of a card immediately to the College Security Office, C106A, telephone 632-2323. A charge will be made for the replacement of this card. The student ID card is not transferable.

Late Registration
Applicants who, for unforeseen difficulties, are unable to register at the appointed time and date, but who still wish to take the program at that or a subsequent time, must formally advise the Director of Registration of their intentions no later than the original registration date. Failure to notify the Director may result in cancellation of applicant status and necessitate reapplication and reprocessing.

Mark Transcripts
The official transcript is a comprehensive, cumulative student education record. It lists all the studies that the student has undertaken to the date of issuance, and whether or not these studies were successfully completed. A transcript may be requested by a student upon completion of a Transcript Request form, available at the Registration Office, and the payment of a nominal fee. Students should note that most educational institutions and many employers require that the transcript be mailed directly to them by the College. However, a transcript will not be issued without the written authorization of the student.

Confidentiality of Student Records
The information available to the public concerning a Red River Community College student is limited to the verification of:

a) whether or not the student attended a specific program between given dates; and

b) whether or not the student successfully completed the program. Any additional information cannot be released without the written authorization of the student.

Applicants with Physical Disorders or Handicaps
Applicants must be capable of handling all program requirements. The physical demands in a number of training programs may prevent some students from performing satisfactorily or from functioning within College safety standards. Certain disorders could also affect employment possibilities following graduation. Some examples of conditions which may affect suitability for training include: color vision deficiency, back/leg/shoulder problems, hearing impairment, coordination problems, defective vision, allergies, skin disease, communicable diseases, epilepsy, arthritis, diabetes, cerebral palsy and spinal cord injury.

Applicants with physical disorders or handicaps should discuss their training goals with their physicians. Applicants should specify on their application form if they fall into this category.
Applicant Suitability
The College reserves the right to refuse admission to applicants who are deemed unsuitable for entry into the programs for which they have applied.

Falsified Admissions or Education Documents
Any applicant submitting falsified documents will be referred to the appropriate authorities for prosecution under the Criminal Code of Canada.

Change of Personal Information
It is the applicant's responsibility to notify the College of any changes to his or her personal information including name, address and telephone number.

Please note that College policies/procedures and fees are subject to change and may not apply to international students.
General Policies and Procedures

Responsibilities of Registered Students
All students agree, by the act of registration, to be bound by the regulations of Red River Community College and of the program in which they are registered.

It is assumed that students who register at Red River Community College have made themselves familiar with the specific requirements associated with the diplomas or certificates they are seeking. Students are responsible also for ensuring that they are enrolled in all courses required for completing program requirements and as preparation for program work experience components.

Acceptable standards of student conduct are based on common sense and common courtesy. Students who fail to conduct themselves in a socially-acceptable manner, who violate the rights of others, who damage college property, or in their manner and speech attempt to discriminate against others, may be asked to discontinue their studies.

Although the College does not have a formal dress code, students are expected to follow acceptable criteria for dress and grooming, consistent with the standards of the program in which they are enrolled. Where specific requirements such as safety equipment and clothing, uniforms and program-related health and personal hygiene standards exist, students must meet these additional requirements.

Sexual Harassment
"The College recognizes the individual worth and dignity of every member of the College community and is committed to fostering a work and study environment free from sexual harassment.

The College will not tolerate sexual harassment in any form, whether it occurs on College property or in relation to College activities.

The College recognizes its responsibility for the creation and maintenance of a safe and healthy working and learning environment. Protection of an individual's fundamental human rights, which include respect, dignity, fair treatment and freedom from prejudice or persecution, are integral to this process. Sexual harassment is a violation of an individual's basic rights.

Sexual harassment can damage an individual's health, undermine his/her performance, and can also negatively affect the working/learning environment. The College considers sexual harassment in all its forms to be a serious matter."

From the Red River Community College Sexual Harassment Policy

Sexual harassment can include behavior such as:
- Verbal abuse or threats,
- Unwelcome remarks, jokes, innuendos or taunting about a person's body or attire,
- Displaying of pornographic, or other offensive or derogatory pictures,
- Practical jokes which cause awkwardness or embarrassment,
- Unwelcome invitations or requests, whether indirect or explicit, or intimidation,
- Condescension which undermines self-respect,
- Unnecessary physical contact such as touching, patting, pinching, punching,
- Leering or other gestures,
- Physical assault.

For recorded information on sexual harassment call 632-2416. All inquiries shall be treated in strict confidence.
Living Accommodation
There are no residential facilities at the College. The Red River Community College Students' Association operates a housing registry from July to mid-September and should be contacted for specific information at 632-2375.

Smoking Policy
Effective September 1, 1994, Red River Community College is a totally smoke-free environment on all College property. This new policy, approved by the College Board of Governors, recognizes the dangers to everyone as a result of second-hand smoke and the requirement to have an environmentally safe working and learning atmosphere at the College.

Withholding of Academic Results and Diplomas
Transcripts, diplomas and certificates will be withheld from students who are in possession of College property, such as textbooks, equipment or supplies, or who have outstanding accounts with the College.

Academic Appeals and Disciplinary Appeals Policies
Information on the Academic Appeals and Disciplinary Appeals policies can be obtained from the Dean of Student Affairs and Public Relations and Communications, Room C715, telephone: 632-2331, or the Students' Association Office, DM20, telephone: 632-2375.

Please note: all policies and procedures are subject to change and are reviewed on a regular basis.
Continuing Education and Regional Centres

A wide range of credit and non-credit part-time programs and courses is available in five broad areas: Business and Administrative Studies, Computer Sciences, Industrial and Engineering Technology, Health, Community Services and Applied Sciences, and Applied Arts. As well, a variety of special topics, workshops, and seminars is regularly offered.

Students who do not meet the academic entrance requirements of full-time programs may wish to upgrade their knowledge and skills through the Continuing Education Division. (Courses may be offered depending on interest and demand.)

The basic Continuing Education Program is divided into four terms (Fall, Winter, Spring, and Summer). Most certificate programs can be completed in approximately two years. Enrollment is open to any adult, subject to prerequisites or specific course requirements where applicable.

For information, contact one of the following Continuing Education offices:

In Winnipeg and area, write or phone:
Continuing Education Division
Red River Community College
C116-2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone: 694-1789 Fax: 633-6489

In the Interlake, write or phone:
Interlake Regional Centre
Box 220
St. Peters Street
Arborg, Manitoba R0C 0A0
Telephone: 376-5802 Fax: 376-5160

In the Pembina Valley, write or phone:
Pembina Valley Regional Centre
Room 101, The Main Plaza
561 Main Street
Winkler, Manitoba R6W 1E8
Telephone: 325-9672 Fax: 325-4947

In Portage la Prairie and area, write or phone:
Portage Regional Centre
306 Saskatchewan Avenue East
Portage la Prairie, Manitoba R1N 0K8
Telephone: 239-3490 Fax: 239-3495

In Selkirk and Eastman, write or phone:
Selkirk Regional Centre
221 Mercy Street
Selkirk, Manitoba R1A 2C8
Telephone: 785-5010 Fax: 785-2571
In Steinbach and area, write or phone:
Steinbach Regional Centre
Box 2380
150 McKenzie Road
Steinbach Manitoba R0A 2A0
Telephone: 326-6426 Fax: 326-1113

Distance Education

The College offers a variety of programs and courses to adults through Distance Education. Utilizing a combination of correspondence, teleconference and telephone tutorial, courses are available in Business Administration, Refresher Nursing, Social Science, Management Development, Child Care and Infant Care, and Library Training.

For further information contact:
Distance Education
Red River Community College
E303-2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone: 632-2451 Fax: 633-7748

Market Driven Training Centre

The Market Driven Training Centre (MDTC) develops and delivers quality training that meets the needs of the Manitoba workforce, including skills enhancement and retraining of existing and displaced workers as well as the preparation and training of new and returning labor force participants.

The MDTC is client-centred so the needs of employers, funders and students determine what training will be delivered and where and when it will be delivered.

For further information on programs and services, contact:
Market Driven Training Centre
Main Floor – 294 William Avenue
Winnipeg, Manitoba R3B 0R1
Telephone: 945-0588 Fax: 945-1646
Financial Policies and Procedures

Payment of Tuition and Students' Association Fees

Full-time Program Rate

Tuition Fees: All full-time programs are assessed at the annual rate of $866 (based on a 10-month program). Longer or shorter program fees will be prorated. Fees are due on or before program registration date for the enrollment period. Students are advised to pay on time.

Students' Association Fees: Students’ Association fees are $160 per student annually. This includes $6.50 per month for Students’ Association fees, $2 per month for the Students’ Association Building Fund and $75 annual fee for the Student Health Care program. The fees are payable with the tuition fees on or before program registration dates for the enrollment period. (The Students’ Association fee applies only to students on campus.)

Three-Term Programs: Tuition fee is $289 for the first and second terms, and $288 for the third term. Students’ Association fee is $104 for the first term and $28 each for the second and third terms. Total annual tuition and Students’ Association fees are $1026.

One-Term Programs: Tuition fee is $866 plus $160 Students’ Association fee. Total annual tuition and Students’ Association fees are $1026.

Co-operative Education Work Term Administration Fee: $86.60 per month.

Co-operative Education Tuition Fees: Co-op Programs are assessed using the following calculation:
- number of months of program on campus x regular tuition fee, plus
- number of required months of program on work experience x co-operative administration fee.

All 1994 – 95 rates listed are calculated for a 10-month academic year.

Other: Tuition fees for programs of other than 10-months duration will be prorated based on the number of months plus $8.50 per month Students’ Association fee and $75 annual Students’ Association fee for the Student Health Care program, and will be assessed for the full term.

Part-time Program Rate

Tuition Fees: The fees will be the lesser of $3.50 per instructional hour or $86.60 per month of attendance. (Fees will be rounded to the next full dollar.)

Students’ Association Fees: $8.50 per month or portion thereof plus $75 annual fee for the Student Health Care program. (For on-campus students taking less than six hours per week and enrolled for a four-week period or more, the Students’ Association fee is $3 per course.)

Please note that all fees are subject to change without notice.

* Lab fees of $25 or $50 per year will be added to tuition fees where applicable.

† The Students’ Association fee amount also will include $51 annual endowment fee where applicable. This fee is non-refundable.

Timing and Collection of Tuition Fees

The financial policy of Red River Community College indicates the following:
1) Tuition fees are payable on or before registration date but not prior to the pre-registration period.
2) Deposit fees must be paid in accordance with the date indicated on the letter of acceptance.
3) Fees may be paid by cash, cheque, money order or debit card.
4) Where a third party is billed for tuition and Students' Association fees, a letter of commitment must be provided to the Registration Office on or before the registration date. Fees are payable within 30 days from the date the third party is billed. Third-party billing should be restricted to reputable businesses and agencies.

5) Where a student registers for a term after the scheduled date for registration, tuition and Students' Association fees will be assessed as if the student had registered on the scheduled registration date. Fees for such students are due on the day the student registers.

6) Students whose tuition and Students' Association fees remain unpaid after the due date will be given 14 calendar days grace. Students whose fees are outstanding at the end of the period of grace will be issued a formal notice and are subject to a late fee of $25 in addition to all other amounts owing to the College. An additional 14 calendar days will be allowed for the student to make payment from the date the formal notice was mailed. Failure to do so will result in automatic termination, unless a further extension is granted by the College President or designate.

7) Formal notice shall be provided by letter mailed to the student address as recorded by the Registration Office. Failure to receive formal notice shall not constitute grounds for inadequate notification.

8) Students who are terminated for failure to pay tuition and Students' Association fees (see number five above), and are subsequently reinstated, will be charged a reinstatement fee of $50 as well as the $25 late fee. These fees are payable in addition to the fees previously assessed. Reinstatement is not automatic.

9) Canada Student Loan recipients will have their tuition and Students' Association fees automatically deducted from their Canada Student Loans. The lending institution will forward a cheque directly to the College. A receipt will be issued to the student by the College, once payment has been processed.

10) Canada Student Loan applicants are responsible for ensuring their tuition and Students' Association fees are paid. Students whose fees are outstanding 28 days after their registration date will be issued a formal notice. These students must contact the Controller's Office at 632-2299 to make special payment arrangements. Failure to do so will result in automatic termination.

Sponsored Students: Where tuition and Students' Association fees are to be billed to a third party, a letter of commitment is to be provided to the Registration Office before the registration date for the program. Fees payable by a sponsor are due within 30 days from the date the sponsor is billed. Where fees are billed to a third party, any refund shall be returned directly to the third party.

NSF Cheques: A penalty fee of $25.00 will be assessed when any NSF cheque has been received in payment.

Application Fee: A non-refundable application fee is required of applicants who wish to enroll in full-time or part-time credit programs. A fee of $20 (plus GST) (cheque or money order made payable to Red River Community College) must accompany each application submitted.

Deposit Fee: Upon acceptance, applicants will be required to pay a non-refundable, non-transferable deposit fee of $100. Non-payment will result in the application being cancelled. The deposit will be credited toward the applicant's tuition payment upon registration.
Mark Transcript Fee: Official replacement mark transcripts will be issued at the request of the student and upon receipt of $5 for the first set and $2 for each additional set ordered at the same time (plus GST).

Certificate/Diploma Fee: Official replacement certificate/diplomas will be issued at the request of the student and upon receipt of a fee of $15 (plus GST).

Facsimile Fee: Transcripts will be faxed by the College to outside parties at the request of the student and upon receipt of a fee of $2 per page (plus GST).

Course Description Fee: Course descriptions will be provided at the request of the student and upon receipt of a fee of $5 per program (plus GST).

Refund Policy

Tuition Fees
Applicants: Applicants withdrawing before program commencement will be eligible for a refund of tuition, less the non-refundable deposit fee.

Students: Students terminating after program commencement will be eligible for a refund of tuition and Students' Association fees paid, less the expended portion and the $100 non-refundable deposit fee. (Example: A student who registers in September and also terminates in September will lose $100 + $86.60 + $92 = $278.60.) Thus, the following refund payment schedule:

Accepted applicants who do not register: amount paid less deposit fee of $100.

Registered students leaving in first month: amount paid less $278.60.

Registered students leaving in second month: amount paid less $373.70.

Students' Association Fees:

Students assessed Students' Association fees at the rate of $8.50 per month plus annual Student Health Care program fee, and who terminated after program commencement, are eligible for a refund of fees paid less $92, if terminating during the first month, and $8.50 for each subsequent month or portion thereof. Students should refer to their Student Health Care program brochure or consult directly with the Students' Association regarding refunds of the Student Health Care program fee.

Applying for Refund/Withdrawal Procedures

Refund requests are to be made through the Controller's Office, C212, Red River Community College.

Students wishing to withdraw from the College must inform their chair or instructor who will complete a Student/Instructor Advisement form authorizing their eligibility for a refund of tuition and Students' Association fees.

A copy of the completed Student/Instructor Advisement form and tuition receipts should be submitted immediately to the Controller's Office, C212.

Please note that a student who withdraws unofficially, without completing the above procedures, will not be eligible for any refund of fees. Applications for refunds must be presented to the Controller's Office within two months of termination date.
Refunds will be calculated on the following basis:

1) **Program cancellation:** In the event that a program is cancelled, a student is eligible for a full refund of tuition fees. The deposit fee will not be withheld.

2) **Teacher Education special programs:** Refunds will be given in full only to those students who notify the Teacher Education section one week or more prior to the start of the program.

3) **Correspondence programs:** Refunds will be granted to students if notice is provided in writing to their tutor within six weeks from the date program material was issued. Where notice is provided within the six-week period, the refundable amount shall be the tuition paid less the following:
   a) the administration fee,
   b) the cost of textbooks and materials, and
   c) the cost of marking assignments that have been received by the tutor.

4) **Continuing Education programs:** Students withdrawing prior to the commencement of the second class will be eligible for a refund of tuition, less the non-refundable administration fee of $25. Subsequent to this, refunds shall not be granted. (Note: A $10 fee will be charged for a transfer from one course to another.)

5) **Special or high-cost programs:** Refunds will be considered on the same basis as outlined in number four above.

6) **For programs to which the annual certificate and diploma rate has been applied:**
   a) applicants withdrawing before program commencement will be eligible for a refund of tuition, less the non-refundable deposit fee;
   b) students terminating after program commencement will be eligible for a refund of tuition paid, less the non-refundable deposit fee, and the expended portion.

7) **Part-time students:** Refunds of tuition fees will be considered on the same basis as outlined in number six above with the replacement of deposit fee by administration fee.

8) **Conditionally accepted applicants:** Deposit 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 Director of Registration.

9) **Students sponsored by agencies or employers or who are the responsibility of other governments:** There shall be no refunds issued unless specifically provided for in an agreement or approved in writing by the College President.

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

11) **Canada Student Loans:** Educational institutions are required by law to forward any refund of fees which have been paid with the proceeds of a Canada Student Loan to the recipient's bank for application to his or her Canada Student Loan debt.
Other Debts
Refunds of tuition fees may be reduced by other outstanding debts, such as bookstore charges, parking fees, library fines, etc.

Conversion to Federal Human Resource Development (HRD) Sponsorship
A Provincial Entry student who is converted to a HRD sponsorship status will be eligible for a refund of tuition and Students’ Association paid, less any expended months of training. The student is responsible to apply for a refund.
Student Services

Registration Services
The Registration Office is the administrative centre for the admission and registration processes, including all records, and provides the following services:
1) provision of program-related information at the College, by telephone and by mail;
2) distribution, receipt and processing of applications;
3) review of applications, including screening for program entrance requirements, appropriate referrals and subsequent advisement to applicants;
4) maintenance of student records related to academic admissions, achievement, termination and graduation;
5) issuance of mark transcripts, certificates and diplomas;
6) provision of Tuition and Education Tax Credit Certificates for income tax purposes;
7) confirmation of student enrollment for purposes of employment, student financial assistance and related sponsorship;
8) creation and maintenance of computerized program and course information.
The Registration Office is located on the third floor of Building C, telephone 632-2327.

Counselling Services
For Students Enrolled at the College
The Counselling Services Office at the College offers a number of services that can help students gain the maximum benefit from their college experience. These services are free and are provided to the main campus and the regional centres. They include:

a) Personal counselling 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, support in time of stress, assistance in dealing with relationship problems, a need to talk about academic difficulties or a feeling that help is required in dealing with bureaucratic entanglement.

b) Vocational educational counselling assists students 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 as need is determined and at the discretion of the counsellor. Individuals or groups of students can also receive assistance in job-seeking skills, e.g., applications, resume writing, and interview skills.

c) Financial counselling helps students plan a general budget for the academic year or assists them in applying for Student Financial Assistance, Student Social Allowances, etc.

d) Referral: When a student has a problem or a concern that falls within the jurisdiction of a College office or a community agency, the counsellors will try to help the student see the right person at the right place, as expeditiously as possible. Other assistance will be provided as needed.
For Prospective Students

Educational guidance and career-counselling services are provided to members of the community who are interested in enrolling in programs 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. also can be dealt with.

All contacts with Counselling Services are voluntary and confidential. While appointments are preferred, drop-ins can sometimes be seen immediately, or after a short wait. Appointments can be made by contacting the secretary in C115, or by telephoning 632-2335. Appointments are usually made between the hours of 8:30 a.m. and 4 p.m., Monday through Friday. The office is open and staffed at noon.

Tutorial Centre

The Tutorial Centre consists of three components:

a) Tutorial Centre
   Building C
   Room CM-25
   Phone: 632-2547

b) Reading Lab
   Building D
   Rooms D-213 and D-215
   Phone: 632-2280

c) Computer Centre
   Library
   Phone: 632-2332

College instructors and peer tutors provide academic assistance to any college student who requests assistance from the Tutorial Centre. Peer tutors are hired to assist students mainly in subjects outside the expertise of the full-time instructional staff. As well as specific course content, tutoring sessions may focus on or include instruction in the development and application of student skills, such as study skills techniques and applications, critical thinking, and stress and time management.

The Reading Lab offers group and individual assistance in reading, writing and study skills, critical thinking skills, and accelerated learning techniques; including noon hour and late afternoon workshops. Department staff strive to work closely with students and their course instructors and counsellors in assessing and overcoming barriers to optimum learning and student success.

The computer network in the library is staffed by an instructor who assists students in the use of the computers. These computers are mainly for the use of students who do not have access to computers in their programs of study. More computers connected to this network are available as part of the Reading Lab in D-215.

Students can make appointments in person or by telephone. Drop-ins are accommodated whenever possible. Students are invited to visit the Tutorial Centre or Reading Lab for further information on the services available.

Bookstore

Required textbooks and equipment for most programs are available for purchase from the College Bookstore. After July 1, 1994 students are encouraged to buy books in advance to avoid line-ups on registration day. Student parking decals can be purchased at the Bookstore and program booklists also are available.

The Bookstore is located on the Mall Level of Building D, across from the Buffalo Place cafeteria. Regular store hours are 7:40 a.m. to 3:15 p.m., Monday through Friday.
Library Services

The Library is located on the Mall Level across from the Tower Lounge between buildings D and F.

The Collection and Facilities: The Library offers a wide range of resources and services to support program assignments and to encourage the general pursuit of knowledge, beyond specific class requirements. In addition to books and magazines, there are also newspapers, company annual reports, clippings, government publications, films, videotapes, slides, filmstrips, and audio cassettes. Audiovisual equipment is available for individual viewing and listening within the Library and also may be borrowed for classroom presentations. There are tables and individual carrels for studying, and coin/card-operated photocopiers.

Hours: Hours of service are posted in the Library. For information on Library hours, call 632-2322 or 632-2233.

Getting Help: Instruction on how to use the Library is given to classes when arranged by instructors and to individual students on request. A brochure outlining services and policies of the Library, and printed program-related guides designed to assist students in researching topics and in using library tools more effectively, may be picked up at the Library.

Qualified staff are available at all times to assist you in locating information and materials in the Library, operating audiovisual equipment, and generally finding your way around the world of information. Don't hesitate to ask.

Information and Reference: 632-2470          Internet E-mail: rrlnorm@cc.umanitoba.ca
Audiovisual: 632-2231

Borrowing: To borrow books, magazines, and audiovisual items, students must present a valid College ID card. Materials are loaned for varying lengths of time depending on the demand. Students are responsible for returning borrowed materials by the date they are due. Late returns are subject to fines.

Students are responsible for the condition of the library materials that they borrow or use. If materials are lost or damaged, the borrower will be required to pay the replacement costs. Certificates or diplomas will be withheld and future registration in other programs prevented until library material is returned or replacement costs have been paid.

Microcomputers: A microcomputer network with 16 80386 IBM-compatible computers and two Macintosh computers with a variety of software is located in the Library. An instructor provides basic instruction and assistance with software in this area on weekdays between 9 a.m. and 3:30 p.m. For more information call Gary Vatnsdal at 632-2332, or Internet E-mail rrlgary@cc.umanitoba.ca.

InterLibrary Loan: Should the Library's collection not contain the book or article you require, the Library staff will have it brought to the Library at the College for your use. Red River Community College students are eligible for library cards from the University of Winnipeg and the University of Manitoba.

Health Services

The Health Centre is located on the Mall Level, HM008. The hours are 7:45 a.m. to 4:15 p.m., Monday through Friday. It is staffed by occupational health nurses.

Health services are available to all students and staff on campus. No appointment is required. All visits and consultations are confidential and do not become part of the permanent student or employee file.
Injuries or illnesses that occur on campus can be treated in the Health Centre. If further medical assistance is required, referrals will be arranged. Short term care is available if required. Appointments will be arranged with counsellors, dentists, physicians, eye specialists, etc., if necessary.

The Health Centre offers personal health counselling and teaching. Health information is available upon request. Immunizations are administered to students in health-related courses. An active Wellness Program is in place during the year and all students and staff are encouraged to participate. A Hearing Conservation program is ongoing during the year for areas at risk from high noise levels.

Students who are subject to a chronic condition such as diabetes, epilepsy, migraine headaches or asthma are asked to report to the Health Centre and submit any relevant information pertaining to their health. All this information is confidential, but it is to the student’s advantage in the case of an emergency.

All injuries that occur on campus must be reported to the Health Centre. Workers’ Compensation claims are initiated in the Health Centre for those who have that coverage.

**Physical Education and Recreation Programs**

The Physical Education Department attempts to meet the needs and the interests of all the students and staff in the College by offering a broad range of intramural and recreational programs, as well as compulsory Physical Education classes for students in Nursing, Child Care, Dental Assisting and Developmental Services.

We offer at no extra charge to our students and staff the use of a banked, oval jogging track, a fully equipped weight room complete with exercise cycles, rowers and stepping machines, lockers, towel service and one of Manitoba’s largest gymnasiums.

Fitness appraisals are offered by appointment only and aerobic classes are held twice weekly at noon. There is a minimal fee charged for the aerobic classes.

**College Job Centre**

The College Job Centre is located in C211. The College Job Centre assists graduate and undergraduate students by providing:
- occupational and employment counselling;
- current labor market information and forecasts by occupation and area;
- job information and registration for permanent, summer and part-time work;
- an "on-campus" recruitment program that 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 résumé writing, employment applications and employment interview preparation.

For additional information, contact the Job Centre at 632-2345.
Educational Support Centre

Integration of students with disabilities into various programs offered at Red River Community College is the focus of the services provided by the Educational Support Centre. These services are available to students in Continuing Education programs as well as day programs.

Career counselling provides prospective students with the opportunity to explore specific programs related to their aptitudes and interests and also to evaluate how their particular disability will impact on their vocational choices and education plans.

Liaison is maintained with community services for individuals with disabilities as well as College instructional staff. Training programs may be altered to meet individual needs. Special arrangements for examinations can be made for students who may require time extensions or oral exams because of their disability. Assistance is also provided to ensure that print-handicapped students are able to obtain instructional texts on tape.

The Educational Support Centre works with students who have varied needs. These include, but are not limited to, physical disability, visual and hearing impairment, as well as learning disability. The scope of services required by Deaf students are provided by the Educational Support Centre. Students enrolled in regular programs receive a variety of support services, as required, including sign language and oral interpreting, note taking, tutoring, academic and personal counselling. Career counselling and academic assessments are available to persons concerned with their vocational future, and who may be considering training in a trade or technology.

The Educational Support Centre delivers the Visual Language Interpreter Training Program and coordinates sign language classes delivered through the College’s Continuing Education Office.

The Centre is located in D102A, on the Plaza Level of Building D. The telephone numbers are: 632-2381 or TDY 633-6329.

Student Awards Services

The Student Awards Office on campus provides a number of support services for Red River Community College students:

1) assistance to students applying for student financial assistance;
2) assistance to students applying for college scholarships and awards;
3) assistance to students requiring short-term emergency loans;
4) liaison with Student Financial Assistance Branch and college administration;
5) information on financial assistance programs available to Manitoba students; and
6) verification and release of student awards.

For further information on these services, please contact the Student Awards Office, C306, telephone 632-2437.

Other Student Services

Please note the following telephone numbers which may be useful to some students:

Day Care Centre – 632-2244
Reading Lab – 632-2280.
Awards, Bursaries and Scholarships

Throughout the academic year, Red River Community College assists students by administering the awards, bursaries, and scholarships that have been donated by concerned corporations, community organizations and individuals. These awards cover the specific requests of the donors and are intended to assist students who have shown outstanding abilities in academic or vocational areas and/or are in need of financial assistance. For further information, contact the appropriate academic department or the Student Awards Office, Room C-306.

General

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 their graduating year: a) academic and technical ability; b) participation in college activities; c) good character and personality. The awards will be made to one student from each of the following groups at the College: a) diploma program student from the science-based curricula; b) certificate program student from the science-based curricula; c) diploma program student from the arts-based curricula; d) certificate program student from the arts-based curricula.

A.J.S. (John) Taunton Award
Funds are available for native students (status Indian or Metis) experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

CN Scholarship for Women
One scholarship of $500 is available to a female student on the basis of her demonstrated interest in a non-traditional career, who is entering Piping Trades, Diesel Mechanics, Welding, Electrical, Machine Shop Practice, Telecommunications, Drafting, Mechanical Engineering Technology or Power Engineering at the College. Application forms are available from the Student Awards Office. Application deadline is July 31.

Canada Scholarships in Technology
Scholarships valued at $2500 per year are available for students pursuing an education in technology. College programs which are currently being reviewed for eligibility by Industry Canada include: Chemical and Biosciences Technology and the following Engineering Technology programs: Civil, Communication, Computer, Electrical, Electronic, Engineering Design and Construction, Instrumentation, Mechanical, Structural and Survey. If you are planning to register in one of these programs you are eligible to submit an application form for a Canada Scholarship in Technology. Academic excellence is the sole criterion for nomination. The College will nominate students to receive the scholarships. The final decision lies with Industry Canada. Application forms are available from the Student Awards Office. Application deadline is July 15.

Canadian Forces Personnel Assistance Fund (CFPAF)
Loans are available to former or serving members of the Canadian Forces with at least five years service to enable dependents to pursue a post-secondary education. Applications forms are available from CFPAF, 245 Cooper St., Ottawa, Ontario, K2P 0G2. Deadline for applications is June 30.
**Evelyn Bagot Memorial Scholarship**  
In memory of the late Mrs. Evelyn Bagot, former manager of the College Bookstore, an award of $100 is presented annually to a regular full-time student on the basis of performance (theoretical and practical). Secondary consideration will be financial need. Applications are available from the Student Awards Office. Deadline for applications is March 1.

**G. Allan Roeher Institute Bursaries**  
Bursaries are being offered to college students interested in the field of mental handicap who are planning to involve themselves as volunteers or professionals and who are in need of financial assistance. Students must apply directly to the Provincial Association of the Canadian Association for Community Living or through their local association. Application deadline is July 1.

**Hannah (Nancy) Boon Fund**  
Funds are available for native students (status Indian or Metis), experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

**Harmony International**  
An award of $250 is presented annually to a physically-disabled student enrolled at the College. Inquiries should be directed to the Educational Support Centre.

**Icelandic Festival of Manitoba Scholarship**  
The Wilhelm Kristjansson Memorial Scholarship of $500 is offered by the Festival to a student who has completed one year of post-secondary studies (university or community college) in Manitoba and who will be continuing his or her studies in the upcoming year. The following criteria will be considered: Icelandic or part-Icelandic descent; academic results of the current school year; qualities of leadership and community service; and need for financial assistance. Please send a letter of application and transcript along with two letters of reference from instructors or community leaders to Dennis N. Stefanson, 609-600 Setter Street, Winnipeg, Manitoba R2Y 2H7. Deadline for applications is July 1.

**Ida Mary Trotter Bursary**  
Funds are available for native students (status Indian or Metis), experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

**Imperial Oil Limited Higher Education Awards**  
This program provides full tuition and compulsory fees for sons and daughters of Imperial Oil Ltd. employees, annuitants, or deceased employees. Further information and application forms are available from: Administrative Management Services, Awards Division, P.O. Box 414, Pickering, Ontario, L1V 2R6, Phone (416)420-0642, Fax (416)420-2516.

**MGEU Bursaries**  
Bursaries of $500 are available to members of the MGEU (minimum one-year membership) and their dependents. For more information, contact the Manitoba Government Employees' Union.
Manitoba Blue Cross Scholarship/Bursary Program
The following awards are available to Manitoba students who will be enrolling as full-time students at Red River Community College: a bursary of $500 to aid a handicapped student; an entrance award of $500 to aid a Grade 12 student; a bursary of $500 to aid a Grade 12 student who has to travel more than 100 km (one way) to attend college or university. Selection will be based on high academic standing and financial need. Application forms are available from the Student Awards Office. The deadline for applications is July 31.

Manitoba Hydro Employment Equity Bursaries
Bursaries of $600 each and a first option for a summer job with Manitoba Hydro following successful completion of the first year of studies are available for women, persons of native ancestry, the physically disabled and members of visible minority groups seeking enrollment in first-year studies in the Civil, Computer, Electrical or Electronic Engineering Technology programs at Red River Community College. Application forms are available from the Student Awards Office. The deadline for applications is July 31.

Manitoba Schools Science Symposium Entrance Scholarships
Tuition fees for one year will be paid for two students entering any program of studies full time at the College. Selection is based on Grade 12 standings and performance at MSSS.

Manitoba Team Handball Federation Inc.
Manitoba Team Handball Federation is offering a $300 scholarship to a student attending Red River Community College in a full-time program. The recipient must be involved in a sport of team handball at any level and maintain a minimum average of 65%. As well, citizenship, personal athletic achievement and other school activities will be part of the criteria. For further information contact the Student Awards Office or Manitoba Team Handball at 985-4161. Deadline for applications is May 1.

Manitoba Telephone System Awards Program
A number of awards of $500 each for post-secondary students have been created specifically for members of visible minorities, aboriginal people, people with disabilities and women. Preference will be given to residents of Manitoba who are Canadian citizens and are members of one or more specific groups as outlined above. Awards will be based on high academic achievement. Further details and application forms are available from the Student Awards Office. Deadline for applications is July 31.

Myrta and Bruce Moorhead Memorial Award
Funds are available for students experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

Official Languages Monitor Program
Funding is available for full-time post-secondary students to enroll full-time in a post-secondary institution in another province and help students at the level assigned with the spoken language by conveying to them the real-life aspect of the language and an awareness of the culture associated with that language. The deadline for applications is mid-February. Inquiries should be directed to Christian LaRoche, 945-6916.
**Press Radio Fund**
Funds are available for students experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

**Prince of Wales/Princess Anne Bursary**
Awards are available for native students (status, non-status and Metis) attending post-secondary institutions in Manitoba. Applications are available from the Student Awards Office, or Manitoba Student Financial Assistance, 945-6321.

**The Soroptomist Training Award**
A $500 award is offered to a mature woman who requires financial assistance to upgrade her education, technical or academic training in order to enter or reenter the labor market. The winner of this award is eligible for the Training Awards offered by the Western Canada Region. Inquiries should be directed to Kay Stewart, 837-1290.

**Students’ Association Fund**
Each year, the Red River Community College Students’ Association makes available emergency funds to assist students experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

**Summer Language Bursary Program**
Bursaries will be granted to students across Canada to enable them to enroll in six-week immersion courses in French or English at accredited institutions, to provide them with the opportunity to learn one of Canada’s official languages as a second language. Bursaries cover the costs of tuition, instructional materials, and room and board. Deadline for applications is mid-February. Inquiries should be directed to Christian LaRoche, 945-6916.

**Sybil McKay Inkster Fund**
Funds are available for female Metis students experiencing temporary financial difficulties. Inquiries should be directed to the Student Awards Office.

**Tom O’Brien Memorial Entrance Scholarship**
Students who are proceeding from a high school Grade 12 to a full-time certificate/diploma program at Red River Community College, and who are Manitoba residents, are eligible to apply for a scholarship equal to the cost of tuition and student fees for one year. Two scholarships will be awarded annually: one to a female applicant and one to a male applicant. Criteria include demonstrated academic merit, school or community involvement and financial need. Scholarship applications, transcripts, and letters of reference indicating school or community involvement must be received by July 31. Inquiries should be directed to the Student Awards Office.

**Westinghouse Canada Inc. Award**
Westinghouse Canada has established a scholarship program to assist individuals to obtain a college education in electrical technology, manufacturing technology, business management, computer studies, business and other comparable programs. For further information, please contact the Student Awards Office or Westinghouse Canada (416) 528-8811, ext. 2402. Deadline for applications is June 1.
Winnipeg Community Centre of the Deaf Award
An award of $100 is presented annually to a hearing-impaired student for outstanding achievement in a college program. Inquiries should be directed to the Educational Support Centre.

Winnipeg Police Association
Scholarship(s) are awarded annually to a member of the City of Winnipeg Police Service, to members of their immediate families, and/or to direct descendants of members of the service. Applicants must have completed the first year of a two-year program and must provide official mark transcripts to indicate their academic performance. Applications should be forwarded to the Winnipeg Police Association, 188 Princess Street, Winnipeg, Manitoba R3B 1L2, by June 30 of each year.

Winnipeg Women’s ORT (Organization of Rehabilitation through Training)
A $75 book award for the College Library to benefit all Red River Community College students is awarded.

Business and Applied Arts

Advertising Association of Winnipeg Award
Awards are presented to second-year Creative Communications students working on assigned projects and displaying outstanding talent and ability in the advertising field.

Alexander Campbell Award
Administered by the Manitoba Hotel Association, awards of up to $4,000 are offered to Manitoba residents who have demonstrated academic proficiency as well as genuine interest and/or acceptable experience in occupations related to the hospitality industry. Applicants must be entering a degree, certificate, or diploma program in Hotel Management of not less than four years duration at a university or college in North America. For further information and applications, please contact the Manitoba Hotel Association, 1505-155 Carlton Street, Winnipeg, Manitoba R3C 3H8, telephone 942-0671.

Broadcasters Association of Manitoba Awards
Two awards 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.

Canada Safeway Limited Bursary
One $100 award is made annually to an outstanding student in Commercial Baking.

Canadian Food Service Executives Association (CFSEA) Awards
These awards are open to CFSEA Junior Branch members only. One CFSEA bursary award of $500 and one Nestle’s Food Services Gold Plate Award of $400 plus airfare and accommodation to the National CFSEA Convention are presented annually to students in the Hotel and Restaurant Administration Program. Contact the department for further information.
Canadian Hospitality Foundation
One annual award of $300 is offered to a second-year Hotel and Restaurant Administration student meeting the general achievement criteria, who plans to enter some branch of the hospitality industry. Selection is made by HRA faculty. The Foundation also offers two national scholarships annually to students completing the first year of a hospitality program. Contact the department for further information.

Canadian Information Processing Society
Three $400 awards are offered to outstanding students who have completed the first year of the Computer Analyst/Programmer Program.

Canadian Public Relations Society – Manitoba Public Relations Scholarship
This scholarship is presented annually by the Canadian Public Relations Society – Manitoba, to a Manitoba student studying public relations at the post-secondary level either on a full-time basis or as part of a recognized communications program. The selection will be based on academic achievement, creative and technical ability, involvement in student and community activities, and potential for success in the public relations profession. An award of $200 will be made by the society to assist the winner to continue studies in public relations.

Certified General Accountants Association of Manitoba Awards
Cash and tuition credit (for CGA) awards totalling approximately $3,400 will be awarded as follows: four awards to students in Term 6 of Business Administration; three awards to students in Term 3 of Business Accountancy; one award to a student in Term 6 of Computer Analyst/Programmer; and one award to a student in Term 4 of Business Accountancy Integrated.

Champs Food Systems Award
The $250 Phil Hiebert Memorial Award is awarded to a second-year student in Hotel and Restaurant Administration Program.

Data Processing Management Association of Canada Award
Three $150 awards to a Term 4 Computer Analyst/Programmer student, for outstanding work in Term 1 through Term 3.

Deanna Marie Thomas Memorial Award
Established by her family in memory of Deanna Marie Thomas, daughter of two former Red River Community College students. Two awards of $300 each will be presented annually to students with dependent children: one to an Advertising Art student and the other to a Computer Analyst/Programmer student. Criteria include completion of at least two terms, minimum 2.5 GPA and financial need. Application forms are available from the Student Awards Office and will be accepted until the end of October each year.

Doug Newton Memorial Scholarship
Cash is awarded annually to an Administrative Assistant student for outstanding academic achievement.
Fawcett Broadcasting Scholarship
A $500 award will be presented annually by Fawcett Broadcasting to a first-year Creative Communications student who has completed all course work and who has shown talent and an inclination towards the radio field. The scholarship will be awarded to the student who “best demonstrates the creative use of the sonic medium through the writing, voicing, and production of a single commercial or promotional message.”

Federated Co-operatives Limited Award
Cash is award and a trophy presented annually to an outstanding student in Commercial Baking.

Frank H. Wiley Limited Award
One $200 award is made annually to the most dedicated student in Commercial Baking.

Garland Commercial Ranges Limited Awards
Two awards of $125 will be made to outstanding students enrolled in the Chef Training Program.

Gladys Bell Scholarship
A cash award is presented annually by Gladys Bell’s former associates and students to an Administrative Assistant student for academic proficiency.

Hewlett-Packard (Canada) Limited Award
Programmable calculators are awarded to Term 4 Computer/Analyst Programmer students for outstanding achievement in Term 1 through Term 3.

Hospitality Sales and Marketing Association International – Manitoba Chapter Award
A $200 award is presented to acknowledge a Hotel and Restaurant Administration student’s contribution to the Hospitality Sales and Marketing Student Association and their potential for success in the hospitality industry. Contact the Hotel and Restaurant Administration department for further information.

IABC Manitoba Award
The International Association of Business Communicators (IABC) will pay third-term tuition fees plus student membership in the IABC for one year for the first-year Creative Communications student submitting the best proposal in Term 2 Public Relations.

Irwin Dorsey Scholarship
Awarded to the first-year Business Administration student who achieves the highest cumulative GPA at the end of the second term. If necessary, secondary consideration will be grades earned specifically in the accounting courses. The scholarship will consist of all Irwin Dorsey textbooks required for the recipient’s second year being provided free of charge.

James S. Purvis Bursary Fund
A cash award will be presented annually to a first-year Creative Communications student(s) on the basis of outstanding academic achievement.
John Herman Memorial Prize
An annual prize of $400 will be awarded to a graduating Business Administration student for performance in Statistics and Quantitative Methods. The recipient will be a full-time student, eligible to graduate that year, with a minimum cumulative grade point average of at least 3.00.

Joyce Dixon Scholarship
This scholarship has been established in Joyce Dixon’s honour by her former associates and students and is awarded to a student enrolled in the Administrative Assistant Program who best displays the qualities and skills required by a professional secretary.

Manitoba Association of Library Technicians (MALT) Award
MALT gives this award to a first-year Library and Information Technology student based on demonstrated academic excellence in the technical component.

Manitoba Community Newspaper Association (MCNA) Scholarship
An award of second-year tuition fees will be presented to a first-year Creative Communications student who is carrying a full course-load, who has passed all courses, and who has shown talent and interest in the “community newspaper field.”

Manitoba Hotel Association Bursary Award
Awards of up to $2000 are granted to Hotel and Restaurant Administration students entering the second year of the program. Applicants require a demonstrated academic proficiency and a genuine interest in and/or acceptable experience in occupations related to the hospitality industry. Deadline is June 1. Students are recommended by the Hotel and Restaurant Administration faculty. Selection is made by a panel of Manitoba Hotel Association members.

Manitoba Library Association Award
The Manitoba Library Association gives an award to a full-time graduating student in the Library and Information Technology Program who has demonstrated academic excellence and career promise. The recipient’s achievement is also honored on a plaque displayed in the Library at the College.

Manitoba Milk Producers’ Marketing Board Award
A $200 award is made to the student with the highest standing in the Commercial Cooking Program.

Manitoba Restaurant and Food Services Association Awards
Two $300 awards are offered to graduating students: one in Hotel and Restaurant Administration; the other in Chef Training. Contact the department for further details.

Manitoba Telephone System Scholarship
A cash award of $250 will be presented to a first-year Creative Communications student with a minimum GPA of 3.00 carrying a full course-load who intends to carry a full second-year course-load in either Public Relations or Journalism. The student must have demonstrated excellent writing skills and have shown a positive attitude towards instructors and classmates. Final selection will be based on a writing sample completed in March/April.
Mariner Seafood Company Award
A cash award is made annually to an outstanding student in Chef Training.

Max Goldin Memorial Scholarship
A cash award is made to a first-year Creative Communications student judged on the basis of the following: a) grades in Creative Writing in all three terms; b) interviews with three finalists; c) consideration of extra-curricular creative writing done during first year; d) passing grades in all first-year courses.

May Muir Scholarship
This scholarship is administered by the Winnipeg Chapter of Professional Secretaries International and is awarded to a student enrolled in the first term of Administrative Assistant Program. It is based on academic achievement in the Secretary Program.

Merck Frosst Award
A $300 award to the Commerce/Industry Sales and Marketing student with the highest academic standing. Selection will be made by the faculty of the Commerce/Industry Sales and Marketing Program and will be based on cumulative GPA earned at end of second term.

Murray Lloy Memorial Scholarship
Three bursaries of approximately $500 each may be presented annually to Creative Communications students on the basis of need. This award was established to honour the memory of Creative Communications graduate and instructor, Murray Lloy. A first-year student should be carrying a full course-load and plan to continue into second year. A second-year student should be eligible for graduation at the time application is made. Students should apply in writing to the Creative Communications department.

Peter Nykoluk Memorial Award
This award was established by his family in memory of Peter Nykoluk, a Business Administration student at the College at the time of his accidental death. Two bursaries of $200 each will be awarded annually. Applications will be accepted by students enrolled in the following programs: Business Administration, Business Administration Integrated, Business Accountancy, Business Accountancy Integrated or Commerce/Industry Sales and Marketing. Criteria include satisfactory academic progress and financial need. Application forms are available from the Student Awards Office and will be accepted from December 15 until January 31.

Robert Drinnan Memorial Scholarship
Established to honor the memory of Creative Communications instructor, Robert Drinnan. A certificate and cash award is made to a first-year Creative Communications student on the basis of academic progress, participation, attendance, and attitude.

Robin Hood Multifoods Limited Award
Cash is awarded annually to a student in Commercial Baking.

SAM Advertising Awards for Excellence
Cash is awarded to a second-year Creative Communications student on the basis of commitment, attitude, and overall marks in advertising.
Society of Management Accountants of Manitoba Awards
Awards totalling approximately $1,000 are presented as follows: four awards to Term 6 Business Administration students; and three awards to Term 3 Business Accountancy students, based on academic performance.

Stan Bogucki Humanitarian Award
A scholarship of $100 and a plaque in memory of Stan Bogucki, who was department head of Teacher Education, is donated by the Industrial Arts Teacher Education staff. This award is presented to an Industrial Arts Teacher Education student who has completed the first three years of the program and has shown high academic achievement, good leadership abilities, and has made a professional commitment.

Stan Helleur Memorial Award
This award was established to honor the memory of Creative Communications instructor, Stan Helleur. A cash award and a certificate are given to a first and second-year Creative Communications student, judged by the following criteria: a) academic standing, b) character, c) service to the class, and d) extra-curricular activities.

A first-year student should be carrying a full course-load and planning to continue into second year. A second-year student should be eligible for graduation. Students should be of good character, with the qualities of integrity, honesty, and sincerity. Students should be congenial, involved with the program and classmates at a personal level, and participate in program-related events, eg., Open House. Students should be involved in Students’ Association and College activities as well as be involved in the community.

St. James-Assiniboia Chamber of Commerce Scholarship
A $250 scholarship is awarded to a St. James-Assiniboia resident attending the two-year Business Administration Program at Red River Community College. Criteria are: a) completion of at least two terms of the Business Administration program; b) currently residing in and must have been a resident of St. James-Assiniboia for at least one year prior to the start of the program; c) academic standing of 3.00 GPA; d) participation in business or related clubs on or off-campus; e) Canadian citizenship or landed immigrant status; f) community involvement; g) commitment to private enterprise and to excellence.

Student Design Group Award for Excellence
This award was established by the senior class in Advertising Art. An annual cash prize will be awarded to a graduating Red River Community College Advertising Art student for overall performance in Design. The recipient will be a full-time student, with a minimum cumulative grade point average of 3.00.

3M Canada Incorporated Bursary
Two bursaries of $500 each are available annually to full-time students attending Red River Community College. One will be awarded to a second-year Business Administration student and the other to a second-year Electrical or Electronic Engineering Technology student. The selection of recipients will be based on financial need and academic progress. Applications will be accepted until the end of October each year.
Unisource Outstanding Sales Award
A $300 award and a trophy will be presented annually to a student in the Commerce/Industry Sales and Marketing Program. The selection will be based on academic achievement, sales presentation ability, and school and community involvement.

Val Mason Scholarship Award
Sponsored by the Society of Club Managers, this award of up to $1000 is granted to the applicant who shows promise in a career in private club management. Contact the Hotel and Restaurant Administration department for further information.

Versa Services Award of Excellence
A cash award made annually to an outstanding student in Commercial Cooking.

Winnipeg Business Club Inc. Award
An award of $400 is given annually to a deserving student based on marks and participation in the Entrepreneurship course and the Entrepreneurship Practicum. The student must show interest in business and entrepreneurship and must maintain a minimum cumulative grade point average of 3.00.

Winnipeg Construction Association Awards
One $100 award is given to a first-year Industrial Arts Teacher Education student for proficiency in construction at the introductory level and one $100 award is given to a third-year student for proficiency in construction at the advanced level.

Winnipeg Press Club Foundation Awards
Two $50 cash awards are given for the best feature stories written by first-year Creative Communications students. Two $200 cash awards are given for the best investigative stories written by second-year Creative Communications students.

Continuing Education

George Andrew Mitchell Technical Bursary
A bursary to cover the cost of tuition and books is available to students with demonstrated financial need who are registered in any of the Industrial or Trade Improvement Programs with the exception of Car Owner’s Maintenance, Gunsmith, and Small Motors, in the Continuing Education Division (evening/Saturday). A complete listing of eligible programs and application forms for this bursary are available from the Continuing Education Office, C116. Application deadline is four weeks after the commencement of each term.

Gervin Alexander Dobbin Memorial Scholarship
A $200 scholarship has been established to honor the memory of former Evening Program supervisor, Gervin Alexander Dobbin. The scholarship is to be awarded annually to a part-time evening/Saturday program student who is a single parent with a financial need and who is currently registered in a Continuing Education program. The scholarship is awarded during the fall trimester. Application forms are available from the Continuing Education Office, C116.
Developmental Education

English Speaking Union Award
An award of $100 and a certificate will be presented annually to a student enrolled at the College's Language Training Centre. Selection will be based on academic excellence reflected by competency in all aspects of language development (reading, writing, speaking and listening).

Health, Community Services and Applied Sciences

Addison Wesley Award
Two book awards are presented, both for highest academic mark in Nursing Theory: one to a Nursing Year 1 student and the other to a Nursing Year 2 student. The recipient of this award is chosen by the faculty of the Nursing department.

Baxter – Canlab Award
A cash award is presented for the Medical Laboratory Technology student who attains the highest standing in Clinical Chemistry.

C.V. Mosby Award
A book award is presented in recognition of an individual with the highest score in Nursing Practice, Year 2. The recipient of this award is chosen by the faculty of the Nursing department.

Chemical Rubber Company Book and Scroll Award
Handbook of Chemistry and Physics and a scroll are given to a first-year student in the Applied Sciences department who excels in a first-year chemistry course.

Colin Maxwell Memorial Bursary
A $100 bursary is available to assist a needy student entering Term 1 of the Medical Radiological Diagnostic Technology Program or Term 2 of the Radiation Therapy Program.

Coulter Electronics of Canada Limited Award
A book award is presented to the Medical Laboratory Technology student who attains the highest standing in Hematology.

Department of Family Services Child Care Award
Established by the Department of Family Services, an annual award consisting of a collection of children's literature will be presented to a graduating Child Care Services student. The recipient will have displayed outstanding personal growth towards professionalism. Selection will be based on academic progress, performance, practical experience and leadership/involvement both in class and out.

Dr. Gretta Brown Scholarship
This scholarship was established by the Manitoba Child Care Association (MCCA) in memory of Dr. Gretta Brown and her distinguished contributions to the child care field. A cash award will be made annually to a first-year Child Care Services student, who is a member of the MCCA, entering his or her second year of the diploma program who has demonstrated professionalism and leadership, qualities that Greta upheld in her long and distinguished career.
Fisher Book Award
A cash award is made to the Medical Laboratory Technology student who attains the highest standing in Clinical Microbiology.

The Grummet Memorial Fund Bursary
A $500 bursary is given to a Manitoba student entering a diploma nursing program in the province. Application forms are available from the Manitoba Association of Registered Nurses. Deadline for applications is September 30.

Gudmundur Myrdal Bursary Program
This bursary was established in tribute to Gudmundur Myrdal, first Executive Director of Seven Oaks General Hospital, to assist full-time students in the health profession with the cost of tuition fees. A letter of application may be submitted to Seven Oaks General Hospital, c/o Administration.

Hill’s Pet Product Nutrition Award
A $200 award and a plaque is given to a second-year student in the Animal Health Technology Program who excels in Small Animal Nutrition Clinic.

John Elsbury Memorial Scholarship
A $500 award is made to a Medical Laboratory Technology student on the basis of financial need and academic performance with emphasis on marks achieved in the course of Immunohematology. The deadline for applications is March 31.

Joseph M. Scott Awards
Awards are sponsored by the Manitoba Branch of the Canadian Society of Laboratory Technology for students in Medical Laboratory Technology. Two cash awards are available for highest and second-highest total aggregate of marks obtained in all theoretical and practical phases of the program. One cash award is available for the highest technical proficiency in the practical aspects of the overall program.

Leica Canada Award
An award is made to the Medical Laboratory Technology student who attains the highest standing in Diagnostic Cytology.

MTC Pharmaceuticals Award
A plaque is awarded annually to a graduating Animal Health Technology student who excels academically.

Manitoba Animal Health Technology Association Book and Plaque Award
This award is presented to the outstanding student from the first year of the Animal Health Technology Program.

The Manitoba Association of Registered Nurses (MARN) Bursary
A $500 bursary is given to a student entering the second year of the Nursing Program. Application forms are available from MARN, 647 Broadway Avenue, Winnipeg, Manitoba R3C 0X2. Deadline for applications is September 30.
Manitoba Dental Assistants Association Award
A plaque is presented to a student in the Dental Assisting Level 2 Program based on professionalism.

Manitoba Dental Association Award
Plaques are presented to students in the Dental Assisting Program based on academic merit and outstanding achievement: one to a Level 1 student and one to a Level 2 student.

Medical Radiological Diagnostic and Radiation Therapy Bursary
A bursary of $150 is available to assist a needy student entering Term 1 of the Medical Radiological Diagnostic Technology Program or Radiation Therapy Program.

Manitoba Veterinary Medical Association Award
A $200 award is made to a second-year student in the Animal Health Technology Program who demonstrates academic proficiency and practical technical abilities.

Nikon Canada Award
An award is given to the Medical Laboratory Technology student who attains the highest standing in Histotechnology.

Organon Teknika Award
An award is given to the Medical Laboratory Technology student most proficient in both theoretical and practical aspects of the overall program.

Ortho Diagnostics Award
Cash is awarded for the Medical Laboratory Technology student who attains the highest standing in Immunohematology.

Pat Lucki Memorial Award
This award was established by Elmwood Day Nursery in memory of Pat Lucki, a Child Care Services graduate of the College. A plaque will be presented annually to a graduating Child Care Services student based on personal characteristics exhibited by Pat such as enthusiasm, love, thoughtfulness, and dedication to children, as recommended by the faculty of the Child Care Services Program.

Rh Pharmaceutical Inc./Apotex Biotechnology Inc. Bursary
A $500 bursary will be awarded to a second-year Chemical and Biosciences Technology student on the basis of financial need and demonstrated academic ability. Application forms are available from the Student Awards Office and will be accepted from December 15 until January 31.

W.B. Saunders Book Award
This award is presented to a graduating student in the Animal Health Technology Program who has the highest academic and practical standing in the program.

Wilfred Dychuk Award
An award of $100 is given to a first-year student in the Applied Sciences department who demonstrates proficiency in the analytical chemistry laboratory.
Technology

Armed Forces Communications and Electronics Association (Winnipeg Chapter) Award
Two awards of $350 each are given to full-time students entering second year of Computer Engineering Technology or Electronic Engineering Technology. This award will be based on the first year's work and will be offered to students who have demonstrated above-average abilities in the academic and vocational areas of the program and who have received no other award.

ASM International Award
This award of an ASM Materials Selection Handbook is for a student entering second year of Mechanical Engineering Technology who is taking the full program load and attains the highest standing in the Metallurgy course.

Association of Manitoba Land Surveyors Scholarships
One award of $600 and one award of $200 is given to students entering Term 4 of Survey Engineering Technology.

Birchwood GMC – Motor Vehicle Mechanic Scholarship
An award of $100 and a plaque is available for a student outstanding in theory and practice and community involvement.

Bird Construction Company Limited
One award of $400 and one award of $200 is available for students entering second year of Engineering Design and Construction Technology.

Boeing Canada Technology Limited Scholarship
Two awards of $500 each are given to students entering second year of Mechanical Engineering Technology.

Bristol Aerospace Limited Scholarships
Two awards of $200 each are given to students entering second year of Electronic Engineering Technology and Mechanical Engineering Technology.

C.E. Littler Memorial Award
This award is given annually in December by the Institute of Power Engineers (Manitoba area) to a student (who is a student member of the IPE) in the Power Engineering Program (fourth class), for demonstrated academic and technical ability.

CN Scholarship for Women
One scholarship of $500 is available to a female student on the basis of her demonstrated interest in a non-traditional career, who is entering Piping Trades, Diesel Mechanics, Welding, Electrical, Machine Shop Practice, Telecommunications, Drafting, Mechanical Engineering Technology or Power Engineering at the College. Application forms are available from the Student Awards Office. Application deadline is July 31.
Canadian Institute of Geomatics — Hans Klinkenberg Memorial Scholarship
One award of approximately $200 is given to a student entering second year of Survey Engineering Technology. The award will be based on academic excellence, need, and participation in student activities.

Canadian Institute of Geomatics Membership Award
An award of a two-year membership in the Canadian Institute of Surveying is given to a graduate in the Survey Engineering Technology Program.

Canadian Portland Cement Association Concrete Technology Award
A commemorative plaque suitably inscribed and $200 will be presented annually to a student enrolled in Civil, Engineering Design and Construction, or Structural Engineering Technology who has demonstrated the highest degree of excellence in concrete technology.

The Canadian Technical Asphalt Association (CTAA) Book Prizes
The Canadian Technical Asphalt Association, through its education committee, each year awards book prizes to students who excel in asphalt technology. The awards provide complimentary student membership for two years and complimentary copies of the proceedings for those two years. Apply directly to the Civil Engineering Technology department.

Clay Brick Association Scholarship
An award of $100 plus a medallion is given to a student in Engineering Design and Construction Technology with the highest overall standing at the end of Term 6.

Construction Specification Canada (CSC) Scholarship
A scholarship in the amount of $300 plus a one-year student membership in the CSC is given for high academic performance at the completion of the first year of the Engineering Design and Construction Technology or Civil Engineering Technology programs.

Dynamic Machine Corporation Limited Bursary
A cash award is presented annually to a student graduating from the Machine Shop Practice Program based on technical ability, financial need, and having at least an average academic standing.

Edward S. Smendziuk Memorial Award
This award is presented annually to a full-time Civil Engineering Technology student in his or her graduating year and is based upon high academic standing, participation in extracurricular activities, and leadership qualities. The award honors the memory of Edward S. Smendziuk, department head of Civil Technology, who passed away suddenly in October of 1984.

The Electric Service League of Manitoba
Two scholarships of $200 are available for students entering second year of Electrical Engineering Technology.
Griffin Canada Incorporated Scholarship
An award of $1,000 is given to the following recipients entering second year: $300 each to two students and $200 to another in Instrumentation Engineering Technology; and $200 to a student in Electrical Engineering Technology.

Hewlett-Packard (Canada) Limited Award
An 11C calculator will be awarded to a top student in Electronic Engineering Technology who has displayed excellence in the subjects of instruments, circuits and mathematics.

I.D. Engineering Scholarships
Two scholarships of $200 each are available to students entering second year of Civil and Structural Engineering Technology.

IKOY Partnership Architects
One annual scholarship in the amount of $200 will be awarded to an Engineering Design and Construction Technology student having the highest standing in his or her graduate thesis.

Inco Limited Engineering Technology Bursaries
Six awards of $100 each are given to deserving students who are pursuing a full-time program leading to a diploma in Civil Engineering Technology, Electronic Engineering Technology or Mechanical Engineering Technology. They should be Canadian citizens or possess landed-immigrant status, have a good scholastic record and demonstrate interest in extracurricular affairs.

The Institute of Power Engineers (Greater Winnipeg Branch)
Two $50 awards are given each June to students (who are student members of the IPE) in the Power Engineering Program (third class), for demonstrated academic and technical ability.

Jessica Miner Scholarship
An award of $100 is made annually to an outstanding student in a one-year electronic technician program.

Lloyd McGinnis Scholarship
A $300 scholarship is awarded to a student entering the second year of Engineering Technology displaying the greatest proficiency in oral and written communication.

Manitoba Hydro Employment Equity Bursaries
Bursaries of $600 each and a first option for a summer job with Manitoba Hydro following successful completion of the first year of studies are available to women, persons of native ancestry, the physically disabled and members of visible minority groups seeking enrollment in first-year studies in the Civil, Computer, Electrical or Electronic Engineering Technology Programs at Red River Community College. Application forms are available from the Student Awards Office. The deadline for applications is July 31.

Manitoba Hydro Scholarship
A scholarship of $200 is available for a student entering second year of Electrical Engineering Technology.
The Manitoba Society of Certified Engineering Technicians and Technologists Scholarships (MANSCETT)
Three scholarships of $200 are given to one student member entering second year of each Civil, Electronic and Mechanical Engineering Technology based on academic standing. To be eligible, the recipients must be student members of MANSCETT.

The Manitoba Sugar Company Limited Bursary
An award of $100 is given to a student entering second year of Mechanical Engineering Technology.

Manitoba Telephone System Scholarship
A scholarship of $200 is available to a student entering second year of Electronic Engineering Technology.

Manitoba Telephone System (Northern Region) Scholarships
Two scholarships of $500 and the possibility of employment are available to students graduating from a northern Manitoba high school and entering Electronic Engineering Technology at Red River Community College. Based on performance, an additional scholarship of $500 may be awarded to cover the enrollment costs of the second year of the program.

Neelin Wilson Construction Inc. Scholarship
Two awards of $250 each are to be awarded to students entering the second year of Civil Engineering Technology who have demonstrated either highest academic achievement or greatest improvement in both written and oral communication.

Norm Bercuson Bursary
A $250 bursary is to be given to a student entering second year of Instrumentation Engineering Technology.

Pritchard Engineering Company Limited Bursary
A bursary of $300 is available to a student entering second year of Mechanical Engineering Technology.

The Roning Group
An award of $200 is given to a technology student displaying the greatest proficiency in oral and written communication, and in report writing.

Society of Manufacturing Engineers Award
One award for excellence is presented to a student in manufacturing-related courses in Mechanical Engineering Technology, consisting of one volume of the Society of Manufacturing Engineers Tool and Manufacturers Handbook.

3M Canada Incorporated Bursary
Two bursaries of $500 each are available annually to full-time students attending Red River Community College. One will be awarded to a second-year Business Administration student and the other to a second-year Electrical or Electronic Engineering Technology student. The selection of recipients will be based on financial need and academic progress. Applications will be accepted until the end of October each year.
**Toyota Canada Scholarship**
Two scholarships of $500 each are awarded annually to Motor Vehicle Mechanic Work Experience students based on academic standing. Selection will be made by Motor Vehicle Mechanic Work Experience Program faculty.

**UMA Holdings Limited Scholarships**
Two scholarships of $400 each are available to students entering second year of Civil and Structural Engineering Technology.

**Western Association of Broadcast Engineers Award**
An annual award of $250 will be presented to a student who has completed the first year of the Electronic Engineering Technology Program at the College and is entering the second year.
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Purpose
The purpose of the program is to meet the ever-increasing need for individuals who have strong
communications skills and training in information management.

Program
The Administrative Assistant is a two-year program with a September entry date. It is enriched by
two terms of paid co-operative work experience.
The program has an advisory committee that includes representatives from business, industry, govern-
ment and the College. Through this committee, the College keeps up-to-date with the changing
trends in business and the requirements of prospective employers.

Entrance requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation)
with English 300 or 301 and Mathematics 300 or 301;

or

- Adult Basic Education 11B with supplemental mathematics topics;

and

B – attend an information session with the Administrative Assistant faculty.

Mature Student Admission. Mature students are not required to have a complete Grade 12
standing but must meet entrance requirement B and must be 20 years of age on or before September 30
in the year of registration. All mature applicants are referred to the Director of Registration to deter-
mine applicant suitability. Applicants must include with their applications a detailed resume and official
transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
The Administrative Assistant program prepares graduates for careers at all levels of small, medium
and large businesses or government departments. The extensive background in computer applications
and organizational skills enables graduates to coordinate activities of managers and executives.

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## Administrative Assistant (continued)

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#### Term 2
- B18-A305  Accounting 2
- B18-C325  Communications 2
- B18-M305  Office Procedures
- B18-T310  Keyboarding 2
- B18-T405  WordPerfect – Basic

#### Term 3
- B18-C425  Report Writing
- B18-D405  dBASE IV
- B18-E402  Employment Preparation 1
- B18-F403  Records Management 1
- B18-L305  Lotus 1-2-3
- B18-P405  Transcription
- B18-W402  Windows
- B18-W405  Keyboarding 3

#### Term 4
- B18-E400  Co-operative Work Experience 1

#### Term 5
- B12-E171  Economic Principles BA 1
- B18-B504  Introduction to Business
- B18-C505  Oral Communications
- B18-E502  Employment Preparation 2
- B18-F503  Records Management 2
- B18-T505  WordPerfect Advanced
- B18-W505  Keyboarding 4
- B18-W555  WordPerfect Applications 1

#### Term 6
- B18-E600  Co-operative Work Experience 2

#### Term 7
- B11-A495  Microcomputer Accounting (GL)
- B18-G604  Desktop Publishing
- B18-O605  Organization/Seminar
- B18-S604  Supervision
- B18-W656  Microsoft Word/Windows
- B18-X605  Software Applications
Adult Basic Education

Purpose
To upgrade academic skills in mathematics, English, physical science and related programs for enhanced education or employment opportunities.

Program
Adult Basic Education (ABE) programs are approximately five months in length and have varied entry dates. Adult 10 is offered on a 12-month per year continuous basis, with large intakes in September and February. Adult 11A, 11B and 11C have September and February entry dates. Adult 12 has a September (dependent on demand) and February entry date. ABE courses may also be taken on a part-time basis during the day (call 632-2418) or may be available during the evening (call 694-1789).

Adult 10 will give you the chance to get enough academic skills to meet Adult 10 entrance requirements for Manitoba community college programs. Although mathematics and communication will be emphasized, science will be taught when required for occupational goals.

Adult 11. There are three Adult 11 programs: Adult 11A, which is science-based; Adult 11B, which is business-based; and Adult 11C. Each program has been designed as a preparation for a different educational and occupational goal. To ensure that you choose the right Adult 11 program, you should check the entrance requirements for the college program you wish to take when you finish upgrading.

Adult 11A will prepare you to enter the one-year science-based programs at the College.
Adult 11B will prepare you to enter the one-year and two-year business and applied arts programs at the College.
Adult 11C will prepare you to enter the Dental Assisting Program at the College.
Adult 12 is a science-based program and is a follow-up to the Adult 11A science-based program. It will prepare you to meet the entrance requirements of the two-year technology programs at the College.

Entrance Requirements
Applicants must:
A – write the Level Placement Test to determine the right upgrading entrance level;
B – be at least 17 years of age.

Employment Potential
After successful completion of appropriate academic upgrading, former students have gone on to enroll in the community college programs of their choice. Others have found that the ABE programs opened up new employment opportunities for them. An additional benefit for many has been the personal development and self-esteem that have grown from their increased knowledge and skills.

Continued on next page
## Adult 12

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<td>Communications</td>
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<tr>
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<td>Mathematics 300</td>
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<td>S03-S001</td>
<td>Science 300 (Physics)</td>
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<td>Science 300 (Chemistry)</td>
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<td>S03-L001</td>
<td>Mathematics</td>
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<td>Science (Physics)</td>
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<td>Science (Chemistry)</td>
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<td>S03-O001</td>
<td>Business Mathematics</td>
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<td>Business and Consumer Fundamentals</td>
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## Adult 10

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<td>S02-D509</td>
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Purpose
The purpose of the program is to provide technologists and others with the knowledge, skills, and attitudes required for their roles as supervisors and managers in technical organizations.

Program
This part-time program is designed to educate students who, upon graduation, will be eligible to receive an advanced diploma in Advanced Technology Management (ATM). These graduates will be able to function competently in a supervisory or mid-management position in a technological environment. To obtain an advanced diploma, students must have 50 credit hours from the program. The program comprises:

- 10 x 36-hour management courses (includes five core courses and five elective courses),
- 6 x 36-hour advanced technology courses or equivalent in a specified occupational area,
- a comprehensive graduation project.

The graduates of this program will be able to demonstrate appropriate knowledge, skills, abilities, and attitudes in their management of:

1. technology;
2. marketing;
3. finance;
4. business;
5. human resources.

Entrance Requirements:

- graduation with a two-year technical diploma from a recognized technical institute or community college;

  or

- graduation with a three-year or four-year degree in a technical, scientific, or engineering discipline from a recognized university or polytechnic;

  and

- certification or professional designation from a recognized, accredited association or certifying organization or society;

  or

- at least two years of verifiable related work experience in an appropriate technical environment.

Employment Potential
Most Advanced Technology Management students are actively employed while completing program courses. It is expected that graduates of the program will be more competitive for available management opportunities in technological work environments.
Advanced Technology Management (continued)

Program Outline*

Management Component

Core courses:
TMT-M200  Marketing of Technology
TMT-H500  Managerial Communications
TMT-T100  Engineering, Technology and Management
TMT-F300  Economics and Finance
TMT-B400  Managing Change and Diversity

Elective Courses: **
TMT-M202  Marketing Research and Strategies
TMT-H502  Human Resource Management
TMT-T102  Technology and the International Marketplace
TMT-F302  Management Accounting and Information Systems
TMT-B402  Organizational Behaviour

Technology Component

Pattern

Courses: ***
Geographic Information Systems – as required
Expert Systems/Programmable Logic Controllers
Automated Systems/CADD-CAM
Environmental Technology

Graduation Project

Courses:
TMT-AR01  Applied Research Methods****
TMT-RC01  Research Colloquium
TMT-TA01  Technology Assessment
TMT-GP01  Graduation Project

* With the exception of prerequisite courses, management component courses may be taken in any sequence.

** Other elective courses will be offered in future.

*** Two core technical courses are required from one of the four technical patterns.
Currently, six technical courses in total are required.

**** Prerequisite to other graduation project courses.
Advanced Welding

Purpose
The purpose of the program is to upgrade practical welding skills and techniques to meet the certification requirements of Manitoba Labour and/or the Canadian Welding Bureau (CWB).

Program
The Advanced Welding Program has a continuous entry, from March to June. The length of the program for the individual applicant will be determined by the time required to obtain a maximum of two successive tickets. This program has been designed to provide a facility and instruction for qualifying welders to practice in preparation for certification examinations.

Participants will spend five hours each day (8 a.m. – 1 p.m. or 1 – 6 p.m.), Monday through Friday, in the development of skills and procedures required for the various classes of certification. The most common certificates are:

- FG - Oxyacetylene
- F3 - Downhand
- F3 - Uprhand
- F4 - Carbon
- F6 - Carbon (TIG)
- CWB - Plate (Steel) 4 position
- CWB - Aluminium Plate (MIG)

Testing for certification is arranged by the applicant with the testing authority.

Please note that because Workers Compensation regulations stipulate that steel-toed footwear must be worn in industrial workplaces, students must provide and wear appropriate safety footwear in welding and machine shops.

Fees will be assessed on the basis of the time required by the individual applicant to prepare for certification examinations.

Human Resources Development may sponsor students to take this program. Please make inquiries at your local Canada Employment Centre.

Entrance Requirements
- To be eligible to test under Manitoba Labour, applicants must prove a minimum of three years welding experience in manual arc welding with flux-coated electrode (SMAW).
- Eligibility under the Canadian Welding Bureau requires two years of SMAW welding experience;
  or
- completion of a recognized welding training program, plus SMAW experience equal to two years,
  or
- sponsorship of a CWB member employer.

Certification from other jurisdictions (e.g., apprenticeship programs, other provinces) may be accepted. Eligibility to test is determined solely by the testing authority.

Applicants must prove eligibility to be tested by:
- Welding Examiner
- Manitoba Labour
- Mechanical and Engineering Branch
- 501-401 York Avenue
- Winnipeg, Manitoba R3C 0P8
- Telephone: 945-3374 or 945-4138

Continued on next page
Advanced Welding (continued)

Testing (continued)
Paramount Road (test facility) and/or Canadian Welding Bureau (CWB)
Telephone 945-1276
50 Paramount Road
Winnipeg, Manitoba R2X 2W3
Telephone 632-6316

Employment Potential
Welders who have enrolled in Advanced Welding generally have found that development and upgrading of welding skills to meet certification requirements have enhanced their employment qualifications and job opportunities.

How do I apply?
For information on this or other welding programs, please contact:
Coordinator
Welding Department
Red River Community College
B1-68A – 2055 Notre Dame Avenue
Winnipeg, Manitoba R3H 0J9
Telephone: 632-2204

Red River Community College reserves the right to make changes without prior notice to program content, instructional methods, fees, rules and regulations, and to cancel programs when deemed necessary.
Advertising Art

Purpose
We are living in a world that has become more dependent on effective communication. Graphic design plays a vital role in the process of presenting ideas, information, products, and services in a expanding global economy. The aim of the Advertising Art Program is to provide up-to-date artistic training in the technology, techniques, and philosophy of graphic design.

Program
Advertising Art is a two-year diploma Program with a September entry date. The program offers a balanced program of art instruction and academic courses. It is designed to develop the technical skills and knowledge essential to professional competence, and to encourage creativity, imagination and a sense of aesthetic discrimination.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation);

or

- Adult Basic Education 11B;

and

B - A specified portfolio of art work. (Portfolio requirements are released in January each year and sent to the applicant after receipt of the application and supporting education documents. Note that portfolio specifications are changed annually);

and

C – An interview with the Advertising Art Selection Committee.

This is a special selection program. The Selection Committee interviews applicants who have completed entrance requirements A and B and whose portfolios are considered acceptable to the committee. The committee selects candidates who have the ability to express themselves in graphic form (i.e., have talent in drawing) and who are interested in earning their living through the practice of graphic design.

Because this special selection program has a cut-off date for applications, you should submit your application as early as possible. Please contact the Registration Department at 632-2327 to confirm the exact cut-off date.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must meet entrance requirements B and C above and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be required.

Employment Potential
Graduates of this program have found employment as production specialists, graphic designers, illustrators and art directors. They work in retail stores, advertising agencies, graphic design studios, and colour houses, as well as with newspapers and magazine publishers. Others are working in the television and film industry, and some are employed as freelance artists.

Continued on next page
## Advertising Art (continued)

### Program Outline

#### YEAR 1

**Term 1**
- B01-A101 Basics of Form
- B01-A102 Principles of Drawing
- B01-A103 Basic Art Production Techniques 1
- B01-A108 History of Graphic Design
- B01-A109 Introduction to Computers for Electronic Publishing
- B01-A111 Reproduction Methods and Materials
- B10-C109 Introduction to Advertising
- B01-A101 WHMIS Training

**Term 2**
- B01-A203 Basic Art Production Techniques 2
- B01-A211 History of Graphic Design
- B01-A212 Introduction to Electronic Publishing 2
- B01-A213 Life Drawing
- B01-A215 Graphic Design
- B01-A216 Reproduction Methods and Materials
- B10-C209 Intro to Advertising - Ad Art

**Term 3**
- B01-A301 Graphic Design
- B01-A302 Sketching for Illustration
- B01-A308 Reproduction Methods and Materials
- B01-A313 Advanced Production
- B01-A315 History of Graphic Design
- B01-A318 Introduction to Electronic Publishing 3
- B10-C309 Intro to Advertising - Ad Art

#### YEAR 2

**Term 4**
- B01-A316 Work Experience 1
- B01-A403 Electronic Publishing
- B01-A406 Advertising Design
- B01-A407 Graphic Design
- B01-A419 History of Graphic Design
- B01-A421 Practicum
- B01-A422 Design Management
- B01-A423 Publication Design
- B01-A424 Rendering for Illustration
- B01-A425 Electronic Prepress Theory

**Term 5**
- B01-A420 Work Experience 2
- B01-A501 Advertising Design
- B01-A507 Graphic Design
- B01-A518 Creative Imaging
- B01-A519 Applied Electronic Prepress
- B01-A520 Rendering for Illustration 2
- B01-A522 Design Management
- B01-A523 Publication Design

**Term 6**
- B01-A601 Advanced Advertising Design
- B01-A616 Advanced Graphic Design Problems
- B01-A617 Portfolio Presentation
- B01-A620 Advanced Rendering for Illustration
- B01-A621 Advanced Electronic Prepress
- B01-A622 Design Management
- B01-A623 Advanced Publication Design
- B01-A624 Advanced Creative Imaging
Animal Health Technology

Purpose
The purpose of the program is to develop the knowledge and skills required to be a member of the animal health care team.

Program
Animal Health Technology is a two-year diploma program with a September entry date. The program is designed to provide a sound fundamental knowledge of the basic sciences so that you will be able to understand and apply the principles of veterinary medicine such as animal management, medical and surgical nursing, anesthesia, diagnostic procedures and practice management.

The program has an advisory committee that includes representatives from every employment area of animal health technologists. Through this committee, the College keeps abreast of changes in animal care and the requirements of prospective employers.

Entrance Requirements
A—20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and two of Chemistry 300, Biology 300 or 301, or Physics 300.

or

- Basic Education Pre-Technology program (Adult 12) completion;

and

B—a mandatory orientation session given in the month of February at Red River Community College by the instructional staff of the Animal Health Technology program.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits as noted in A above. As well, mature students must meet entrance requirement B and must be at least 20 years of age on or before September 30 in the year of registration. All mature applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Note: The advisory committee to the Animal Health Technology program highly recommends that potential candidates for the program expose themselves to veterinary medicine and animal health technology at veterinary clinics or animal units for one to two weeks.

Employment Potential
Graduates of the program have found employment in private veterinary practices, in farm production units, in research laboratories, with zoological collections and with federal or provincial governments.
## Animal Health Technology (continued)

### Program Descriptions

#### YEAR 1

**Term 1**
- H09-A115 Computer Awareness
- H09-A102 General Chemistry 1
- H09-A103 Lab Safety
- H09-A107 Introduction to Animal Management
- H09-A110 Biology/Zoology
- H09-A116 Technical Mathematics
- H09-A118 Communications

**Term 2**
- H09-A203 Medical Nursing 1
- H09-A202 Medical Nursing Practical Laboratory 1
- H09-A204 Organic Chemistry
- H09-A106 Parasitology
- H09-A219 Anatomy and Physiology 1
- H09-A214 Genetics
- H09-A218 General Microbiology

**Term 3**
- H09-A303 Medical Nursing 2
- H09-A302 Medical Nursing Practical Laboratory 2
- H09-A308 Nutrition
- H09-A309 Biochemistry
- H09-A311 Anatomy and Physiology 2
- H09-A318 Applied Microbiology
- H09-A326 Hematology 1

#### YEAR 2

**Term 4**
- H09-A417 Hematology 2
- H09-A408 Radiology
- H09-A409 Reproduction
- H09-A410 Clinical Pathology
- H09-A411 Surgical Nursing 1
- H09-A412 Anaesthesia 1

**Term 5**
- H09-A511 Surgical Nursing 2
- H09-A512 Anaesthesia 2
- H09-A513 Pharmacology
- H09-A519 Lab Animal/Small Fur-Bearing Animal Management
- H09-A525 Office and Accounting
- H09-A516 Avians and Exotic Animal Medicine
- H09-A517 Zoonosis and Public Health Medicine

**Term 6**
- H09-A610 Projects
- H09-A611 Large Animal Clinical Practicum
- H09-A612 Practice Management and Client Management
- H09-A615 Applied Nutrition
- H09-A614 Small Animal Clinical Practicum
- H09-A626 Communications
- H09-A616 Advanced Animal Health Techniques
Architectural Drafting, Structural Drafting, and Mechanical Systems Drafting

Purpose
To develop the skills and knowledge needed to assemble and produce working drawings, manually and computer-generated, as required by the architectural, structural or mechanical-systems design and construction industries.

Program
Architectural Drafting, Structural Drafting and Mechanical Systems Drafting are 10-month certificate programs with a September entry date. Each program focuses on the development of both traditional manual drafting skills and high-technology methods using computer-assisted drafting systems. The drafting programs emphasize the use of acceptable drafting equipment, techniques and conventions.

All students enroll in a common first term of Architectural Drafting. Prior to starting the second term, students will choose between the Architectural, Structural or Mechanical Systems options. As the second-term option may be restricted by numbers, final selection will be made in consultation with the department head and, if necessary, will be based on first-term grade point averages.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with one of Mathematics 200 or 201*. Standing in Physics 200 or Physical Science 201 is strongly recommended;

or

- Adult Basic Education 11A.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 11 standing but must have successfully completed one of Mathematics 200 or 201*. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

* Mathematics 200, or its academic equivalent, is advised. A strong background in mathematics is essential to the drafting field.

Employment Potential
Architectural Drafting graduates have found employment as junior draftspeople in architectural, consulting engineering, town planning, surveying and building subtrades drafting offices. After gaining experience, some graduates are employed as estimators, building inspectors, specification writers, technical representatives, construction supervisors or salespeople of building product lines.

Mechanical Systems Drafting graduates have found jobs with mechanical engineering consultants, suppliers and manufacturers of mechanical equipment, and mechanical contractors.

Job opportunities for Structural Drafting graduates have been found with steel fabricators, structural engineering consultants and steel detailing drafting offices.
### Program Outline

#### Term 1 (common to the three options)
- T03-A101 Fundamentals of Delineation
- T03-A106 Applied Architectural Drafting 1
- T03-A103 Computer-Aided Drafting 1
- T13-M510 Drafting Math 1
- T03-A107 Computer Applications 1
- T13-W100 WHMIS Workshop

#### Architectural Drafting Option

**Term 2**
- T03-A206 Applied Architectural Drafting 2
- T03-A207 Computer-Aided Drafting 2
- T03-A204 Building Code Analysis
- T13-M614 Drafting Math 2
- T03-A205 Work Experience
- T03-A208 Specifications
- T14-R504 Communications

**Term 3**
- T03-A301 Surveying and Topographical Drawing
- T03-A306 Applied Architectural Drafting 3
- T03-A307 Computer-Aided Drafting 3
- T03-A305 Quantity Take-Off

#### Mechanical Systems Drafting Option

**Term 2**
- T03-S205 Mechanical Systems (Plumbing) Drafting 1
- T03-S207 Computer-Aided Drafting 2
- T13-M614 Drafting Math 2
- T03-S204 Fundamentals of Mechanical Systems Drafting
- T03-S206 Mechanical Systems (HVAC) Drafting 1

**Term 3**
- T03-S30 Mechanical Systems (Plumbing) Drafting 2
- T03-S307 Computer-Aided Drafting 3
- T03-S304 Quantity Take-Off
- T14-R504 Communications
- T03-S306 Mechanical Systems (HVAC) Drafting 2
- T03-S308 Presentation Drawing and Modeling
- T03-S309 Work Experience

#### Structural Drafting Option

**Term 2**
- T03-D205 Applied Strength of Materials 1
- T03-D202 Fundamentals of Structural Steel Detailing Drafting
- T03-D206 Computer-Aided Drafting 2
- T03-D207 Applied Structural Engineering Drafting
- T13-M614 Drafting Math 2
- T14-R504 Communications

**Term 3**
- T03-D307 Surveying and Topographical Drawing
- T03-D304 Applied Strength of Materials 2
- T03-D302 Applied Structural Steel Detailing Drafting
- T03-D306 Computer-Aided Drafting 3
- T03-D305 Work Experience

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*B - 16*
Automotive Service Education

Purpose
To develop the knowledge and skills required to prepare potential automotive technicians for a career in the automotive field.

Program
The Automotive Service Education Program is an 80-week apprenticeship course with entry dates determined by applicant demand. The student spends 40 weeks at Red River Community College and 40 weeks with a sponsoring General Motors of Canada dealership on an eight-week alternating basis. Upon successful completion of both the in-college and dealership training, and a two-year period of employment in a GM dealership, the graduate will be entitled to write the Inter-Provincial Standards Examination. The program is designed to develop basic generic knowledge and skills for all phases of vehicle repair; specialized knowledge and skills on General Motors design maintenance repair; and high standards in workmanship, safety and customer consideration.

Please note that although the Automotive Service Education Program is similar to the College's Motor Vehicle Mechanic (Work Experience) Program, the entrance requirements are higher and the amount of time required to earn apprenticeship credits is shorter.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12);
  and
- successful completion of a prescribed reading skills test.

Employment Potential
Because this program is a relatively new program, there is no graduate employment experience to date.
# Automotive Service Education (continued)

## Program Outline

### Level 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>T01-A101</td>
<td>Safety — Theory</td>
</tr>
<tr>
<td>T01-A102</td>
<td>Shop Tools — Theory</td>
</tr>
<tr>
<td>T01-A103</td>
<td>Service Manual and Bulletins — Theory</td>
</tr>
<tr>
<td>T01-A104</td>
<td>Engine Principles — Theory</td>
</tr>
<tr>
<td>T01-A107</td>
<td>Electrical Engine — Theory</td>
</tr>
<tr>
<td>T01-A108</td>
<td>Special Electronics Training</td>
</tr>
<tr>
<td>T01-A110</td>
<td>Science</td>
</tr>
<tr>
<td>T01-A114</td>
<td>Mathematics</td>
</tr>
<tr>
<td>T01-A116</td>
<td>Public Relations</td>
</tr>
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### Level 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
</tr>
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<tbody>
<tr>
<td>T01-A112</td>
<td>Communications</td>
</tr>
<tr>
<td>T01-A202</td>
<td>Engine Electronic Controls</td>
</tr>
<tr>
<td>T01-A204</td>
<td>Carburation Basics — Theory</td>
</tr>
<tr>
<td>T01-A206</td>
<td>Electronic Fuel and Emission Management</td>
</tr>
<tr>
<td>T01-A207</td>
<td>Windshield Wiper Systems — Theory</td>
</tr>
<tr>
<td>T01-A208</td>
<td>Automatic Transmissions Basics</td>
</tr>
<tr>
<td>T01-A212</td>
<td>Vehicular Brakes and Assist Systems</td>
</tr>
<tr>
<td>T01-A216</td>
<td>Welding</td>
</tr>
<tr>
<td>T01-A426</td>
<td>Body Mechanical Adjustments</td>
</tr>
<tr>
<td>T13-M210</td>
<td>Automotive Related Math</td>
</tr>
<tr>
<td>T13-S210</td>
<td>Automotive Related Science</td>
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### Level 3

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<tr>
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<tbody>
<tr>
<td>T01-A216</td>
<td>Welding</td>
</tr>
<tr>
<td>T01-A314</td>
<td>Suspension Steering and Alignment</td>
</tr>
<tr>
<td>T01-A320</td>
<td>Air Conditioning Principals</td>
</tr>
<tr>
<td>T01-A324</td>
<td>Introduction to Clutches and Standard Transmission</td>
</tr>
<tr>
<td>T01-A326</td>
<td>Related Science</td>
</tr>
<tr>
<td>T01-A328</td>
<td>Mig and Tig Welding</td>
</tr>
<tr>
<td>T01-A511</td>
<td>Introduction to Antilock Brake Systems</td>
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</table>

### Level 4

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>T01-A316</td>
<td>700 R4 RWD Automotive Transmission</td>
</tr>
<tr>
<td>T01-A322</td>
<td>Engine Diagnosis and Light Repair</td>
</tr>
<tr>
<td>T01-A402</td>
<td>Cruise Control — Theory</td>
</tr>
<tr>
<td>T01-A404</td>
<td>Diesel Engine Fuel and Emissions — Theory</td>
</tr>
<tr>
<td>T01-A406</td>
<td>Diesel Electronic Control — Theory</td>
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<tr>
<td>T01-A424</td>
<td>Differential and Drivelines</td>
</tr>
<tr>
<td>T01-A505</td>
<td>Supplemental Restraint Systems</td>
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### Level 5

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<th>Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>T01-A410</td>
<td>Air Brakes — Theory</td>
</tr>
<tr>
<td>T01-A416</td>
<td>AC and Heating Electronic Controls</td>
</tr>
<tr>
<td>T01-A425</td>
<td>Electrical Options and Accessories</td>
</tr>
<tr>
<td>T01-A502</td>
<td>GM 30 Electronics (4 Parts) — Theory</td>
</tr>
<tr>
<td>T01-A513</td>
<td>Advanced Transmission and Drive Trains</td>
</tr>
<tr>
<td>T01-A514</td>
<td>Current Year New Product Training</td>
</tr>
</tbody>
</table>
Purpose
To provide qualified technologists with the knowledge, skills, and attitudes required to function as Biomedical Engineering Technologists (BMET).

Program
The curriculum is based on the Biomedical Engineering Technology certification examination topics defined by the International Certification Commission (ICC).

Biomedical Engineering Technology is offered as a part-time program. Classes are held from 4:30 – 7:30 p.m. on Tuesdays and Thursdays, and on selected Saturday mornings for four terms (Fall, Winter, Spring, Fall) of 13 weeks; and a fifth term (Winter) including a practicum in collaborating hospitals. The schedule may be changed to accommodate needs. The first term begins in September.

The program is designed as a series of courses focused on the technical knowledge and interpersonal skills required by the Biomedical Engineering Technologist to fulfill his or her role in the modern health care environment. Students with experience in particular topics may elect to challenge the examinations for those courses, and attend only the courses they require. Qualified students with special interests may select particular courses. Some courses may be of particular interest to students from other disciplines.

Entrance Requirements
- graduation with a two-year technical diploma in electronics technology from a recognized technical institute or community college;
  or
- graduation with a three-year or four-year degree in a technical, scientific, or engineering discipline from a recognized university or society;
  or
- equivalent experience and knowledge.

A strong background in electronic instrumentation, physics, and English is required. The program requires the student to have a good understanding of electronic circuits, measurement, and troubleshooting, so that he or she can relate to biomedical equipment and its application.

Qualified applicants will be accepted on a first-come, first-served basis and assessed on the following criteria:
- transcript(s) from academic institution(s) attended to verify academic suitability;
- certification from an accredited organization, association, or society; or verified work experience;
- letters of reference from current or former employers, as requested;
- an interview with the appropriate technical department head and/or a Program Admissions Committee may be requested.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.
Biomedical Engineering Technology (continued)

Entrance Requirements (continued)

*Note: Please submit applications by August 1 with transcripts and any other proof of completion of entrance requirements.*

Employment Potential

Graduates who are registered by a provincial authority (e.g., MANSCErfl), and have two years of clinical experience, will be eligible to write the International Certification Commission (ICC) qualifying examinations for BMET certification given by the Canadian Board of Examiners for Biomedical Engineering Technologists and Technicians. Biomedical Engineering Technologists are employed in hospitals and in industry in Manitoba and across Canada.

Program Outline

**YEAR 1**

**Term 1**

September – November

H04-A107  Anatomy & Physiology

**Term 2**

December – March

H04-A201  Patient Care and Procedures
H04-A202  Medical Biophysics and Biochemistry
H04-A203  Hazards and Safety Regulations and Standards
H04-A204  Sensors, Measurement, Treatments

**Term 3**

March – June

H04-A301  Operation, Care of Biomedical Equipment – A
H04-A302  BMET Practice
H04-A302A  BMET Roles and Relationships
H04-A302B  Identifying and Solving Problems
H04-A302C  Interpersonal Skills
H04-A302D  Structure and Function of Organizations
H04-A302E  Performance Assurance of Medical Equipment
H04-A302F  The BMET Department

**YEAR 2**

**Term 4**

September – November

H04-A401  Operation, Care of Biomedical Equipment – B
H04-A402  Operation, Care of Biomedical Equipment – C

**Term 5**

December – March

H04-A501  Practicum
H04-A502  Review and Preparation for ICC Examination
Purpose
To develop a thorough working knowledge of fundamental financial and cost accounting. Graduates are capable of maintaining a complete set of accounting records in a business environment with the use of a microcomputer.

Program
Business Accountancy is a 10-month certificate program with a September entry date. The program is designed to provide a thorough working knowledge of accounting systems and procedures to enable the graduate to maintain a complete set of records for most types of businesses.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with English 200 or 201 and Mathematics 200 or 201; or
- Adult Basic Education 11B.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 11 standing but must have specific credits in English and mathematics as noted above. 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 Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Employment opportunities will vary, depending upon your personal preferences, ability and prior work experience. Most graduates have found employment as accounting technicians in wholesale, retail, or manufacturing firms, in financial departments of banks and trust companies, or in private clubs, schools or professional sports associations. Some graduates have been accepted for positions as full-fledged accountants, and others have been hired by public accounting firms.

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

Program Outline

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>B11-A103  Business Mathematics B U A C</td>
<td>B11-A204  Cost Accounting A</td>
</tr>
<tr>
<td>B12-L360  Business Law</td>
<td>B11-A495  Microcomputer Accounting (GL)</td>
</tr>
<tr>
<td>B12-O333  Principles Of Organization and Management</td>
<td>B15-S213  Microcomputer Productivity Software 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>B11-A304  Cost Accounting B</td>
</tr>
<tr>
<td>B11-A361  Financial Accounting C</td>
</tr>
<tr>
<td>B11-A595  Microcomputer Accounting (AP and AR)</td>
</tr>
<tr>
<td>B15-S313  Microcomputer Productivity Software 2</td>
</tr>
<tr>
<td>B17-E833  Advanced Business Communication</td>
</tr>
</tbody>
</table>
Business Accountancy Integrated

Purpose
To develop a thorough working knowledge of fundamental financial and cost accounting. Graduates are capable of maintaining a complete set of accounting records in a business environment with the use of a microcomputer.

Program
Business Accountancy Integrated is a 12-month certificate program with a December entry date. This integrated program is designed for applicants who do not meet the entrance requirements for the 10-month Business Accountancy program, and integrates the required academic programs to bring the student to an Adult 11 level. The modified pace in the first three terms allows additional time for meeting individual needs. Term 4 will be identical in pace and content to the 10-month Business Accountancy program's final term.

The program is designed to provide a thorough working knowledge of accounting systems and procedures to enable the graduate to maintain a complete set of records for most types of businesses.

Entrance Requirements
A — seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and English 100 or 101;

or

— Adult Basic Education 7-10 program with supplemental mathematics and communications modules;

and

B — acceptable performance on entrance tests, administered by the College, which survey basic skills in mathematics, language, and reading.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 10 standing but must have specific credits in English and mathematics as noted in A above. Mature students must also meet requirement B above and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability.

Employment Potential
Employment opportunities will vary, depending upon your personal preferences, ability and prior work experience. Most graduates have found employment as accounting technicians in wholesale, retail, or manufacturing firms, in financial departments of banks and trust companies, or in private clubs, schools or professional sports associations. Some graduates have been accepted for positions as full-fledged accountants, and others have been hired by public accounting firms.

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

Continued on next page
Business Accountancy Integrated (continued)

Program Outline

Term 1
B11-A105 Business Mathematics – Term 1
B11-A162 Introductory Accounting – Term 1
B12-L199 Business Law 1 (BA)
B17-E651 Introduction to Communication
B18-T100 Keyboarding for Information Processors

Term 2
B11-A106 Business Mathematics – Term 2
B11-A163 Introductory Accounting – Term 2
B11-A205 Cost Accounting Principles and Applications – Term 2
B15-S214 Microcomputer Productivity Software 1
B16-E811 Basic Business Communication

Term 3
B11-A206 Cost Accounting Principles and Applications – Term 3
B11-A262 Introductory Accounting – Term 3
B11-A495 Microcomputer Accounting (GL)
B12-O333 Principles of Organization and Management
B16-E822 Intermediate Business Communication

Term 4
B11-A304 Cost Accounting B
B11-A361 Financial Accounting C
B11-A595 Microcomputer Accounting (AR and AP)
B15-S313 Microcomputer Productivity Software 2
B16-E833 Advanced Business Communication
Business Administration

Purpose
To develop a potential for supervision and management through the study of business-related courses and practical projects.

Program
Business Administration is a two-year diploma program with a September entry date. The program is designed to provide a broad general business background so that the graduate may choose a career from a variety of job opportunities in the business community.

The co-operative education option aims at an effective blend of classroom study and off-campus work experience in a course-related industry. This means that the co-operative education student spends alternate three-month periods in the work force and is paid a salary or hourly rate. The program comprises seven continuous terms: five on campus and two employment terms.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300 or 301 and Mathematics 300 or 301. (Standing in Mathematics 300 is recommended);
- or
- Adult Basic Education 11B, with supplemental mathematics modules.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Many graduates have been accepted into management-training programs with department stores, banks, insurance companies and financial institutions. Graduates interested in accounting have found work in federal and provincial finance and taxation departments. Others have found rewarding careers in small businesses. Some graduates have even gone on to start their own enterprises.

Please see the Business Administration program brochure for information regarding transfer of credit to university, certified accounting programs, and the Credit Union Institute of Canada.

Continued on next page
## Business Administration (continued)

### Program Outline

#### YEAR 1

**Term 1**
- B11-A191 Introductory Accounting A
- B12-E171 Economic Principles BA 1
- B13-M612 Introduction to Business BA
- B13-R713 Business Mathematics
- B15-S213 Microcomputer Productivity Software 1
- B16-E841 Basic Business Communication

**Term 2**
- B11-A291 Introductory Accounting B
- B12-E272 Economic Principles BA 2
- B13-R703 Financial Mathematics
- B14-M101 Basic Marketing
- B15-S313 Microcomputer Productivity Software 2
- B16-E852 Intermediate Business Communication

**Term 3**
- B11-A391 Introductory Accounting C
- B12-E373 Economic Principles BA 3
- B13-R706 Statistics 1
- B13-S513 Human Behavior in Organizations
- B14-M202 Basic Marketing
- B16-E843 Advanced Business Communication

**YEAR 2**

**Term 4**
- **Compulsory courses:**
  - B12-L360 Business Law 1
  - B13-R707 Statistics 2

*Students will elect any four of the following courses:*
- B11-A491 Intermediate Accounting A
- B11-A495 Microcomputer Accounting (GL)
- B12-E472 International Economics and Business
- B12-E670 Public Finance
- B13-R708 Business Finance
- B13-S501 Psychology
- B14-C401 Consumer Behavior
- B14-S401 Personal Selling

**Term 5**
- **Compulsory courses:**
  - B12-P555 Entrepreneurship
  - B13-M624 Politics and Government in Canada

*Students will elect any four of the following courses:*
- B11-A507 Cost and Management Accounting A
- B11-A591 Intermediate Accounting B
- B12-E471 Economic Issues in Canada
- B12-L466 Business Law 2
- B13-M613 Human Resource Management
- B13-M614 Canadian Real Estate
- B13-R701 Production Management and Quality Control
- B13-R705 Quantitative Methods
- B13-S544 Sociology
- B14-M601 Merchandising
- B14-R602 Marketing Research

**Term 6**
- **Compulsory courses:**
  - B12-P666 Entrepreneurship Practicum
  - B13-M602 Management

*Students will elect any four of the following courses:*
- B11-A607 Cost and Management Accounting B
- B11-A691 Intermediate Accounting C
- B12-E580 Industrial Relations
- B12-E675 Manitoba Economic Perspectives
- B12-I491 Risk and Insurance
- B13-M618 Credit Management
- B13-M623 Cooperative Enterprise
- B13-R709 Securities Investments
- B13-S515 Contemporary Social Issues in Canada
- B14-A501 Advertising
- B14-A502 Retail Financial Management
- B15-S601 Microcomputer Data Base

Please note that not all elective courses listed are offered each year.
Business Administration Integrated

Purpose
To develop a potential for supervision and management through the study of business-related programs and practical projects.

Program
Business Administration Integrated is a three-year diploma program with an August entry date. This integrated program is designed for applicants who do not meet the entrance requirements for the two-year Business Administration program. The modified pace in the first two years allows additional time for upgrading study and for meeting individual needs. Sponsored students are expected to take a third-year elective in the summer during July to lighten their workload in the third year. The third year of the program is similar in pace and content to the second year of the regular Business Administration program, and students from both programs attend the same classes.

The program is designed to provide a broad general business background so that the graduate may choose a career from a variety of job opportunities in the business community.

Entrance Requirements
A – seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation), with Mathematics 100 or 101 and English 100 or 101;

or

- Adult Basic Education 7-10 with supplemental mathematics and communications modules;

or

- GED 12 accepted.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Many graduates have been accepted into management training programs with department stores, banks, insurance companies and financial institutions. Graduates interested in accounting have found work in federal and provincial finance and taxation departments. Others have found rewarding careers in small businesses. Some graduates have even gone on to start their own enterprises.

Please see the Business Administration Integrated program brochure for further information on transfer of credit to university and certified accounting programs.

Continued on next page
### Business Administration Integrated (continued)

#### Program Outline

**YEAR 1**

**Term 1**
- B13-I800 Business Mathematics
- B13-I801 Introduction to Business
- B14-M111 Marketing 1
- B14-S501 Psychology
- R01-B001 Study Skills
- R01-B002 Communications 1 (ACCESS Program)
- R01-B003 Professional Development 1
- R01-B004 Supplementary Instruction

**Term 2**
- B12-B111 Economics 1
- B13-R713 Business Mathematics
- B14-M112 Marketing 2
- B15-S214 Microcomputer Productivity Software 1
- R01-D017 Communications 2
- R01-N009 Professional Development 2
- R01-N011 Supplementary Instruction 2

**Term 3**
- B11-A193 Introductory Accounting A
- B12-E212 Economics 2
- B13-R715 Financial Mathematics
- B16-E842 Basic Business Communication
- R01-N014 Supplementary Instruction 3
- R01-N019 Professional Development 3

**YEAR 2**

**Term 4**
- B11-A293 Introductory Accounting B
- B12-E313 Economics 3
- B13-I804 Human Behavior in Organizations
- B16-E853 Intermediate Business Communication
- R01-N016 Supplementary Instruction 4

**Term 5**
- B11-A393 Introductory Accounting C
- B13-I805 Statistics 1
- B14-S544 Sociology
- B16-E844 Advanced Business Communication
- R01-N017 Supplementary Instruction

**Term 6**
- B12-E676 Manitoba Economic Perspectives
- B13-M625 Politics and Government in Canada
- B13-R714 Statistics 2
- B15-S314 Microcomputer Productivity Software 2
- R01-N018 Supplementary Instruction

**YEAR 3**

**Term 7**
- **Compulsory courses:**
  - B12-L360 Business Law 1
- **Students may elect three of the following courses:**
  - B11-A491 Intermediate Accounting A
  - B11-A495 Microcomputer Accounting (GL)
  - B12-E472 International Economics and Business
  - B12-E670 Public Finance
  - B13-R708 Business Finance
  - B14-C401 Consumer Behavior
  - B14-S401 Personal Selling

**Term 8**
- **Compulsory course:**
  - B12-P555 Entrepreneurship
- **Students may elect three of the following courses:**
  - B11-A507 Cost and Management Accounting A
  - B11-A591 Intermediate Accounting B
  - B12-E471 Economic Issues in Canada
  - B12-L466 Business Law 2
  - B13-M613 Human Resource Management
  - B13-M614 Canadian Real Estate
  - B13-R701 Production Management and Quality Control
  - B13-R705 Quantitative Methods
  - B14-M601 Merchandising
  - B14-R602 Marketing Research

**Term 9**
- **Compulsory courses:**
  - B13-M602 Management
  - B12-P666 Entrepreneurship Practicum
- **Students may elect three of the following courses:**
  - B11-A607 Cost and Management Accounting B
  - B11-A691 Intermediate Accounting C
  - B12-E580 Industrial Relations
  - B12-I491 Risk and Insurance
  - B13-M618 Credit Management
  - B13-M623 Cooperative Enterprise
  - B13-R709 Securities Investments
  - B13-S515 Contemporary Social Issues in Canada
  - B14-A502 Retail Financial Management
  - B14-A501 Advertising
  - Microcomputer Data Base

*Please note that not all elective courses listed are offered each year.*
Business Teacher Education

To develop teaching and technical skills in general business practices and in an area of specialization selected from options of marketing, accounting or secretarial.

Program
Business Teacher Education is a four-year Red River Community College and University of Manitoba integrated Bachelor of Education degree program with a September entry date. Emphasis is directed at developing your knowledge and skills in the areas of general business and the area that you select from the specializations of marketing, accounting or secretarial. The program will assure you that you have knowledge in business skills and educational methods.

Entrance Requirements
The following criteria are used in selecting students:
- satisfactory standing in 20 credits which satisfy the Manitoba Education and Training description of the high school program, with five of these credits held at the Grade 12 level, so that these five include:
  A – a standing in English 300 and Mathematics 300 or 301;
  B – four different subject areas;
  C – a minimum of three subjects at the 300 level;
  D – a 60% average in English 300 and any two other 300 level subjects.
Letters of recommendation, scholastic record, and employment records are reviewed during the admission process.

Mature Student Admission. Applicants who do not meet these education requirements, but are 21 years of age on or before September 30 in the year of registration, may apply as mature students. Mature applicants, without Grade 12 standing, may be required to achieve a Grade 12 standing on the General Educational Development (GED) test. Mature students are strongly advised to include formal course work in mathematics and English at the 300 or 301 level as part of their preparation for College.
Applications from mature students will be reviewed on an individual basis. All applicants will be interviewed by the admissions committee and are required to complete a written communications skills test. The College will notify you of time, date and location.

Employment Potential
After successful completion of this program, you will be eligible to teach in the secondary schools in Manitoba. Many of the job opportunities are available in rural areas of the province.

Continued on next page
Business Teacher Education (continued)

Program Outline
You may choose one of the three specialities in this area: Secretarial, Accounting or Marketing.

YEAR 1
Red River Community College
Common core for all students:
B22-B112 Keyboarding and Basic Formatting
B22-B113 Keyboarding and Advanced Formatting
B22-B116 Fundamentals of Accounting
B22-B120 Data Processing 1
B22-B205 Management Accounting Systems
B22-B208 Business Organization and the Consumer
B22-B220 Data Processing 2
B22-T111 Seminar and School Experience
B23-W102 Co-operative Business/Industrial Education

Secretarial Specialty
B22-B110 Shorthand

Accounting and Marketing Specialty
B22-M102 Marketing

YEAR 2
University of Manitoba
43.202 Psychology of Learning and Instruction
81.216 Principles of Business Education
81.217 Teaching Business/Industrial Organization
63.202 Communication Skills
116.101 Social Foundations of Education
116.301 School Organizations
27.330 Commercial Law
18.120 Principles of Economics
9.111 Introductory Managerial Accounting
27.203 Administrative Theory
Six credit hours of course work for second teachable or in-depth business specialization.

YEAR 3
Red River Community College
Common core for all students:
B22-E203 Course Development in Business Education
B22-E204 Educational Testing and Evaluation
B22-E212 Teaching Typewriting and Office Systems Management
B22-E213 Methods of Teaching Basic Business
B22-E220 Methods of Teaching Accounting and Data Processing
B22-B222 Records Management
B22-T211 Student Teaching
B22-B209 Intermediate Accounting

Secretarial Specialty
B22-E222 Comparative Shorthand Systems

Accounting Specialty
B22-B210 Intermediate Accounting 2

Marketing Specialty
B22-E209 Methods of Teaching Retailing

YEAR 4
University of Manitoba
81.306 Topics in Business Education: Information Processing
81.310 Microcomputers Applications
81.408 Curriculum Development in Business Education
81.409 Issues in Business Education
Eighteen credit hours of course work selected in consultation with Faculty Advisors in second teachable or in-depth business education.

Suggested Second Teachables
Second teachables in any one of the following subject areas which will serve as a second teaching area in the public school, or the in-depth business specialization in advanced Faculty of Management courses, can be developed with your advisor at the University of Manitoba:

Art English Geography
Physics Biology French
German Spanish Chemistry
German Theatre Ukrainian
Computer Science General Science
History/Canadian Studies

In Depth Business Education – Specialization in Business Education.
# Carpentry and Woodworking

## Program

Carpentry and Woodworking is a 10-month certificate program with September and February entry dates. The program has been designed to develop the basic skills of carpentry and woodworking required to enter an apprenticeship program in carpentry.

The aim of the program is two-fold. Students just starting in the trade can, after completing the program successfully, enter the apprenticeship program. Students who have worked previously in the trade, and have the required practical experience, can apply on graduation to write the Provincial Examination under the Apprenticeship and Tradesmen's Qualification Act.

## Entrance Requirements

- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;
  
  or
  
  - Adult Basic Education 7-10 Program completion.

**Mature Student Admission.** Mature student applicants may submit other educational equivalents, including GED standing (scores on each of the five tests must be 41 or higher), in lieu of seven credits; however, they must have successfully completed one of Mathematics 100, 101, 190, or Practical Mathematics - Elementary/Junior High Level and one of Science 100, 101, or 190. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration for review.

## Employment Potential

Past employment records show a high percentage of graduates are working in program-related fields all across Canada. Opportunities have been found in commercial construction, housebuilding, factories, or cabinet-making shops. Almost all graduates choose to enter the apprenticeship program. Graduates who reach journeyman apprenticeship level may progress to foremen, supervisors, building inspectors, draftspeople, estimators, superintendents or specialists in related fields.

For further information on apprenticeship and possible transfer of credit, please see the Carpentry and Woodworking Program brochure.

## Program Outline Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>T02-C001</td>
<td>Handtools - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C002</td>
<td>Handtools - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C003</td>
<td>Woodworking Machines - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C004</td>
<td>Woodworking Machines - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C005</td>
<td>Concrete Form Construction - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C006</td>
<td>Concrete Form Construction - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C007</td>
<td>General Framing - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C008</td>
<td>General Framing - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C009</td>
<td>Equal Pitch Roofing - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C010</td>
<td>Equal Pitch Roofing - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C011</td>
<td>Stairs - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C012</td>
<td>Stairs - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C013</td>
<td>Finishing - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C014</td>
<td>Finishing - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C015</td>
<td>Cabinet Work - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C016</td>
<td>Cabinet Work - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C019</td>
<td>Surveying - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C020</td>
<td>Surveying - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C021</td>
<td>Estimating - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-C022</td>
<td>Estimating - Practical</td>
<td></td>
</tr>
<tr>
<td>T02-C023</td>
<td>In-Industry Work Experience</td>
<td></td>
</tr>
<tr>
<td>T02-P501</td>
<td>Wood Finishing - Theory</td>
<td></td>
</tr>
<tr>
<td>T02-P502</td>
<td>Wood Finishing - Practical</td>
<td></td>
</tr>
<tr>
<td>T03-R011</td>
<td>Blueprint Reading and Sketching for Carpentry PE</td>
<td></td>
</tr>
<tr>
<td>T13-M512</td>
<td>Carpentry Math</td>
<td></td>
</tr>
<tr>
<td>T13-S512</td>
<td>Carpentry Science</td>
<td></td>
</tr>
<tr>
<td>T14-C504</td>
<td>Communication</td>
<td></td>
</tr>
</tbody>
</table>
Chef Training

Purpose
To develop the skills and related requirements for advanced food preparation and supervision of staff.

Program
Chef Training is a nine-month certificate program with an August entry date. The program has been designed to develop basic management capability and to provide training in advanced cooking skills. The curriculum is delivered on a competency-based learning (CBL) basis. CBL is a modularized approach to learning which allows a moderate degree of self-pacing. It requires initiative in planning a study schedule, completing requirements in a reasonable time, and in managing time wisely and effectively to meet deadlines.

Entrance Requirements
A – seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with English 100 or 101, Mathematics 100 or 101, and Science 100 or 101;

or

– Adult Basic Education 7-10 program completion;

and

B – completion of a basic cooking program (e.g., Commercial Cooking) or a minimum of two years of general, comprehensive cooking experience in the industry;

and

C – successful completion of the prescribed, written achievement test, and/or a personal interview;

and

D – submission of recent x-ray, medical and dental certificates attesting to good health (required after an applicant receives notice of acceptance).

Although a selection committee is not a standing requirement, most applicants will be asked to attend an orientation and interview.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment in hotels, restaurants, private clubs and resorts, and in institutions and catering companies. Statistics indicate that Chef Training graduates generally earn a higher hourly rate than cooking program graduates who have not taken this program.
### Chef Training (continued)

**Program Outline**

**Term 1**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>B11-A218</td>
<td>Accounting Chef</td>
</tr>
<tr>
<td>B13-5514</td>
<td>Human Behavior in Organizations (HRA)</td>
</tr>
<tr>
<td>B30-A305</td>
<td>Nutrition</td>
</tr>
<tr>
<td>B33-BX01</td>
<td>Practical 1</td>
</tr>
<tr>
<td>B33-DX01</td>
<td>Practical Pastry</td>
</tr>
<tr>
<td>B33-OA00</td>
<td>Demonstrate Chef Training Prerequisites</td>
</tr>
<tr>
<td>B33-OA01</td>
<td>Explain Basic Sanitation Principles and Procedures</td>
</tr>
<tr>
<td>B33-OA02</td>
<td>Explain Basic Kitchen Safety Rules and Procedures</td>
</tr>
<tr>
<td>B33-OA03</td>
<td>Explain Safe and Efficient Use of Kitchen Equipment</td>
</tr>
<tr>
<td>B33-OA04</td>
<td>Use Kitchen Knife Safely and Efficiently</td>
</tr>
<tr>
<td>B33-OA05</td>
<td>Explain Standard Recipes, Measures, and Calculate Conversions</td>
</tr>
<tr>
<td>B33-OB00</td>
<td>Demonstrate Food Preparation Skills</td>
</tr>
<tr>
<td>B33-OB01</td>
<td>Identify Elements Essential to Food Products</td>
</tr>
<tr>
<td>B33-OB02</td>
<td>Explain Seasonings, Flavorings, Herbs, Spices</td>
</tr>
<tr>
<td>B33-OB03</td>
<td>Explain the Preparation of Basic Stocks</td>
</tr>
<tr>
<td>B33-OB04</td>
<td>Prepare Soups</td>
</tr>
<tr>
<td>B33-OB05</td>
<td>Prepare Sauces</td>
</tr>
<tr>
<td>B33-OB06</td>
<td>Cook Vegetables, Rice, Pasta and Dumplings</td>
</tr>
<tr>
<td>B33-OB07</td>
<td>Cook Meat, Fish and Poultry</td>
</tr>
<tr>
<td>B33-OB08</td>
<td>Debone, Cut and Portion Meat, Fish and Poultry</td>
</tr>
<tr>
<td>B33-OB09</td>
<td>Describe Preparation of Typical Breakfast Items</td>
</tr>
<tr>
<td>B33-OB10</td>
<td>Describe the Use of Dairy Products</td>
</tr>
<tr>
<td>B33-OB11</td>
<td>Prepare Coffee and Tea</td>
</tr>
<tr>
<td>B33-OD00</td>
<td>Serve Food and Beverage in Dining Room</td>
</tr>
<tr>
<td>B33-OD01</td>
<td>Explain Dining Room Sanitation Principles</td>
</tr>
<tr>
<td>B33-OD02</td>
<td>Explain Dining Room Safety Procedures</td>
</tr>
<tr>
<td>B33-OD04</td>
<td>Prepare for Service</td>
</tr>
<tr>
<td>B33-OD05</td>
<td>Serve Customers</td>
</tr>
<tr>
<td>B33-OE00</td>
<td>Prepare Patisserie Items</td>
</tr>
<tr>
<td>E33-0E01</td>
<td>Identify Baking Ingredients</td>
</tr>
<tr>
<td>E33-0E02</td>
<td>Prepare Yeast and Raised Goods</td>
</tr>
<tr>
<td>E33-0E03</td>
<td>Prepare a Variety of Pastries</td>
</tr>
<tr>
<td>E33-0E04</td>
<td>Prepare Cakes, Sweets and Desserts</td>
</tr>
<tr>
<td>E33-0F00</td>
<td>Describe Elements of Cost Control of Kitchen Management</td>
</tr>
<tr>
<td>E33-0F01</td>
<td>Control Mechanisms/Record Food Items Sold</td>
</tr>
<tr>
<td>E33-0F02</td>
<td>Explain Elements of Purchasing/Inventory Control</td>
</tr>
<tr>
<td>E33-0F03</td>
<td>Identify Purchasing Criteria for Food</td>
</tr>
<tr>
<td>E33-0F04</td>
<td>Describe Receiving, Storing and Issuing Procedures</td>
</tr>
<tr>
<td>E33-0F05</td>
<td>Calculate Recipe Costs, Portion Costs, Etc.</td>
</tr>
<tr>
<td>E33-0G00</td>
<td>Prepare Garde Manger Items</td>
</tr>
<tr>
<td>E33-0G01</td>
<td>Prepare Sandwiches</td>
</tr>
<tr>
<td>E33-0G02</td>
<td>Prepare Salads and Dressings</td>
</tr>
<tr>
<td>E33-0G03</td>
<td>Prepare Appetizers</td>
</tr>
<tr>
<td>E33-0G04</td>
<td>Buffet Preparation and Services</td>
</tr>
<tr>
<td>E33-0H00</td>
<td>Explain Management of Human Resources</td>
</tr>
<tr>
<td>E33-0H01</td>
<td>Describe Basic Concepts of Personnel Management</td>
</tr>
<tr>
<td>E33-0H02</td>
<td>Perform Job Analysis/Description/Specification</td>
</tr>
<tr>
<td>E33-0H03</td>
<td>Recruit and Select Employees</td>
</tr>
<tr>
<td>E33-0H04</td>
<td>Explain Hotel/Restaurant Training and Development</td>
</tr>
<tr>
<td>E33-0H05</td>
<td>Evaluate Employee Performance</td>
</tr>
<tr>
<td>E33-0H06</td>
<td>Explain Factors Affecting Labor Costs</td>
</tr>
<tr>
<td>E33-0I00</td>
<td>Design Menu and Kitchen Layout</td>
</tr>
<tr>
<td>E33-0I01</td>
<td>Develop Menu</td>
</tr>
<tr>
<td>E33-0I02</td>
<td>Design Layouts of Kitchen Equipment</td>
</tr>
</tbody>
</table>

**T13-W100**  WHMIS Workshop
Chemical and Biosciences Technology

Purpose
To meet the ever-increasing need for individuals who can play an active role in a laboratory setting supporting research, testing and production.

Program
Students in the program will learn the traditional chemical techniques as well as advanced instrumentation methods and new techniques in biotechnology.

The program will prepare graduates to work as technologists in the following major areas: analytical analysis, research chemistry, quality assurance, and biotechnology such as molecular biology and recombinant DNA technology.

Chemical Laboratory Technology is a two-year program with a September entry date. The program is divided into eight terms, two of which are co-operative education work placements. The work placements are scheduled for term 4 (June, July, August) and term 7 (March, April, May). The program will not have summer breaks. The paid work placements will provide students with first-hand knowledge of a working laboratory in industry and a chance to use their acquired skills productively.

The program will focus on the applied laboratory skills graduates will need to satisfy the requirements for qualified laboratory staff in drug, environmental, food, health and other industrial lab settings.

Entrance Requirements
- 20 high school credits with English 300/301, Mathematics 300, and two sciences at the 300 level. Chemistry is recommended.

or

- Adult Basic Education Pre-Technology (Adult 12)

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in mathematics, English, and two sciences as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Graduates may find employment as technologists in the following areas: analytical analysis, research chemistry, quality assurance and biotechnology such as molecular biology and recombinant DNA technology.

Continued on next page
## Chemical and Biosciences Technology (continued)

### Program Outline

#### YEAR 1

**Term 1**
- T07-A102 General Chemistry
- T07-A103 Introductory Biology
- T07-A104 Mathematics
- T07-A105 Workplace Safety
- T07-A106 Instrumentation Principles
- T14-A101 Writing and Study Skills

**Term 2**
- T07-A108 Inorganic Chemistry
- T07-A109 Computer Awareness
- T07-A110 Organic Chemistry 1
- T07-A111 Analytical Chemistry
- T07-A117 Instrumentation 1
- T14-A102 Business Communications

**Term 3**
- T07-A112 Microbiology
- T07-A113 Organic Chemistry 2
- T07-A115 Biochemistry 1
- T07-A116 Data Analysis 1
- T07-A120 Instrumentation 2
- T14-A103 Critical Thinking/Problem Solving

**Term 4**
- T07-A119 Co-op Work Term

#### YEAR 2

**Term 5**
- T07-A201 Instrumentation 3
- T07-A202 Biochemistry 2
- T07-A203 Microbiology 2
- T07-A204 Tissue Culture/Virology
- T07-A205 Organic Chemistry 3
- T07-A206 Data Analysis 2
- T14-A201 Oral Communications

**Term 6**
- T07-A207 Applied Microbiology
- T07-A208 Biochemistry 3
- T07-A209 Quality Assurance
- T07-A210 Molecular Biology
- T07-A211 Immunology
- T07-A220 Microtechniques (Laboratory)
- T14-A202 Interpersonal Communications

**Term 7**
- T07-A212 Co-op Work Term

**Term 8**
- T07-A213 Anatomy/Physiology
- T07-A214 Advanced Lab Techniques
- T07-A215 Environmental Chemistry/Toxicology
- T07-A216 Resource Management
- T07-A217 Occupational Hygiene
- T07-A218 Professional Ethics/TQM
- T07-A219 Sustainable Development Issues
Child Care Services

Purpose
To develop the knowledge and skills required to provide quality child care in the community.

Program
Child Care Services is a two-year diploma program with a September entry date. The goals of the program are to prepare students to support children and families in group care settings. Graduates competently plan appropriate learning experiences that stimulate the intellectual, physical, emotional and social development of young children.

The major part of the program curriculum is delivered on a competency-based learning (CBL) basis. CBL is a modularized approach to learning which allows a moderate degree of self-pacing. It requires initiative in planning a study schedule, completing requirements in a reasonable time, and in managing time wisely and effectively to meet deadlines.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with 300 or 301 courses inclusive. English 300 or 301 and Biology 300 or 301 are strongly recommended; or
   – Adult Basic education 11A, 11B, or 11C; and
B – successful completion of the prescribed reading skills test at the minimum competency level required; and
C – completion of the additional information sheets and submission of two letters of reference; and
D – an orientation session with members of the Selection Committee*; and
E – good health. Immunizations are required of all students and must commence as indicated upon notification of acceptance into the program.

*Applicants may be required to attend an individual interview with the Selection Committee, as well as the general orientation session.

It is strongly recommended that all potential Child Care Services students obtain a criminal record check through their local RCMP detachment or the Winnipeg Police Service before starting classes. All employees of children’s centres are required by law to complete a criminal record check to help ensure the safety of children.

Mature Student Admission. Mature student applicants are not required to have complete Grade 12 standing but must meet entrance requirements B through E and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine eligibility. Testing by the College may be necessary.

Employment Potential
Opportunities for employment are expanding as society’s need for child care increases. Graduates have found positions in day care centres, nursery schools, infant centres and in school-age programs. With experience and continuing education, some graduates have progressed to positions as directors of children’s centres. For further information on transfer of credit, please see the Child Care Services Program brochure.

Continued on next page
Child Care Services (continued)

Please note that, as of October, 1991, diploma status is required for classification as a Child Care Worker Level 2. The Provincial Day Care Regulations stipulate that two-thirds of all staff in full-time Manitoba day care centres must be at that level.

Program Outline

**YEAR 1**

**Term 1**
- H06-C104 Personal Development
- H06-C122 Integration Seminar 1
- H06-C123 Practicum 1
- H06-C221 Integration Seminar 2
- H06-C224 Practicum 2
- H06-C320 Practicum 3
- H06-C322 Integration Seminar 3
- H06-1A31 Explain Continuum of Human Development
- H06-1A32 Foster Development of the Infant
- H06-1A33 Foster Development of the Toddler
- H06-0A34 Foster Development of the Preschool Child
- H06-0B31 Respect Children's Culture
- H06-0B32 Report Suspected Cases of Abuse
- H06-0C31 Use Basic Writing Skills
- H06-0C32 Write Observation Reports
- H06-0C33 Interpersonal Skills and Self-Understanding
- H06-0D31 Provide Nurturing Care
- H06-0D32 Act as Role Model
- H06-0D33 Communicate with Children
- H06-0D34 Provide Guidance and Discipline
- H06-0D35 Guide Routines and Transitions
- H06-1D36 Guide Children's Expression of Emotion
- H06-0D37 Foster Social Interaction and Growth
- H06-1E31 Prevent Accidents
- H06-0E32 Respond to Emergencies
- H06-0F31 Follow Health Regulations
- H06-0F32 Identify Childhood Diseases and Illness
- H06-1F33 Administer Medications
- H06-0G31 Identify Activity Areas and their Components
- H06-1G32 Select Equipment and Play Materials
- H06-1H31 Explain the Program Development Process
- H06-0J31 Guide Play Indoors and Outdoors
- H06-0J32 Facilitate Play

**YEAR 2**
- H06-0K31 Set Steps in Planning a Curriculum
- H06-0K32 Set Goals And Objectives
- H06-0K33 Plan Activities
- H06-1L31 Provide Art Experiences
- H06-1L32 Provide Literature Activities
- H06-1L33 Provide Group Time Activities
- H06-1L34 Provide Music Activities
- H06-0L35 Provide Drama Activities
- H06-0L36 Provide Science Activities
- H06-1L37 Provide Outdoor Activities
- H06-0M31 Use Materials and Equipment
- H06-0N31 Relate to Individual Family Situations
- H06-0Q31 Explain the Child Care Profession
- H06-0A36 Analyze Theories of Development
- H06-0B33 Support the Abused Child
- H06-0B34 Support Children’s Special Needs
- H06-1B35 Support Children in Stressful Situations
- H06-1B36 Advocate for Children
- H06-0C34 Use Job-Related Writing Skills
- H06-0C35 Analyze Personal Behavior
- H06-0D38 Guide a Variety of Children’s Behavior
- H06-0D39 Apply Behavior Management Approaches
- H06-0D41 Evaluate Personal Interaction with Children
- H06-1F34 Implement a Nutritious Food Program
- H06-0F35 Consider Children’s Dietary Needs
- H06-1F36 Respond to Physical and Medical Needs
- H06-0I33 Design a Floor Plan for a Children's Centre

Continued on next page
Child Care Services (continued)

YEAR 2 (continued)

H06-0G34 Design an Outdoor Playspace
H06-1H32 Assess Program As Related to Children's Needs
H06-1H33 Assess Factors that Influence Programs
H06-0H34 Adapt a Program Philosophy
H06-0H35 Develop a Daily Schedule
H06-1H36 Design Program Evaluation Procedures
H06-0J33 Analyze Play
H06-0J34 Plan for Play
H06-0K34 Develop a Weekly Plan
H06-0K35 Develop a Long Range Plan
H06-1L38 Provide Social Studies Activities
H06-0L39 Provide Movement Activities
H06-1L41 Provide Nutrition Activities
H06-0G35 Provide Activities for Infants
H06-0G36 Provide Activities for School-Age Children
H06-0M32 Utilize Resources
H06-1N32 Integrate Cultural Factors
H06-1N33 Respect Parent's Rights and Opinions
H06-0N34 Promote Parent Involvement
H06-0N35 Communicate with Parents
H06-0N36 Support the Family Unit
H06-0P31 Network with Support Agencies
H06-1P32 Communicate with School Personnel
H06-0Q33 Identify Operational Structure of the Centre
H06-1Q35 Identify the Need for Professional Growth
H06-1Q34 Display Professional Behavior
H06-1Q32 Demonstrate Employability Skills
H06-0Q36 Identify Current Professional Issues
Child Care Services Prior Learning Assessment (PLA)

For those interested in further pursuing their career as a child care worker, training is available through the Child Care Services Prior Learning Assessment (PLA) program at Red River Community College.

Purpose
The purpose of the Child Care Services Prior Learning Assessment program is to train early childhood educators, with work experience, for continued employment in the Manitoba child day care system. It is targeted to individuals who have experience in child care with limited or no “formal” child care education.

The Program
The Child Care Services Prior Learning Assessment program assesses an applicant's informal learning experiences and formal education to determine where the applicant would “fit” in completing the Child Care Services diploma program at Red River Community College. For instance, an applicant may have transferable credits from educational institutions and may also be eligible for credit based on assessment of “prior learning.”

The Child Care Services Prior Learning Assessment program recognizes that learning is a life-long process. An applicant may have acquired “prior learning” in child care in various situations including: on-the-job experience, volunteer activities, independent study, non-credit courses and training programs, and conference/workshop attendance.

The Child Care Services Prior Learning Assessment program allows students to:

- complete the two-year Child Care Services diploma program requirements while employed in a child care facility anywhere in Manitoba;
- apply “prior learning” to a College program;
- work at their own pace; and
- limit the amount of time spent at the College.

Entrance Requirements

A — 20 high school credits (Manitoba grade 12 or equivalent secondary school preparation with 300 or 301 subjects inclusive. English 300 and Biology 300 or 301 are strongly recommended.;

or

- Adult Basic Education 11A, 11B or 11C;

and

B — successful completion of the prescribed reading skills test at the minimum competency level required;

C — for the first year of the program have a minimum of two years of full-time experience or the equivalent, working with children between the ages of three months and six years, in a licensed child care facility;

- for the second year of the program have completed the first year of the Child Care Services program and have a minimum of three years of full-time experience or the equivalent, in a licensed child care facility;

and

Continued on next page
Child Care Services Prior Learning Assessment (continued)

Entrance Requirements (continued)

D – attend an orientation/interview session; and

E – complete a portfolio and provide references (portfolio requirements will be discussed at the orientation).

Employment Potential

Students who complete the Child Care Services Prior Learning Assessment program would be eligible for employment in a variety of child care settings; full-time day care, nursery school, school-age child care and family day care. Students would also have the entry level skills necessary to work with children who range in age from three months to 12 years.

A Child Care Services diploma can be an important step in a child care worker's career ladder. The volume and complexity of the course content requires hard work and personal motivation. The Child Care Services Prior Learning Assessment program welcomes new students anytime they feel ready to make the personal commitment to the learning experiences that will add to and reinforce their experience in child care.

Program Outline

A Child Care Services Experiential Learning student would work independently on the knowledge and theory portions of the diploma program, using resources and arranging for testing to meet the student’s own needs. Practicum experiences would be planned, with the Prior Learning Assessment program staff, to provide opportunities for the student to demonstrate the competencies needed to function as a child care worker in a children’s centre.

Term/Level 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
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<tbody>
<tr>
<td>H06-C104</td>
<td>Personal Development</td>
<td>H06-0D32</td>
<td>Act as Role Model</td>
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<tr>
<td>H06-C122</td>
<td>Integration Seminar 1</td>
<td>H06-0D33</td>
<td>Communicate with Children</td>
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<tr>
<td>H06-C123</td>
<td>Practicum 1</td>
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<td>Provide Guidance and Discipline</td>
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<td>H06-C221</td>
<td>Integration Seminar 2</td>
<td>H06-0D35</td>
<td>Guide Routines and Transitions</td>
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<td>H06-C224</td>
<td>Practicum 2</td>
<td>H06-0D36</td>
<td>Guide Children's Expression of Emotion</td>
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<td>H06-C320</td>
<td>Practicum 3</td>
<td>H06-0D37</td>
<td>Foster Social Interaction and Growth</td>
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<td>H06-C322</td>
<td>Integration Seminar 3</td>
<td>H06-0E31</td>
<td>Prevent Accidents</td>
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<tr>
<td>H06-0A31</td>
<td>Explain Continuum of Human Development</td>
<td>H06-0E32</td>
<td>Respond to Emergencies</td>
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<tr>
<td>H06-0A32</td>
<td>Foster Development of the Infant</td>
<td>H06-0F31</td>
<td>Follow Health Regulations</td>
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<td>H06-0A33</td>
<td>Foster Development of the Toddler</td>
<td>H06-0F32</td>
<td>Identify Childhood Diseases and Illness</td>
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<td>H06-0A34</td>
<td>Foster Development of the Preschool Child</td>
<td>H06-0F33</td>
<td>Administer Medications</td>
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<td>H06-0B31</td>
<td>Respect Children's Culture</td>
<td>H06-0G31</td>
<td>Identify Activity Areas and their Components</td>
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<tr>
<td>H06-0B32</td>
<td>Report Suspected Cases of Abuse</td>
<td>H06-0G32</td>
<td>Select Equipment and Play Materials</td>
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<tr>
<td>H06-0C31</td>
<td>Use Basic Writing Skills</td>
<td>H06-0H31</td>
<td>Explain the Program Development Process</td>
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<tr>
<td>H06-0C32</td>
<td>Write Observation Reports</td>
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<tr>
<td>H06-0C33</td>
<td>Interpersonal Skills and Self-Understanding</td>
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<tr>
<td>H06-0D31</td>
<td>Provide Nurturing Care</td>
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</table>

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Child Care Services Prior Learning Assessment (continued)

H06-0J31  Guide Play Indoors and Outdoors
H06-0J32  Facilitate Play
H06-0K31  Set Out Steps in Planning a Curriculum
H06-0K32  Set Goals and Objectives
H06-0K33  Plan Activities
H06-0L31  Provide Art Experiences
H06-0L32  Provide Literature Activities
H06-0L33  Provide Group Time Activities
H06-0L34  Provide Music Activities
H06-0L35  Provide Drama Activities
H06-0L36  Provide Science Activities
H06-0L37  Provide Outdoor Activities
H06-0M31  Use Materials and Equipment
H06-0N31  Relate to Individual Family Situations
H06-0Q31  Explain the Child Care Profession
H06-0Q32  Demonstrate Employability Skills

Term/Level 2

H06-C433  Practicum 4
H06-C434  Integration Seminar 4
H06-C531  Integration Seminar 5
H06-C532  Practicum 5
H06-C631  Integration Seminar 6
H06-C634  Practicum 6
H06-0A35  Foster Development of the School-age Child
H06-0A36  Analyze Theories of Development
H06-0B33  Support the Abused Child
H06-0B34  Support Children's Special Needs
H06-0B35  Support Children in Stressful Situations
H06-0B36  Advocate for Children
H06-0C34  Use Job-Related Writing Skills
H06-0C35  Analyze Personal Behaviour
H06-0D38  Guide a Variety of Children's Behaviour
H06-0D39  Apply Behaviour Management Approaches
H06-0D41  Evaluate Personal Interaction with Children
H06-0F34  Implement a Nutritious Food Program
H06-0F35  Consider Children's Dietary Needs
H06-0F36  Respond to Physical and Medical Needs
H06-0G33  Design a Floor Plan for a Children's Centre
H06-0G34  Design an Outdoor Playspace
H06-0G35  Provide Activities for Infants
H06-0G36  Provide Activities for School age Children
H06-0H32  Assess Program as Related to Children's Needs
H06-0H33  Assess Factors that Influence Programs
H06-0H34  Adapt a Program Philosophy
H06-0H35  Develop a Daily Schedule
H06-0H36  Design Program Evaluation Procedures
H06-0J33  Analyze Play
H06-0J34  Plan for Play
H06-0K34  Develop a Weekly Plan
H06-0K35  Develop a Long Range Plan
H06-0L38  Provide Social Studies Activities
H06-0L39  Provide Movement Activities
H06-0L41  Provide Nutrition Activities
H06-0M32  Utilize Resources
H06-0N32  Integrate Cultural Factors
H06-0N33  Respect Parent's Rights and Opinions
H06-0N34  Promote Parent Involvement
H06-0N35  Communicate with Parents
H06-0N36  Support the Family Unit
H06-0P31  Network with Support Agencies
H06-0P32  Communicate with School Personnel
H06-0Q33  Identify Operational Structure of the Centre
H06-0Q34  Identify the Need for Professional Growth
H06-0Q35  Display Professional Behavior
H06-0Q36  Identify Current Professional Issues

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Purpose
To develop the knowledge and skills required to provide quality child care in the community.

Program
Child Care Services Integrated is a three-year diploma program with a September entry date. This integrated program is designed for applicants who do not meet the entrance requirements for the two-year Child Care Services Program. It integrates required academic courses to bring the student to an Adult 12 level with the two-year diploma program. The modified pace allows additional time for meeting individual needs.

The goals of the program are to prepare students to support children and families in group care settings. Graduates competently plan appropriate learning experiences that stimulate the intellectual, physical, emotional and social development of young children.

The major part of the program curriculum is delivered on a competency-based-learning (CBL) basis. CBL is a modularized approach to learning which allows a moderate degree of self-pacing. It requires initiative in planning a study schedule, completing requirements in a reasonable time, and in managing time wisely and effectively to meet deadlines.

Entrance Requirements

A – 7 high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with 100 or 101 courses inclusive; or

- Adult Basic Education 7-10 program completion, with supplemental communications modules; and

B – satisfactory results on a written test, administered by the College, which surveys basic skills in reading, language usage and mathematics; and

C – completion of the additional information sheets; and

D – a personal interview with the Selection Committee*; and

E – good health. **Immunizations are required of all students and must commence as indicated upon notification of acceptance into the program.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 10 standing but must be at least 20 years of age on or before September 30 in the year of registration and must also meet entrance requirements B through E. All mature student applications are referred to the Director of Registration to determine applicant suitability.

*This is a special selection program. The Selection Committee will interview applicants who have completed the preliminary entrance requirements and will select students on the basis of preparation, motivation, maturity, and potential to work with children.

**Applicants may be required to submit medical certificates (including dental and chest x-ray) verifying general good health and freedom from communicable disease.

***It is strongly recommended that all potential Child Care Services students obtain a criminal record check through their local RCMP detachment or the Winnipeg Police Service before starting classes. All employees of children’s centres are required by law to complete a criminal record check to help ensure the safety of children.

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Child Care Services Integrated (continued)

Employment Potential
Opportunities for employment are expanding as society's need for child care increases. Graduates have found positions in day care centres, nursery schools, infant centres and in school-age programs. With experience and continuing education, some graduates have progressed to positions as directors of children's centres.

For further information on transfer of credit, please see the Child Care Services Integrated Program brochure.

Please note that, as of October, 1991, diploma status is required for classification as a Child Care Worker Level 2. The Provincial Day Care Regulations stipulate that two-thirds of all staff in full-time Manitoba day care centres must be at that level.

Program Outline

YEAR 1

H06-106 Writing Skills 1
H06-D107 Speaking Skills
H06-D108 Reading and Study Skills 1
H06-D208 Reading and Study Skills 2
H06-206 Writing Skills 2
H06-D306 Writing Skills 3
H06-1A31 Explain Continuum of Human Development
H06-1A32 Foster Development of the Infant
H06-1A33 Foster Development of the Toddler
H06-1A34 Foster Development of the Preschool Child
H06-0B31 Respect Children's Culture
H06-0C32 Write Observation Reports
H06-0D31 Provide Nurturing Care
H06-1E31 Prevent Accidents
H06-0E32 Respond to Emergencies
H06-0F31 Follow Health Regulations
H06-0F32 Identify Childhood Diseases and Illness
H06-1F33 Administer Medications
H06-1Q31 Explain the Child Care Profession
H06-0C33 Interpersonal Skills and Self Understanding
H06-0N31 Relate to Individual Family Situations

YEAR 2

H06-C104 Personal Development
H06-C122 Integration Seminar 1
H06-C123 Practicum 1
H06-C221 Integration Seminar 2
H06-C224 Practicum 2
H06-C320 Practicum 3
H06-C322 Integration Seminar 3

H06-OB32 Report Suspected Cases of Abuse
H06-OB34 Support Children's Special Needs
H06-OC31 Use Basic Writing Skills
H06-0D32 Act as Role Model
H06-0D33 Communicate with Children
H06-0D34 Guide Everyday Development
H06-0D35 Guide Routines and Transitions
H06-1D36 Guide Young Children's Expression of Emotion
H06-0D37 Foster Social Interaction and Growth
H06-1G32 Select Equipment and Play Materials
H06-1H31 Explain the Program Development Process
H06-0J31 Guide Play Indoors and Outdoors
H06-0J32 Facilitate Play
H06-0K31 Set Steps in Planning a Curriculum
H06-0K32 Set Goals and Objectives
H06-0K33 Plan Activities
H06-1L31 Provide Art Experiences
H06-0L35 Provide Drama Activities
H06-0L36 Provide Science Activities
H06-0M31 Use Materials and Equipment
H06-0G31 Identify Activity Areas and their Components
H06-1A35 Foster Development of the School-Age Child
H06-1L32 Provide Literature Activities
H06-1L33 Provide Group Time Activities
H06-1L34 Provide Music Activities
H06-1L37 Provide Outdoor Activities
H06-1N32 Integrate Cultural Factors

Continued on next page
Child Care Services Integrated (continued)

YEAR 3

H06-C433 Practicum 4
H06-C434 Integration Seminar 4
H06-C531 Integration Seminar 5
H06-C533 Practicum 5
H06-C631 Integration Seminar 6
H06-C634 Practicum 6
H06-0A36 Analyze Theories of Development
H06-0B33 Support the Abused Child
H06-1B35 Support Children in Stressful Situations
H06-1B36 Advocate for Children
H06-0C34 Use Job-Related Writing Skills
H06-0C35 Analyze Personal Behavior
H06-0D38 Guide a Variety of Children's Behavior
H06-0D39 Apply Behavior Management Approaches
H06-0D41 Evaluate Personal Interaction with Children
H06-1F34 Implement a Nutritious Food Program
H06-0F35 Consider Children's Dietary Needs
H06-1F36 Respond to Physical and Medical Needs
H06-0I33 Design a Floor Plan for a Children's Centre
H06-0G34 Design An Outdoor Playspace
H06-1H32 Assess Program as Related to Children's Needs
H06-1H33 Assess Factors that Influence Programs
H06-0H34 Adapt a Program Philosophy
H06-0H35 Develop a Daily Schedule
H06-1H36 Design Program Evaluation Procedures
H06-0J33 Analyze Play
H06-1J34 Plan for Play
H06-0K34 Develop a Weekly Plan
H06-0K35 Develop a Long Range Plan
H06-1L38 Provide Social Studies Activities
H06-0L39 Provide Movement Activities
H06-1L41 Provide Nutrition Activities
H06-0G35 Provide Activities for Infants
H06-0G36 Provide Activities for School-age Children
H06-0M32 Utilize Resources
H06-1N33 Respect Parent’s Rights and Opinions
H06-0N34 Promote Parent Involvement
H06-0N35 Communicate with Parents
H06-0N36 Support the Family Unit
H06-0P31 Network with Support Agencies
H06-1P32 Communicate with School Personnel
H06-0Q33 Identify Operational Structure of the Centre
H06-1Q34 Display Professional Behavior
H06-0Q36 Identify Current Professional Issues
H06-1Q32 Demonstrate Employability Skills
H06-1Q35 Identify the Need for Professional Growth
Civil Engineering Technology

Purpose
Civil Engineering Technology is a 30-month diploma program with a September entry date. The program is designed to develop the skills needed to assist engineers in the design and construction of municipal services and roadways, soil mechanics theory and testing, open channel flow hydraulics and hydrology, and the theory and use of photogrammetry.

Program
The Civil Engineering Technology program group consists of the Engineering Design and Construction, Municipal, Structural and Survey programs. Co-operative Education, which integrates two six-month terms of paid employment with six terms of classroom theory, are included in all of these programs. Red River Community College offers Co-operative Education as part of its education strategy to enhance students' career training opportunities.

All applications will be processed for entry into Civil Engineering Technology. Students who successfully complete the first year of studies in Civil Engineering Technology may then apply for entry into one of the program options listed above. In order to proceed in Co-operative Education terms, students must meet departmental academic requirements.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;

- Adult Basic Education Pre-Technology (Adult 12) Program completion.

* Physics 300 is strongly recommended as a more appropriate background for technology.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment with consulting engineering companies and various government departments and agencies in the design and construction of sewer and water projects, highway projects, and earth-retaining and hydraulic structures. Other graduates are employed in equipment and material sales and in the research and manufacture of construction-related products.

Program Outline

<table>
<thead>
<tr>
<th>YEAR 1, Term 1</th>
<th>Term 2</th>
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<tbody>
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<td>CIV-C192 Engineering Graphics 1</td>
<td>CIV-C292 Engineering Graphics 2</td>
</tr>
<tr>
<td>CIV-C195 Mechanics 1</td>
<td>CIV-C293 Computer Assisted Drafting 2</td>
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<tr>
<td>CIV-C196 Surveying 1</td>
<td>CIV-C296 Surveying 2</td>
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<tr>
<td>CIV-C199 Mathematics 1</td>
<td>CIV-C299 Calculus 1</td>
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<td>CIV-C197 Communications</td>
<td>CIV-C297 Report Writing</td>
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<tr>
<td>CIV-C193 Computer-Assisted Drafting 1</td>
<td>CIV-C295 Strength of Materials 1</td>
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<td><strong>Term 3</strong></td>
<td><strong>Co-operative Work Placement 1</strong></td>
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<tr>
<td>CIV-W300 Co-operative Work Placement 1</td>
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</table>

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College Preparation for Aboriginal Students

Purpose
To assist Aboriginal students in the development of mathematics, communications, physical science and professional skills.

Program
College Preparation for Aboriginal Students is a 10-month (or less) program with an August entry date. The program is designed to assist students to develop mathematics, science, communications and professional skills to pursue further education or training.

College Preparation for Aboriginal Students – Adult 10 will give you the chance to get enough academic skills to meet Adult 10 entrance requirements for Manitoba community college programs. Although mathematics and communications will be emphasized, science will be taught when required for occupational goals.

Adult 11. There are three Adult 11 programs: Adult 11A, which is science-based; Adult 11B, which is business-based; and Adult 11C. Each program has been designed as a preparation for a different educational and occupational goal. To ensure that you choose the right Adult 11 program you should check the entrance requirements for the college program you wish to take when finished upgrading.

Adult 11A will prepare you to enter the one-year science-based programs at the College.

Adult 11B will prepare you to enter the one-year and two-year business and applied arts programs at the College.

Adult 11C will prepare you to enter the Dental Assisting Program at the College.

Adult 12 is a science-based program and is a follow-up to the Adult 11A science-based program. It will prepare you to meet the entrance requirements of the two-year technology programs at the College.

Entrance Requirements
A – Successful completion of the Level Placement Test with appropriate scores; and

B – Be at least 17 years of age; and

C – Participate in a selection process.

Employment Potential
Graduates have found that they are more confident and better prepared for further training at the College.

Continued on next page
College Preparation for Aboriginal Students (continued)

Program Outline

**Adult 12**
S02-D240 Computer Awareness Training — Core
S02-D241 Computer Awareness Training — Keyboarding
S03-N003 College Study Skills
S03-Q001 Communications
S03-R002 Mathematics 300
S03-S001 Science 300 (Physics)
S03-S002 Science 300 (Chemistry)
T13-W100 WHMIS Workshop

**Adult 11A**
S02-D240 Computer Awareness Training — Core
S02-D241 Computer Awareness Training — Keyboarding
S03-K001 Communications
S03-L001 Mathematics
S03-L004 Science (Chemistry)
S03-M001 Science (Physics)
S03-N003 College Study Skills

**Adult 11B**
S03-N001 Business Communications
S03-N003 College Study Skills
S03-N005 Basic WordPerfect
S03-N006 Computer Keyboarding
S03-O001 Business Mathematics
S03-P001 Business and Consumer Fundamentals

**Adult 11C**
S02-D240 Computer Awareness Training — Core
S02-D241 Computer Awareness Training — Keyboarding
S03-K001 Communications
S03-L001 Mathematics
S03-L004 Science (Chemistry)
S03-N003 College Study Skills

**Adult 10**
L96-D100 Writing Skills
L96-D101 Sentence Structure A
L96-D102 Sentence Structure B
L96-D103 Usage
L96-D104 Punctuation and Capitalization
L96-D105 Sentence Writing
L96-D106 Paragraph Writing
L96-D200 Grammar Supplement
L96-D210 Reading
L96-D220 Study Skills
L96-D230 Spelling Core
L96-D231 Spelling Supplement
L96-D240 Computer Awareness Training — Core
L96-D241 Computer Awareness Training — Keyboarding
L96-D300 Mathematics Core
L96-D301 Whole Numbers
L96-D302 Fractions
L96-D303 Decimals
L96-D304 Ratio and Proportion
L96-D305 Percent
L96-D306 Measurement
L96-D400 Mathematics Supplement
L96-D401 Algebra
L96-D402 Graphs
L96-D403 Square Root and Hypotenuse Rule
L96-D404 Geometry (1)
L96-D405 Geometry (2)
L96-D406 Algebra Problems
L96-D500 Science
L96-D501 Measurement
L96-D502 Matter and Energy
L96-D503 Heat A B
L96-D504 Heat C
L96-D505 Electrical Energy
L96-D506 Mechanical Energy
L96-D507 Life Science A
L96-D508 Chemistry C
L96-D509 Life Science B C
College Preparation for Nursing

Purpose
To acquire the academic skills needed to enter Nursing programs.

Program
College Preparation for Nursing is a 10-month certificate program with a September entry date. The program is designed to enable mature applicants who do not meet the educational requirements for Nursing, to acquire the developmental skills to enter the program. It integrates the required academic courses to bring the student to an Adult 12 level with some of the courses from the first year of the Nursing program.

Entrance Requirements
A – seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation);
or
– Adult Basic Education 7-10 program completion;
and
B – completion of the additional information sheets;
and
C – successful completion of the Level Placement tests for entry-level competencies in mathematics and reading skills;
and
D – a personal interview with the Selection Committee.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 10 standing but must meet requirements B, C and D as outlined above. 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 Director of Registration to determine applicant suitability.

Program Outline
H11-N120  Human Anatomy and Physiology
H11-S101  Social Science
H11-S201  Social Science
H11-S301  Social Science (3)
S02-C116  Reading and Study Skills (Part-Time)
S03-M003  Science (Biology)
S03-R001  Mathematics 301
S03-S001  Science (Physics 300)
S03-S002  Science (Chemistry 300)
S03-U101  Communications
T13-W100  WHMIS Workshop
Collision Repair and Refinishing

Purpose
To develop the skills and knowledge required to repair damaged vehicles, including all phases of auto-body repair and painting.

Program
Collision Repair and Refinishing is a 10-month certificate program with a September entry date. The program is designed to provide a basic working knowledge of all areas of metal working and spray painting.

Entrance Requirements
- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;
or
- Adult Basic Education 7-10 program completion.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and official transcript, which may assist in determining eligibility.

Testing by the College may be necessary.

Employment Potential
Many graduates have found employment as auto-body mechanics, metal finishers, painters and body-frame specialists. Others are employed as claims adjusters, collision estimators or shop supervisors.

For further information on apprenticeship and possible transfer of credit, please see the Collision Repair and Refinishing Program brochure.

Program Outline

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<td>T01-A026</td>
<td>Welding</td>
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<td>T01-A028</td>
<td>Basic Metal Working</td>
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<td>T01-A031</td>
<td>Advanced Metal Working and Rust Repair</td>
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<td>T01-A029</td>
<td>Refinishing</td>
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<td>T01-A030</td>
<td>Vehicle Construction – Panel Replacement</td>
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<td>T01-A031</td>
<td>Advanced Metal Working and Rust Repair</td>
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<td>T01-A032</td>
<td>Frame Repair and Estimating</td>
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<td>T01-A033</td>
<td>Major Body Alignment, Weld-on Panel Replacement</td>
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<td>T01-A058</td>
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<td>T01-A059</td>
<td>Handtools, Powertools and Hydraulic Equipment</td>
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<td>In-industry Training 1</td>
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<td>Related Maths</td>
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<td>Related Science</td>
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<tr>
<td>T14-C001</td>
<td>Communication</td>
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</table>
Commerce/Industry Sales and Marketing

Purpose
To develop the knowledge and personal-selling skills required for the identification and solution of sales problems.

Program
Commerce/Industry Sales and Marketing is a 10-month certificate program with September and December entry dates. The program is designed to develop the necessary skills to become a successful salesperson: to deal effectively with people and to understand, organize, and solve sales problems in marketing programs and situations.

Each term of the program is a comprehensive program in itself, but represents a different level of achievement. A weighted grade point average of 2.0 is required in Terms 1 and 2 for progression to subsequent terms. Students who pass all courses in Term 1 but are not continuing to Term 2 are eligible for a Basic Business Certificate. Similarly, a pass in all Term 2 courses earns a Basic Sales Certificate for students not entering Term 3. Graduates of the complete 10-month program receive a Commercial and Industrial Sales Certificate.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300 or 301 and Mathematics 200 or 201; or
- Adult Basic Education 11B.

Mature Student Admission. Mature student applicants must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Some graduates have found employment with 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.

Program Outline

**Term 1**
- B13-S508 Human Behavior for Sales
- B14-C114 Basic Marketing and Customer Behaviour
- B14-I117 Introduction to Business
- B14-M161 Business and Financial Mathematics
- B14-T118 "In Business" Training
- B16-E123 Sales Communications

**Term 2**
- B12-E292 Economics
- B13-S509 Psychology of Selling
- B14-M213 Advanced Marketing
- B14-S211 Basic Sales

**Term 3**
- B14-T218 Advanced "In Business" Training
- B15-S209 Computer Literacy 1
- B16-E202 Advanced Sales Communications

**Term 4**
- B14-D300 Marketing Decision Simulation
- B14-L314 Canadian Business Law
- B14-P319 Advertising and Promotion
- B14-R312 Merchandising
- B14-S309 Advanced Sales
- B14-T318 "In Business" Sales Training
- B15-S309 Computer Literacy 2
Commercial Baking

Purpose
To develop basic baking skills and related requirements through classroom instruction, practical lab training, and off-campus work experience.

Program
Commercial Baking is a 10-month certificate program with a September entry date. The program is designed to develop the skills required for employment in entry-level baking positions. It is noted for both its co-operative education component and its competency-based-learning (CBL) format.

Co-operative education aims at an effective blend of classroom study and off-campus work experience in program-related industry. This means that the student spends alternate two-month periods in the workforce and is paid an hourly rate.

CBL is a modularized approach to learning which allows a moderate degree of self-pacing. It requires initiative in planning a study schedule, completing requirements in a reasonable time, and in managing time wisely and effectively to meet self-imposed deadlines.

Entrance Requirements
A – seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with English 100 or 101, Mathematics 100 or 101, and Science 100 or 101;

   or

   – Adult Basic Education 7-10 program completion;

   and

B – an interview with a special selection committee*;

   and

C – submission of a recent chest x-ray, medical, and dental certificates attesting to good health (required after an applicant receives notice of acceptance).

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

* This is a special selection program. The committee looks for applicants who are adequately prepared, who have a sincere desire to work in the baking industry, and who understand the demanding working conditions. Some work experience in a bakery or a related area is preferred.

Employment Potential
A graduate generally begins employment as a baker's helper and may progress to a position with more advanced baking responsibilities within approximately one year. Job opportunities have been found in both large in-store bakeries and smaller bakery operations.

Continued on next page
## Commercial Baking (continued)

### Program Outline

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>B31-CX01</td>
<td>Practical Yeast Goods</td>
</tr>
<tr>
<td>B31-DX01</td>
<td>Practical Muffins</td>
</tr>
<tr>
<td>B31-FX01</td>
<td>Practical Cakes</td>
</tr>
<tr>
<td>B31-XE01</td>
<td>Practical Pies and Tarts</td>
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<tr>
<td>B31-XE02</td>
<td>Practical Choux Pastry</td>
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<tr>
<td>B31-XG01</td>
<td>Practical Cookies</td>
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<tr>
<td>B31-0A00</td>
<td>Demonstrate Basic Baking Prerequisites</td>
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<tr>
<td>B31-0A01</td>
<td>Basic Sanitation Principles and Procedures</td>
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<td>B31-0A02</td>
<td>Basic Bakeshop Safety Rules</td>
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<td>B31-0A03</td>
<td>Safe and Efficient Use of Bakeshop Equipment</td>
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<td>B31-0A04</td>
<td>Standardized Recipes and Conversions</td>
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<td>B31-0B00</td>
<td>Basic Baking Ingredient Knowledge</td>
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<td>B31-0B01</td>
<td>Typical Ingredients Used in Baking</td>
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<td>B31-0C00</td>
<td>Prepare Yeast-Raised Goods</td>
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<td>B31-0C01</td>
<td>Basic Methods to Prepare Yeast Goods</td>
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<td>B31-0D00</td>
<td>Prepare Muffin-Type Products</td>
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<td>Basic Preparation for Muffin-Type Products</td>
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<td>B31-0E00</td>
<td>Prepare Pies and Short Pastry</td>
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<td>B31-0E01</td>
<td>Methods Used to Produce Pies and Tarts</td>
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<td>B31-0E04</td>
<td>Preparation of Puff Pastry</td>
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<td>B31-0F00</td>
<td>Prepare Cakes and Icings</td>
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<td>Identify Mixing Methods for Cakes</td>
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<tr>
<td>B31-0G00</td>
<td>Prepare Cookies</td>
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<td>B31-0G01</td>
<td>Methods for Preparing Cookies</td>
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<tr>
<td>B31-0H00</td>
<td>Basic Management Functions</td>
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<tr>
<td>B31-0H01</td>
<td>Purchasing Functions</td>
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<td>B31-0H02</td>
<td>Describe Receiving, Storing and Issuing</td>
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<tr>
<td>B31-0H03</td>
<td>Calculate Cost and Selling Prices</td>
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<td>B31-0H04</td>
<td>Scheduling Staff and Production</td>
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<td>B31-0H05</td>
<td>Explain the Role of Merchandising</td>
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<td>B32-N506</td>
<td>Nutrition</td>
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<tr>
<td>B32-C206</td>
<td>On-the-Job Training</td>
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<td>On-the-Job Training</td>
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<td>T13-W100</td>
<td>Workshop</td>
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</table>
Commercial Cooking

Purpose
To develop basic cooking skills and related requirements through a blend of classroom instruction, practical lab training and off-campus work experience.

Program
Commercial Cooking is a 12-month certificate program with three entry dates: September, October and December. The program is designed to develop the skills required to function effectively in an entry-level cooking position in the industry. It is noted for both its co-operative education component and competency-based-learning (CBL) format.

Co-operative education aims at an effective blend of classroom study, practical lab training and off-campus work experience. It goes beyond the traditional supplementary on-the-job training programs in that the student spends alternate two-month terms in the work force and is paid an hourly rate.

CBL is a modularized approach to learning which allows a moderate degree of self-pacing. It requires initiative in planning a study schedule, completing requirements in a reasonable time, and in managing time wisely and effectively to meet self-imposed deadlines.

Entrance Requirements
A — seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with English 100 or 101, Mathematics 100 or 101, and Science 100 or 101;

or

— Adult Basic Education 7-10 program completion;

and

B — an interview with a special selection committee*;

and

C — submission of a recent chest x-ray, medical, and dental certificates attesting to good health (required after an applicant receives notice of acceptance).

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

* This is a special selection program. The committee looks for applicants who are adequately prepared, who have a sincere desire to work in the food preparation industry, and who understand the demanding working conditions. Some related food service experience is preferred.
Commercial Cooking (continued)

Program Outline

B32-AX01 Practical Restaurant Cooking
B32-AX02 Practical Food Preparation
B32-CX01 Practical Cooking Quantity
B32-C206 On-The-Job Training
B32-C207 On-The-Job Training
B32-DX01 Practical Patisserie
B32-0A00 Food Preparation Skills
B32-0A01 Explain Sanitation Principles and Procedures
B32-0A02 Explain Kitchen Safety Rules and Procedures
B32-0A03 Safe and Efficient Use of Kitchen Equipment
B32-0A04 Use Kitchen Knives Safely and Efficiently
B32-0A05 Measurement Procedures and Conversions
B32-0A06 Preparation of Typical Breakfast Items
B32-0A07 Describe Use of Dairy Products
B32-0A08 Prepare Coffee and Tea
B32-0A09 Preparation of Basic Stocks
B32-0A10 Prepare Soups
B32-0A11 Prepare Sauces
B32-0A12 Cook Vegetables, Rice and Pasta
B32-0A13 Cook Meat, Poultry and Fish
B32-0A14 Debone and Cut Meat, Fish and Poultry
B32-0A15 Prepare Salad and Salad Dressings
B32-0A16 Prepare Appetizers
B32-0A17 Buffet Preparation and Service
B32-0B00 Describe Elements Of Cost Control
B32-0B01 Common Mechanism Control and Records of Food Sold
B32-0B02 Recipe Costs and Yields and Selling Prices
B32-0C00 Elements of Purchasing and Inventory Control
B32-0C01 Elements of Purchasing Functions
B32-0C02 Purchasing for Food and Non-Alcoholic Beverages
B32-0C03 Receiving, Storing and Issuing Procedures
B32-0D00 Prepare Patisserie Items
B32-0D01 Identify Baking Ingredients
B32-0D02 Prepare Yeast and Raised Goods
B32-0D03 Prepare a Variety of Pastries
B32-0D04 Prepare Cakes, Sweets and Desserts
B32-0E00 Design Menu and Kitchen Layout
B32-0E01 Develop Menu
B32-0F00 Practice Healthy Food Choices
B32-0F02 Plan a Nutritionally Balanced Menu
B32-0F03 Determine a Healthy Weight
B32-0F04 Interpret Food Regulations
T13-W100 WHMIS Workshop
T14-C502 Communication
Communication Engineering Technology

Purpose
The purpose of the program is to develop the knowledge and skills required to specify, configure, implement, test, troubleshoot, and repair communication systems.

Program
The Electronic Engineering Technology program group consists of Communication, Computer, Electrical, Electronic, and Instrumentation Engineering Technology. These programs have a common first year of training. All applications will be processed for entry into Electronic Engineering Technology. Students who successfully complete the first year of studies in Electronic Engineering Technology may then transfer into one of the options listed above.

Communication Engineering Technology is a two-year diploma program with a September entry date. The program focuses on communications applications in analog electronics, wireless, digital computers, LANs, and industrial distributed systems.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;
  or
- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in mathematics, English, and science* as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Due to the increasing presence of communication systems in modern industry and commerce, graduates should find employment with a wide variety of companies in communications systems technical support, technical sales, servicing, and research and development. With appropriate further experience some graduates will achieve supervisory and managerial positions.

For information on possible transfer of credit, see the Communication Engineering Technology program brochure.
### Communication Engineering Technology
(continued)

#### Program Outline

**YEAR 1**
Electronic Engineering Technology

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<th>Term 1</th>
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<td>Electric Circuits</td>
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<tr>
<td>ELE-E102</td>
<td>Electrical Instruments</td>
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<td>ELE-E104</td>
<td>Personal Computers 1</td>
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<tr>
<td>ELE-E106</td>
<td>Drafting</td>
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<tr>
<td>ELE-M102</td>
<td>Mathematics</td>
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<td>ELE-P109</td>
<td>Physics</td>
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<tr>
<td>ELE-R100</td>
<td>Report Writing</td>
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<tr>
<td>ELE-E201</td>
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<td>ELE-E202</td>
<td>Electrical Instruments</td>
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<td>Personal Computers 2</td>
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<td>ELE-E207</td>
<td>Basic Electronics</td>
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<td>ELE-M202</td>
<td>Calculus</td>
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<td>ELE-P209</td>
<td>Physics</td>
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<td>ELE-R200</td>
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<tbody>
<tr>
<td>ELE-E301</td>
<td>Electric Circuits</td>
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<tr>
<td>ELE-E303</td>
<td>Introductory Logic Circuits</td>
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<td>ELE-E305</td>
<td>Introductory Microprocessors</td>
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<td>ELE-E307</td>
<td>Basic Electronics</td>
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<td>ELE-M302</td>
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**YEAR 2**
Communication Engineering Technology

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<td>ELE-T443</td>
<td>Digital Communications</td>
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<td>ELE-T444</td>
<td>Computer Systems</td>
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<td>ELE-T445</td>
<td>&quot;C&quot; Language Programming</td>
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<td>ELE-T447</td>
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<tr>
<td>ELE-M543</td>
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<tr>
<td>ELE-T547</td>
<td>Introduction to PLC</td>
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<td>ELE-T564</td>
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<tbody>
<tr>
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<td>Report Writing</td>
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<tr>
<td>ELE-T641</td>
<td>Circuits and Fields</td>
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<td>ELE-T643</td>
<td>Computer Networks</td>
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<td>ELE-T645</td>
<td>Technical Project</td>
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<tr>
<td>ELE-T647</td>
<td>Industrial Communications Applications</td>
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</tbody>
</table>
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 business and advanced topics of data processing.

Program
Computer Analyst/Programmer is a two-year diploma program with three entry dates: September, December and March. The program is designed to develop proficiency in computer programming and systems analysis.

Entrance Requirements
A — 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with one of English 300 or 301 and one of Mathematics 300* or 301;

or

— Adult Basic Education 11A;

or

— Adult Basic Education 11B with supplemental mathematics topics;

and

B — successful completion of an entrance test which assesses aptitudes for training as an analyst/programmer.

Mathematics 300 is strongly recommended for applicants to this program.

*Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in English and mathematics as noted in A above. As well, mature students must meet entrance requirement B and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Job opportunities have been found in many aspects of computer programming or systems analysis. Previous graduates are employed with various companies that require computers for business purposes such as accounts payable, accounts receivable, payroll, inventory, general ledger, sales-order forecasting and credit authorization. Other job opportunities exist with the government, computer manufacturers and consulting firms.
Program Outline

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

Term 2
B11-A291  Introductory Accounting B
B13-S543  Human Behavior in Organizations
B15-C201  Data Processing 2 (COBOL)
B15-C508  Microcomputers
B16-E289  Business Communication 2

Term 3
B11-A392  Introductory Accounting C
B12-E276  Economic Principles 1
B15-C301  Data Processing 3 (COBOL and C)
B15-C303  Operating Systems
B15-C308  Systems Analysis

Term 4
B15-C405  RPG Programming
B15-C406  File Structures
B15-C408  Systems Design
B15-M301  Statistics

Term 5
B11-A681  Managerial Accounting
B12-E377  Economic Principles 2
B15-C507  Business Applications
B15-C607  Data Base
B15-C509  dBase IV

Term 6
B15-C601  Edit Project
B15-C608  4th Generation Software
B15-C609  Computer Topics
B15-C610  Work Experience
Computer Engineering Technology

Purpose
To develop a broad general background in electronics with specialty training in computer hardware and software, including troubleshooting, maintenance and servicing.

Program
The Electronic Engineering Technology program group consists of Communication, Computer, Electrical, Electronic, and Instrumentation Engineering Technology. These programs have a common first year of training. All applications will be processed for entry into Electronic Engineering Technology. Students who successfully complete the first year of studies in Electronic Engineering Technology may then transfer into one of the options listed above.

Computer Engineering Technology is a two-year diploma program with a September entry date. It is a multi-discipline program encompassing electronic, electrical, and some mechanical courses. These courses range from digital electronics and computer systems to peripheral devices and the troubleshooting environment.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;
  or
- Adult Basic Education Pre-Technology (Adult 12) program completion

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but they must have specific credits in mathematics, English, and science* as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

* Physics 300 is strongly recommended as a more appropriate background for technology.

Employment Potential
Graduates have found employment in almost every aspect of the electronics and computer industry: in research and development, installation, testing and maintenance, design, and marketing.
# Computer Engineering Technology (continued)

## Program Outline

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**Electronic Engineering Technology**

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### YEAR 2
**Computer Engineering Technology**

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<td>ELE-C626</td>
<td>Manufacturing Techniques</td>
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<tr>
<td>ELE-C627</td>
<td>Electronic Devices</td>
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<tr>
<td>ELE-C629</td>
<td>Troubleshooting Microprocessor Systems</td>
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<tr>
<td>ELE-R620</td>
<td>Report Writing</td>
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</table>
Computer Numerical Control (CNC) Machine Operator

Purpose
To develop the skills and knowledge to enable the student to perform safe and proficient operations on a variety of computer numerically-controlled machines found in manufacturing production shops and tooling shops.

Program
Computer Numerical Control (CNC) Machine Operator is a five-month certificate program with September and February entry dates. The program will involve learning to select, measure and set up tooling; identify and set up jigs and fixtures for various machining applications on a CNC machine; write, load and prove CNC programs for CNC machines. This program includes one month of industrial experience.

Please note that because Workers Compensation regulations stipulate that steel-toed footwear must be worn in industrial workplaces, students are required to provide and wear appropriate safety footwear in machine shops, both in the College and during in-industry placements.

Entrance Requirements
Successful completion of the Red River Community College Machine Shop Practice or Machine Shop Practice – Basic program or Journeyman’s Machinist certificate.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed résumé and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Many graduates have found employment as CNC machine tool operators in manufacturing companies, production job shops, tool and die shops, aircraft repair and overhaul facilities, wood millworking shops, etc. Other graduates have found that the knowledge and skills gained through this program have provided a sound basis for related occupations, such as quality control inspectors, set-up persons, and CNC programmers.

Program Outline
CNC-0111  Computer Numerical Control
T04-A053  Geometric Dimensioning and Tolerancing
T04-A054  Quality Control
T04-A055  Industrial Training
T10-A001  Mathematics 2
T10-A002  Science 2
T13-W100  WHMIS Workshop
T14-A045  Communication Skills2
Creative Communications

Purpose
To develop the knowledge and skills required to function effectively as a writer in print and broadcast journalism, advertising, and public relations.

Program
Creative Communications is a two-year diploma program with a September entry date. The program is designed to develop broad skills as a generalist in journalism, advertising, and public relations in the first year of training. In the second year of the program, students have the opportunity to specialize in one of the three areas.

Entrance Requirements

A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300 or 301;

   or

   – Adult Basic Education 11B;

   and

B – submission of a two-page autobiography;

   and

C – successful completion of tests of reading ability and current affairs information;

   and

D – completion of a home assignment (details provided at the time of entrance testing; the deadline for submission of the assignment is two weeks from the test date.);

   and

E – an interview with the Creative Communications Selection Committee.

It is strongly recommended that successful applicants have a typing proficiency of 40 wpm.

Because this special selection program has a cut-off date, applications should be submitted as early as possible. Please contact the Registration Office at 632-2327 to confirm the exact date.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in English as noted in A above. Mature applicants must also complete requirements B through E outlined above and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

This is a special selection program. Students are selected on the basis of writing talent, motivation, and suitability for the kinds of communications careers available in the labour market.

Employment Potential
Past employment records show that a high percentage of graduates are working in program-related fields in Manitoba and other Canadian provinces. Graduates have found employment as journalists in print, radio and television; copywriters and media buyers in advertising agencies, radio and television stations; and public relations personnel in various companies and government agencies.

Continued on next page
# Creative Communications (continued)

## Program Outline

### Term 1
- **B10-C110** Public Relations: Introduction
- **B10-C111** Creative Writing: Fiction
- **B10-C112** Journalism: Introduction
- **B10-C113** Composition and English Grammar
- **B10-C114** Advertising: Introduction
- **B10-C115** Literary Structure and Styles
- **B18-W120** Word Processing: Introduction

### Term 2
- **B01-A309** Layout and Design
- **B10-C216** Current Events
- **B10-C218** Television and Radio 1
- **B10-C220** Public Relations: Process
- **B10-C221** Creative Writing: Drama and Poetry
- **B10-C222** Journalism: Style and Practice
- **B10-C224** Advertising: Electronic Media

### Term 3
- **B10-C319** Television and Radio 2
- **B10-C325** Canadian Literature
- **B10-C330** Public Relations: Management
- **B10-C331** Creative Writing: Style
- **B10-C332** Journalism: Media and The Law
- **B10-C334** Advertising: Print Media
- **B10-C410** Business Communications

### Term 4
- **B10-C217** Oral Communication
- **B10-C420** Independent Professional Project 1
- **B10-C429** Television: Production
- **B10-C430** Radio: Production
- **B12-E415** Applied Economics

**Electives: one course required**
- **B10-C440** Public Relations: Practicum 1
- **B10-C442** Journalism: Practicum 1 TV and Radio News
- **B10-C444** Advertising: Practicum 1

### Term 5

**Required courses:**
- **B10-C510** Field Work 1
- **B10-C520** Independent Professional Project 2
- **B10-C537** Television: Workshop
- **B10-C544** Radio: Fine Tuning for the Ear

**Elective Group A: one course required**
- **B10-C550** Public Relations: Practicum 2
- **B10-C552** Journalism: Practicum 2: The Newsroom
- **B10-C554** Advertising: Practicum 2

**Elective Group B: two courses required**
- **B02-P516** Photojournalism 1
- **B10-C509** Media Buying 1
- **B10-C512** Freelance Writing 1
- **B10-C513** Cultural Arts 1
- **B10-C514** Theatre Arts 1
- **B13-S527** Psychology

### Term 6

**Required courses:**
- **B10-C609** Independent Professional Project 3
- **B10-C610** Field Work 2
- **B10-C644** Radio: You're on the Air
- **B10-C649** Television: Broadcasting

**Elective Group A: one course required**
- **B10-C659** Public Relations: Practicum 3
- **B10-C664** Advertising: Practicum 3
- **B10-C663** Journalism: Practicum 3

**Elective Group B: two courses required**
- **B13-S617** Sociology
- **B02-P626** Advanced Photojournalism 2
- **B10-C612** Media Buying 2
- **B10-C614** Theatre Arts 2
- **B10-C622** Freelance Writing 2
- **B10-C623** Cultural Arts 2
- **B10-C635** Manitoba Literature
Dental Assisting — Level 1

Purpose
To develop the skills required to assist the dental operator in all dental procedures by using four-handed dentistry techniques, in mixing materials and in preparation of instruments, operatories and patients. The graduate also will be able to perform limited laboratory work and receptionist duties.

Program
Dental Assisting - Level 1 is a 30-week certificate program with a September entry date.

Entrance Requirements
A — 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with one of Biology 300 or 301, Chemistry 300, Physical Science 301, or Physics 300, at a minimum. Biology is recommended. Preparation in mathematics at the 200 or 201 level is strongly recommended;

or

- Adult Basic Education 11C or 11A program completion;

and

B — successful completion of the prescribed reading test at the minimum acceptable proficiency level;

and

C — recent medical, chest x-ray, and dental certificates plus immunization records which confirm general good health and freedom from communicable disease. These records need not be submitted until notification of acceptance is received by the applicant.

Note: Certificates in Emergency First Aid procedures and Basic Rescuer CPR must be obtained prior to completion of Level 1.

Mature Student Admission. Mature student applicants are not required to have complete Grade 12 standing but must have specific credits in A above. As well, mature students must be at least 20 years of age on or before September 30 in the year of registration and must meet entrance requirements B and C. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment in private dental offices, large clinics, hospital dental clinics or in government public health programs.
Dental Assisting – Level 1 (continued)

Program Outline
B15-S108 Introduction to Data Processing – Chairside Dental Assistant
F01-B007 Physical Education
H07-C101 Life Sciences
H07-C139 Supervised Clinical Experience
H07-C137 Dental Practice Management
H07-C152 Medical Emergencies – Theory
H07-C153 Medical Emergencies – Practical
H07-C138 Interpersonal Relations
H07-C112 Preventative Dentistry
H07-C140 Operative Dentistry – Theory
H07-C118 Operative Dentistry – Practical
H07-C119 Rubber Dam – Theory
H07-C146 Rubber Dam – Practical
H07-C122 Diagnosis – Theory
H07-C123 Diagnosis – Practical
H07-C124 Radiology – Theory
H07-C147 Radiology – Practical
H07-C127 Microbiology and Infection Control – Theory
H07-C128 Microbiology and Infection Control – Practical
H07-C141 Prosthodontics – Theory
H07-C130 Prosthodontics – Practical
H07-C142 Endodontics – Theory
H07-C143 Endodontics – Practical
H07-C133 Oral Surgery – Theory
H07-C148 Oral Surgery – Practical
H07-C134 Periodontics – Theory
H07-C144 Orthodontics
H07-C145 Pediatric Dentistry
H11-S101 Social Science
H07-C149 Periodontics – Practical
H07-C155 Orthodontics – Practical
H07-C151 Workplace Hazardous Materials Information System
H07-C154 Pediatric Dentistry – Practical
Dental Assisting – Level 2

Purpose
To develop the skills required for a variety of intra-oral duties, including polishing of teeth, application of fluoride, exposing radiographs, placement and removal of rubber dams, placement of sealants and taking of impressions.

Program
Dental Assisting – Level 2 is a 10-week certificate program with an April entry date.

Entrance Requirements
A – Dental Assisting - Level 1 Certificate from Red River Community College or from an equivalent program, accredited by the Canadian Dental Association;

and

B – current First Aid and CPR Basic Rescuer certificates;

and

C – successful completion of the prescribed reading skills test;

and

D – recent certificates of good medical and dental health and an immunization record (to be submitted after notification of acceptance is received).

Mature Student Admission. All applicants, regardless of age, must meet the specific entrance requirements, as noted above.

Employment Potential
Because graduates of this program are capable of accepting increased responsibilities, both job opportunities and remuneration generally are greater. Graduates have found employment in private dental offices, large clinics, hospital dental clinics and in government public health programs.

Program Outline
H07-E228 Dental Public Health Education
H07-E229 Polishing and Fluoride Theory
H07-E230 Sealants Theory
H07-E213 Impressions Theory
H07-E215 Polish – Preclinical
H07-E216 Impressions – Preclinical
H07-E219 Sealants – Preclinical
H07-E220 Polish – Clinical
H07-E222 Sealants – Clinical
H07-E224 Oral Health Theory
H07-E227 Nutrition
H07-E226 Impressions – Clinical
H10-G031 Job Search
H11-S201 Social Science
Dental Assisting Prior Learning Assessment (PLA)

Purpose
The purpose of the program is to assess previously-learned dental assisting skills and theory, to acknowledge prior learning, and to give credit where applicable.

Program
Testing dates are held in March of each year. After applicants have completed entrance requirements A and B, they meet with an instructor to discuss the program and their status. The applicants' next step is to complete a portfolio detailing work experience. An assessment fee of $96 is to be submitted with the portfolio. A letter of reference and a checklist of practical skills is to be completed by the applicant's employer. Testing dates are then arranged.

A Red River Community College Dental Assisting – Chairside certificate will be issued to applicants who have successfully completed all dental assisting requirements.

Skill Evaluation
Practical Skills:
Applicants can challenge those practical skills which they have gained through job training.

Theoretical Skills:
Those applicants who have had formal training are eligible to challenge the theory. The pass mark for all theory is 60% or D.

Medical Emergencies:
There is a written examination. Current first aid and CPR Basic Rescuer certificates must be submitted upon successful completion of challenge.

Social Sciences:
Applicants must obtain credit for Social Science through Red River Community College or another institution. A minimum C grade is required for this credit. Transcripts must be submitted to the Dental Assisting Department, A306-2055 Notre Dame Avenue, Winnipeg, Manitoba R3H 0J9.

Introduction to Data Processing:
Applicants must obtain credit for Data Processing through Red River Community College or another institution. Transcripts must be submitted to the Dental Assisting Department.

Please note that students will be restricted to one attempt at each examination. If a course is failed (below 60%), the student must enroll in the day program as a part-time student and will be charged tuition fees. If there is a minimum of five students requiring instruction in the same course, an instructor may be contracted to teach them at a scheduled time.

Entrance Requirements
A – two years of full-time dental assisting work experience;
or
– four years of part-time dental assisting work experience;
or
– a Chairside Dental Assisting Certificate from an institution other than Red River Community College

Continued on next page
Dental Assisting Prior Learning Assessment (continued)

Entrance Requirements continued

- a dental degree from another country; and

B - successful completion of the prescribed reading skills test; and

C - recent certificates of good medical and dental health and an immunization record (to be submitted after successful completion of reading skills test).

Program Outline

B15-S108 Introduction to Data Processing
G01-B007 Physical Education
H07-C101 Life Sciences
H07-C112 Preventive Dentistry
H07-C118 Operative Dentistry - Practical
H07-C122 Diagnosis - Theory
H07-C123 Diagnosis - Practice
H07-C127 Microbiology and Infection Control - Theory
H07-C128 Microbiology and Infection Control - Practical
H07-C130 Prosthodontics - Practical
H07-C133 Oral Surgery - Theory
H07-C134 Periodontics - Theory
H07-C137 Dental Practice Management
H07-C138 Interpersonal Relations
H07-C139 Supervised Clinical Experience
H07-C140 Operative Dentistry - Theory
H07-C141 Prosthodontics - Theory
H07-C142 Endodontics - Theory
H07-C143 Endodontics - Practical
H07-C144 Orthodontics
H07-C145 Pediatric Dentistry
H07-C148 Oral Surgery - Practical
H07-C149 Periodontics - Practical
H07-C151 Workplace Hazardous Materials Information System
H07-C152 Medical Emergencies - Theory
H07-C153 Medical Emergencies - Practical
H07-C154 Pediatric Dentistry - Practical
H07-C155 Orthodontics - Practical
H11-S101 Social Science
Developmental Services Worker

Purpose
To develop the knowledge and skills required to provide quality care to people with a mental handicap, who are living in the community.

Program
Developmental Services Worker is a two-year diploma program with a September entry date. The objective of the program is to prepare the student to promote a variety of experiences that offer people with a mental handicap appropriate intellectual stimulation as well as opportunities for physical, emotional and social development. If the student chooses to exit the program after one year, he or she will be eligible to receive a certificate.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) including English 300 or 301, and Mathematics 300 or 301 or Accounting 302;

   or

   – Adult Basic Education 11A, 11B or 11C;

   and

B – successful completion of the prescribed reading skills test at the minimum competency level required;

   and

C – completion of the additional information sheets and submission of two letters of reference;

   and

D – an interview with members of the Selection Committee*;

   and

E – good health. ** Immunizations are required of all students and must commence as indicated upon notification of acceptance into the program.

* Accepted applicants will be requested to complete the following: a) a two-day Standard First Aid Course, b) a four-hour CPR Heartsaver course.

** The Selection Committee may require an applicant to submit medical certificates (including dental and chest x-ray) verifying good health and freedom from communicable disease.

Note: You may be required to submit to a criminal record check prior to going out on some practicum experiences, due to government regulations of agencies.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in English and Mathematics, as noted in A above. As well, mature students must meet entrance requirements B through E and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the college may be necessary.

Employment Potential
Opportunities for employment are expanding as the need for community-based services for people with a mental handicap increases. Positions may be found in residential situations, employment-related, developmental and educational services.
Program Outline

**YEAR 1**

FC1-D001 Activity for Life 1  
H16-D100 Social and Historical Perspectives  
H16-D101 Health and Safety  
H16-D102 Professional Development  
H16-D103 Interpersonal Communications  
H16-D104 Practicum 1  
H16-D106 Residential Services  
H16-D105 Practicum 2  
H11-S101 Social Science  
H11-S201 Social Science  
H11-S301 Social Science (3)  
H16-D107 Personal Care  
H16-D210 Education 3  
H16-D211 Education 2  
H16-D212 Education 1

**YEAR 2**

H16-D106 Residential Services  
H16-D200 Family Dynamics  
H16-D209 Planning  
H16-D201 Advocacy  
H16-D202 Communication and Counselling  
H16-D203 Principles of Management  
H16-D204 Sexuality  
H16-D205 Practicum 3  
H16-D206 Practicum 4  
H16-D207 Medications Training  
H16-D208 Response to Physical Illness  
H16-D213 Augmentative Communication  
H16-D214 Introduction to Mental Health  
H16-D215 Development Seminar  
H16-D216 Integration and Community Living  
H16-D217 Vocational Options  
H16-D218 Aging
Diesel Mechanics — Transport

Purpose
To develop the knowledge and skills required to diagnose malfunctions, inspect and repair worn parts, and reassemble and render operational diesel-powered trucks and construction equipment.

Program
Diesel Mechanics — Transport is a 10-month certificate program with a September entry date. The program is designed to prepare the student to adjust, service and repair a variety of heavy mobile equipment, usually diesel powered, used in construction and/or highway transportation. The work will involve fault diagnosis, dismantling engines and related equipment to effect repairs, basic servicing and/or overhaul of fuel-injection and hydraulic systems, transmissions, air brakes, drives and control linkages, and other mechanical components.

Entrance Requirements
- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;
  or
- Adult Basic Education 7-10 program completion.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates of this program have found employment all across Canada, especially in northern areas on dam sites. Some graduates work as mechanics and maintenance specialists on industrial, highway and construction equipment, on rail-transport or marine equipment and on generating-plant equipment. Other graduates who have decided to take the apprenticeship program and have gained considerable work experience, have become service managers, company representatives and salespeople.

For further information on apprenticeship and possible transfer of credit, please see the Diesel Mechanics — Transport program brochure.
Program Outline

T01-D011 Introductory Mechanics - Theory
T01-D012 Introductory Mechanics - Practical
T01-D013 Standard Transmissions - Theory
T01-D014 Standard Transmissions Overhaul Practical
T01-D015 Rear Axles - Theory
T01-D016 Rear Axles - Practical
T01-D017 Brake Systems - Theory
T01-D018 Brake Systems - Practical
T01-D019 Automatic Transmission - Theory
T01-D020 Automatic Transmission - Practical
T01-D023 Gas Engine Overhaul - Theory
T01-D024 Gas Engine Overhaul - Practical
T01-D025 Diesel Engine Overhaul - Theory
T01-D026 Diesel Engine Overhaul - Practical
T01-D029 Hydraulic Components - Theory
T01-D030 Hydraulic Components - Practical
T01-D031 Electrical Systems - Theory
T01-D032 Electrical Systems - Practical
T01-D033 Fuel Systems - Theory
T01-D034 Fuel Systems - Practical
T01-D036 Industrial Training - Practical
T01-D135 Steering Systems - Theory
T01-D136 Steering Systems - Practical
T01-D137 Suspension and Components - Theory
T01-D138 Suspension and Components - Practical
T04-G510 Related Gas Welding
T04-M510 Related Machine Shop
T13-M508 Motor Vehicle Mechanic Technician Math
T13-S508 Power Mechanics Science
T13-W100 WHMIS Workshop
T14-C504 Communication
Electrical

Purpose
To develop performance skills in house wiring, commercial and industrial wiring and controls, and motor repair.

Program
Electrical is a 10-month certificate program with a September entry date. The program is designed to develop the required knowledge and skills for employment in the electrical construction industry, with public utilities, motor winding and repair facilities, and manufacturers and distributors of electrical equipment. The graduate will have sufficient knowledge to plan and wire residential occupancies and small commercial buildings, and to repair and troubleshoot motor-control circuits and single-phase motors. The graduate also will be familiar with the Electrical Code, DC and AC machines and transformers.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with Mathematics 200* and Science 100 or 101; or
- Adult Basic Education 11A.

Mature Student Admission. Mature student must be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

* Mathematics 301 will be accepted in lieu of Mathematics 200.

Please note that reference books are essential components of the work procedures for this program and require above-average reading vocabulary and comprehension. Applicants are strongly encouraged to take Reading Comprehension and Study Skills, through the College's Continuing Education Division, prior to entering skill training.

Employment Potential
Graduates have found jobs in the electrical industry working with house wiring, commercial and industrial wiring and controls and electric motors. Other graduates work 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.

For further information on possible transfer of credit, see the Electrical program brochure.

Program Outline Term 1

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<tr>
<td>T11-E061</td>
<td>Commercial Wiring</td>
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Electrical Engineering Technology

Purpose
To develop the knowledge and skills required to design, construct, troubleshoot and maintain a wide variety of electrical power systems.

Program
The Electronic Engineering Technology program group consists of Communications, Computer, Electrical, Electronic, and Instrumentation Engineering Technology. These programs have a common first year of training. All applications will be processed for entry into Electronic Engineering Technology. Students who successfully complete the first year of studies in Electronic Engineering Technology may then transfer into one of the options listed above.

Electrical Engineering Technology is a two-year diploma program with a September entry date. It is a multi-discipline program that includes electrical, electronic, computer and some mechanical courses. These courses range from electrical machines and electrical power systems to industrial electronics and microprocessor-based controllers.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;

  or

- Adult Basic Education Pre-Technology (Adult 12) program completion.

* Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in mathematics, English, and science* as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Graduates have found employment at the engineering technologist level in electrical utility systems, consulting engineering, electrical manufacturing, electrical contracting, general primary and secondary manufacturing, and government agencies.

For information on possible transfer of credit, see the Electrical Engineering Technology program brochure.

Continued on next page
# Electrical Engineering Technology (continued)

## Program Outline

### YEAR 1

**Electronic Engineering Technology**

**Term 1**
- ELE-E101 Electric Circuits
- ELE-E102 Electrical Instruments
- ELE-E104 Personal Computers I
- ELE-E106 Drafting
- ELE-M102 Mathematics
- ELE-P109 Physics
- ELE-R100 Report Writing

**Term 2**
- ELE-E201 Electric Circuits
- ELE-E202 Electrical Instruments
- ELE-E204 Personal Computers 2
- ELE-E207 Basic Electronics
- ELE-M202 Calculus
- ELE-P209 Physics
- ELE-R200 Report Writing

**Term 3**
- ELE-E301 Electric Circuits
- ELE-E303 Introductory Logic Circuits
- ELE-E305 Introductory Microprocessors
- ELE-E307 Basic Electronics
- ELE-M302 Calculus
- ELE-P309 Physics

### YEAR 2

**Electrical Engineering Technology**

**Term 4**
- ELE-E401 Electrical Circuits
- ELE-E402 Electrical Measurements
- ELE-E405 Programmable Logic Controllers
- ELE-E406 Electrical Practices and Design
- ELE-E407 Instrumentation Electronics
- ELE-E408 Electrical Machines
- ELE-M402 Calculus

**Term 5**
- ELE-E501 Electrical Circuits
- ELE-E502 Electrical Measurements
- ELE-E505 Data Acquisition and Communication
- ELE-E506 Electrical Practices and Design
- ELE-E507 Power Electronics
- ELE-E508 Electrical Machines
- ELE-M502 Calculus

**Term 6**
- ELE-E602 Electrical Measurements
- ELE-E606 Switchgear and Protection
- ELE-E607 Power Electronics
- ELE-E608 Electrical Machines
- ELE-E609 Linear Control Systems
- ELE-R600 Report Writing
Electronic Engineering Technology

Purpose
To develop the knowledge and skills required to test, repair and develop a wide variety of electronic equipment.

Program
The Electronic Engineering Technology program group consists of Communication, Computer, Electrical, Electronic, and Instrumentation Engineering Technology. These programs have a common first year of training. All applications will be processed for entry into Electronic Engineering Technology. Students who successfully complete the first year of studies in Electronic Engineering Technology may then transfer into one of the options listed above.

Electronic Engineering Technology is a two-year diploma program with a September entry date. The program is a multi-discipline program encompassing electronic, electrical and mechanical courses, ranging from microprocessor-based control systems and radio and high-frequency circuits to high-speed data communications.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;

- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature student applicants are not required to have complete Grade 12 standing but must have specific credits in mathematics, English, and science* as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicants suitability. Testing by the College may be necessary.

Employment Potential
Graduates have found employment in a broad range of electronics-related occupations; in research and development, assisting in project development; in technical sales, selling and servicing electronic equipment; and in design and quality control. Some graduates who have acquired substantial experience now work as plant supervisors.

For further information on possible transfer of credit, see the Electronic Engineering Technology program brochure.

Continued on next page
## Program Outline

### YEAR 1

**Term 1**
- ELE-E101 Electric Circuits
- ELE-E102 Electrical Instruments
- ELE-E104 Personal Computers 1
- ELE-E106 Drafting
- ELE-M102 Mathematics
- ELE-P109 Physics
- ELE-R100 Report Writing

**Term 2**
- ELE-E201 Electric Circuits
- ELE-E202 Electrical Instruments
- ELE-E204 Personal Computers 2
- ELE-E207 Basic Electronics
- ELE-M202 Calculus
- ELE-P209 Physics
- ELE-R200 Report Writing

**Term 3**
- ELE-E301 Electric Circuits
- ELE-E303 Introductory Logic Circuits
- ELE-E305 Introductory Microprocessors
- ELE-E307 Basic Electronics
- ELE-M302 Calculus
- ELE-P309 Physics

### YEAR 2

**Term 4**
- ELE-E411 Communication Circuits
- ELE-E412 Electronic Measurements
- ELE-E415 Microprocessors
- ELE-E416 Manufacturing Techniques
- ELE-E417 Electronic Devices
- ELE-M412 Calculus

**Term 5**
- ELE-E511 High Frequency Circuits
- ELE-E512 Circuits and Fields
- ELE-E515 Microprocessors
- ELE-E517 Electronic Devices
- ELE-E519 Linear Control Systems
- ELE-M512 Calculus
- ELE-M513 Statistics and Quality Control

**Term 6**
- ELE-E611 Data Communications
- ELE-E615 Digital Control Systems
- ELE-E616 Manufacturing Techniques
- ELE-E617 Electronic Devices
- ELE-E618 Low Frequency Circuits
- ELE-R610 Report Writing

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Engineering Design and Construction Technology

Purpose
Engineering Design and Construction Technology is a 30-month Co-operative Education diploma program within the Civil Engineering Technology Program group. Students in this program will acquire the knowledge and skills needed to work with the engineering team in the design, detailing, and preparation of contract documents for the construction of architectural and related building systems. Students will receive comprehensive training in design, detailing and presentation of architectural, mechanical and structural building systems, as well as studies in estimating, contract administration and project management.

Program
The Civil Engineering Technology program group consists of the Engineering Design and Construction, Municipal, Structural, and Survey programs. Co-operative Education, which integrates two six-month terms of paid employment with six terms of classroom theory, is included in all of these programs. Red River Community College offers Co-operative Education as part of its education strategy to enhance students' career training opportunities. All applications will be processed for entry into Civil Engineering Technology, where the emphasis will be on mathematics, engineering graphics, mechanics, surveying, communications and computer-assisted drafting. Students who successfully complete the first year of studies in Civil Engineering Technology may then apply for entry into Engineering Design and Construction Technology. The emphasis will shift to the study of architectural systems, structural analysis and design, contract administration, electrical and mechanical building systems and building science.

In order to proceed in Co-operative Education terms, students must meet departmental academic requirements.

Entrance Requirements
A - 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;

or

- Adult Basic Education Pre-Technology (Adult 12) program completion.

* Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment with consulting and mechanical engineers, contractors, fabricators, architects and service industries, as well as a variety of positions with various departments of municipal, provincial and federal government services.

Continued on next page
Engineering Design and Construction Technology (continued)

Program Outline

**YEAR 1**
Civil Engineering Technology

**Academic — Term 1**

- CIV-C192 Engineering Graphics 1
- CIV-C193 Computer Assisted Drafting 1
- CIV-C195 Mechanics
- CIV-C196 Surveying 1
- CIV-C197 Communications
- CIV-C199 Mathematics 1
- T13-W100 WHMIS Workshop

**Academic — Term 2**

- CIV-C292 Engineering Graphics 2
- CIV-C293 Computer Assisted Drafting 2
- CIV-C295 Strength of Materials 1
- CIV-C296 Surveying 2
- CIV-C297 Report Writing
- CIV-C299 Calculus 1

**Work — Term 3**

- CIV-W300 Work Term 1
  (16 weeks minimum)

**YEAR 2**
Engineering Design and Construction Technology

**Academic — Term 4**

- CIV-C499 Calculus 2
- CIV-C797 Project Management
- CIV-D491 Building Science
- CIV-D492 Residential Construction
- CIV-D493 Computer Assisted Drafting 3
- CIV-T495 Structural Analysis 1

**Academic — Term 5**

- CIV-C497 Principles of Management
- CIV-D591 Building Science 2
- CIV-D592 Commercial Construction
- CIV-D593 Mechanical Systems 1
- CIV-D596 Construction Materials and Systems
- CIV-T594 Timber Design

**Work — Term 6**

- CIV-W600 Work Term 2
  (16 weeks minimum)

**YEAR 3**

**Academic Term**

- CIV-C597 Engineering Economics
- CIV-D791 Electrical Systems
- CIV-D792 Architectural Technology 1
- CIV-D793 Mechanical Systems 2
- CIV-D796 Architectural Environment 1
- CIV-T794 Steel Design

**Academic — Term 8**

- CIV-C897 Costing and Contract Administration
- CIV-D892 Architectural Technology 2
- CIV-D893 Mechanical Systems 3
- CIV-D896 Architectural Environment 2
English as a Second Language (ESL)

Purpose
To develop practical English speaking, listening, reading and writing skills.

Course
The English as a Second Language (ESL) Program is an intensive, full-time language training program at the Basic, Intermediate and Advanced levels. Each level is five months in duration and has September and February entry dates. Courses have been designed to develop practical speaking, listening, reading and writing skills which would be of immediate use to students. Course objectives are met through a combination of regular classroom activities and individualized instruction in the language laboratory and in reading and spelling course components.

Employment Opportunities
Many former students have found that ESL courses have opened up new employment opportunities for them. Others, who have successfully completed upper level programs, have gone on to enroll in college and university programs. An important benefit for all students is the increased ability to communicate and function effectively in the community.

Entrance Requirements
All applicants will be tested to determine placement at an appropriate level of language development.

Program Outline

Basic Level

S05-E422  Writing Skills  
S05-E423  Reading Skills  
S05-E424  Grammar Skills  
S05-E425  Speaking and Listening Skills

English for Integration and Job Market Preparation

S05-A012  Integration Skills  
S05-A013  Reading  
S05-A014  Grammar/Writing Skills  
S05-A015  Oral/Aural Language Preparation  
S05-A016  Spelling  
S05-A017  Volunteer Placement  
S05-A018  Job Market Preparation

Bridge Program for College Entry

S05-A020  Speaking Skills  
S05-A021  Spelling  
S05-A023  Reading  
S05-A024  Writing  
S05-A025  Grammar  
S05-A026  Mathematics  
S05-A027  Science  
S05-A028  Listening

English for Science and Technology

ELE-E100  Introduction to Personal Computers  
S05-A107  Speaking  
S05-A108  Listening  
S05-A109  Reading  
S05-A110  Grammar  
S05-A111  Writing  
S05-A112  Spelling

English for Academic Purposes

S05-E434  Listening and Note Taking  
S05-E435  Reading  
S05-E436  Spelling  
S05-E437  Conversation and Oral Presentation  
S05-E438  Grammar  
S05-E439  Writing  
S05-E440  Preparation for TOEFL
Health Record Technician

Purpose
To develop the knowledge and skills needed for the collection, retention, coding, analysis and dissemination of health-care information required for patient care, management, research and education.

Program
Health Record Technician is a ten-month certificate program with a September entry date. The program is designed to train students for the specialized techniques required for the collection, analysis and dissemination of health information and has been fully accredited by the Canadian College of Health Record Administrators.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with one of English 300 or 301 and at least one of Biology 300 or 301 or Chemistry 300;

or

– Adult Basic Education 11B with science supplements;

and

B – Applicants must achieve a basic typewriting speed of 35 wpm with a maximum of three errors on a five-minute timing;

and

C – an interview with the Health Record Technician Selection Committee.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in A above. As well, mature students must meet entrance requirements B and C and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

This is a special selection program. The Selection Committee chooses candidates on the basis of educational background and aptitude for a career in the health records field. Applicants are encouraged to do some background research on this health profession before attending the interview.

Employment Potential
Most graduates have found employment in hospital health record departments. Some graduates work in clinics, cancer treatment centers, mental health centers, adolescent treatment centers, paramedical and government agencies. Others are employed as sole-charge technicians in rural health care facilities. Graduates are eligible to write the national certification exam of the Canadian College of Health Record Administrators.
Health Record Technician (continued)

Program Outline

**Term 1**

B19-R741  Health Records Science 1
B19-M751  Medical Terminology 1
HO3-L113  Anatomy and Physiology 1
B13-S504  Psychology
B18-W535  Word Processing – Practical
B19-E751  Communications 1
One-week practicum in accredited facilities

**Term 2**

B19-R752  Health Records Science 2
B19-M752  Medical Terminology 2
HO3-L213  Anatomy and Physiology 2
B19-C762  Medical Coding 1
B12-L367  Legal Aspects of Health Records
B19-E752  Communications 2
One-week practicum in accredited facilities

**Term 3**

B19-C763  Medical Coding 2
B19-N751  Medical Transcription
HO3-L313  Anatomy & Physiology 3
B13-M610  Organization and Management
B15-S310  Microcomputer Data Base
B13-R704  Statistics
B19-P303  Hospital Practicum
B19-E753  Communications 3
Hotel and Restaurant Administration

Program
Hotel and Restaurant Administration is a two-year diploma program with a September entry date. The 21 months are consecutive and there is no summer break. The program was designed in cooperation with the Manitoba hospitality industry and is noted for its co-operative education component.

Co-operative education aims at an effective blend of classroom study and off-campus work experience in program-related industry. This means that the student spends alternate three-month periods in the work force and is paid an hourly rate. The program comprises six continuous terms: four on campus, and two employment terms.

All courses have been identified by the hospitality industry in terms of required competencies, and curriculum has been designed to achieve these competencies.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation). English 300 or 301 and Mathematics 300 or 301 are strongly recommended. (Many students have found Accounting 202 and 302 to be very helpful in this program.);

- Adult Basic Education 11B;

or

- submission of an applicant information sheet. (Questions to be answered in writing will be sent to the applicant after an application form and proof of education are received by the Registration Department.);

and

B – an information session with the Hotel and Restaurant Administration faculty;

and

C – proof of good health, substantiated by recent medical, dental and chest x-ray certificates (to be submitted after notification of acceptance is received by the applicant).

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

This is a special selection program. After attending the information session the faculty may wish to discuss your application with you personally to determine your commitment to working in a people-oriented business. Some related industry experience is a definite asset.

Employment Potential
It is difficult to forecast typical jobs that graduates can expect after graduation as much depends on the individual graduate’s industry employment record, attitude, motivation and maturity. Statistics indicate that more than half of the Hotel and Restaurant Administration graduates move directly into supervisory or management-trainee positions. Other graduates begin their careers in entry-level positions.

Continued on next page
Hotel and Restaurant Administration (continued)

Employment Potential (continued)

Most graduates have experienced little difficulty in moving into junior-to-middle management positions as they gain a broader range of work experience. Hotel and Restaurant Administration graduates are currently employed in major hotels as front-desk managers and supervisors, banquet managers and captains, sales managers, food and beverage managers and controllers, and executive housekeepers. They are also employed in smaller hotels as general managers and assistant managers, and in management and supervisory positions in restaurants, private clubs, and food service departments.

Program Outline

YEAR 1

B09-A101 Dining Room Service
B09-A102 Front Office Operations 1
B09-A104 Front Office Operations 2
B09-A105 Housekeeping Operations
B09-A106 Inventory Management 1
B09-A107 Wines, Spirits and Beers
B09-A108 Inventory Management 2
B09-A114 Co-operative Education
B09-A116 Tourism
B11-A002 Accounting Systems 1
B11-A004 Accounting Systems 2
B11-A005 Accounting Systems 3
B12-H110 Economics
B12-H111 Hospitality Law
B13-S514 Human Behavior in Organizations (HRA)
B14-A201 Marketing 1
B15-S109 Computer Applications
B16-E841 Basic Business Communication
B16-E843 Advanced Business Communication
B16-E852 Intermediate Business Communication

YEAR 2

B09-A113 Human Resource Management
B09-A118 Co-operative Education
B09-H212 Design, Layout and Maintenance
B09-H404 Design Project
B09-H662 Bartending
B09-H666 Advanced Dining Room Service
B11-A006 Hospitality Management Accounting 1
B11-A007 Hospitality Management Accounting 2
B14-A202 Marketing 2
B16-C695 Hospitality Advertising, Sales and Public Relations
B32-A012 Basic Food Preparation
Industrial Arts Teacher Education

Purpose
To develop teaching and technical skills in industrial arts and technology education.

Program
Industrial Arts Teacher Education is a four-year Red River Community College and University of Manitoba integrated Bachelor of Education degree program with a September entry date. Emphasis is directed at four areas: manufacturing, power and energy, graphic communications and construction. Technical skills, teaching skills and broad general knowledge about society are all important components in the program.

Entrance Requirements
The following criteria are used in selecting students:
- satisfactory standing in 20 credits which satisfy the Manitoba Education and Training description of the high school program, with five of these credits held at the Grade 12 level, so that these five include:
  A — a standing in English 300 and Mathematics 300 or 301;
  B — four different subject areas;
  C — a minimum of three courses at the 300 level;
  D — a 60% average in English 300 and any two other 300 level subjects.

Letters of recommendation, scholastic record, and employment records are reviewed during the admission process.

Mature Student Admission. Anyone who does not meet these education requirements, but is 21 years of age on or before September 30 in the year of registration, may apply as a mature student. Mature applicants, without Grade 12 standing, may be required to achieve a Grade 12 standing on the General Educational Development (GED) test. Mature students are strongly advised to include formal course work in Mathematics and English at the 300 or 301 level as part of their preparation for College.

Applications from mature students will be reviewed on an individual basis. All applicants will be interviewed by the admissions committee and required to complete a written communications skills test. The College will notify you of time, date and location.

Employment Potential
Graduates are eligible to teach in the junior high and secondary schools in Manitoba. Many of the job opportunities are available in rural areas of the province.

Program Outline
YEAR 1
Red River Community College
B23-C102 Construction Introduction
B23-E105 General Teaching Methods 1
B23-G102 Graphic Communications – Introduction

Continued on next page
Industrial Arts Teacher Education (continued)

YEAR 1 (continued)
B23-M102 Manufacturing – Introduction
B23-P102 Power & Energy – Introduction
B23-T102 Seminar & School Experience
B23-W102 Cooperative Business/Industrial Education

YEAR 2
University of Manitoba
63.202 Communication
43.202 Psychology of Learning and Instruction
81.215 Industrial Education in Technology
81.305 Topics in Industrial Education

Select a second teachable (See education requirements for Secondary Teachable Major/Minor)
116.101 Social Foundation of Education
116.301 School Organization

YEAR 3
Red River Community College
B22-E204 Educational Testing and Evaluation
B23-C202 Construction – Advanced
B23-E103 Audiovisual and Technical Education
B23-E201 Organizing Industrial Education Facilities
B23-E203 Program Development in Education
B23-E205 General Teaching Methods 2
B23-G202 Graphic Communications – Advanced
B23-M202 Manufacturing – Advanced
B23-P202 Power and Energy – Advanced
B23-T202 Student Teaching

YEAR 4
University of Manitoba
81.310 Microcomputers in Occupational Education
81.311 Design Technology
81.312 Industrial Safety
81.407 Advanced Methods in Industrial Education or
81.309 Co-operative Education Curriculum and Instruction

Three courses (second teachable – see education requirements for Second Teachable Major/Minor).

Second Teachable Areas
Second teachables in any one of the following subject areas or support options, which will serve as a second teaching area in the public school, can be developed with your advisor at the University of Manitoba:
Art
Physics
German
Chemistry
Computer Science

English
Biology
Spanish
Theatre

Geography
French
Ukrainian
History

Industrial Arts Support Option
13.228 Mathematics
007.124 Earth and Planetary Science or
007.227 Earth Science
77.120 Introduction to Sociology
18.120 Principles of Economics

Elect either a) or b):
a) 16.130 Physics
b) 27.203 Administrative Theory or

Industrial Arts Science Option
2.123 General Chemistry or
2.127/002.128 Introductory University Chemistry
71.123 Biology
16.105 Physics 1: Mechanics and
16.106 Physics 2: Electricity and Magnetism or
16.102 General Physics 1 and
16.103 General Physics 2
13.139 Introductory Calculus
13.149 Calculus for Physics and Mathematical Sciences

Elect one: a), b), c) or d):
a) 16.124 Physical Science
b) 16.130 Physical Aspects of the Environment
c) 7.227 Earth Science or

Industrial Arts Social Science Option
17.120 Introduction to Psychology
17.231 Adolescent Psychology
77.120 Introduction to Sociology
77.337 Sociology of Work

Twelve credit hours of course work from Sociology or Psychology
Industrial Electronics

Purpose
To develop the fundamental knowledge of electrical and electronic components, devices and circuits needed to set up, adjust and troubleshoot laboratory and industrial electronic equipment used in control circuits and/or instrumentation.

Program
Industrial Electronics is a 39-week certificate program with 35 hours per week scheduled class time. There are two entry dates to the program: September and December. Evaluation in the program is based on skill competency, as determined through written assignments, tests and/or practical demonstration. Training is designed to emphasize hands-on experience in all skill areas and there is a close coordination of theory and application.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with Mathematics 200 and one of Physics 200 or Physical Science 201. English 200 or 201 is strongly recommended;

  or

- Adult Basic Education 11A.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Jobs are available in any industrial area where electronic devices require installation, maintenance and servicing. Graduates have found employment in automated factories as installers and maintenance staff, in medical electronics and computer services, and with public utilities.

Please note some employers of graduates require Math 300 as a condition of employment.

Program Outline

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<th>Course Title</th>
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<td>T12-I003</td>
<td>AC Fundamentals</td>
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<td>T12-I004</td>
<td>Electronic Fundamentals</td>
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<tr>
<td>T12-I016</td>
<td>Electronic Soldering and Desoldering</td>
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<tr>
<td>T12-I017</td>
<td>Computer Basics and Keyboard Skills</td>
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<td>T12-I054</td>
<td>BJT Amplifier Theory and Operation</td>
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<td>T13-W100</td>
<td>WHMIS Workshop</td>
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</tbody>
</table>

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Instrumentation Engineering Technology

Purpose
To develop the knowledge and skills required to design, construct, troubleshoot and maintain a wide variety of control systems.

Program
The Electronic Engineering Technology program group consists of Communication, Computer, Electrical, Electronic, and Instrumentation Engineering Technology. These programs have a common first year of training. All applications will be processed for entry into Electronic Engineering Technology. Students who successfully complete the first year of studies in Electronic Engineering Technology may then transfer into one of the options listed above.

Instrumentation Engineering Technology is a two-year diploma program with a September entry date. It is a multi-discipline program encompassing electronic, electrical and mechanical courses, ranging from microprocessors and power electronics to control valves and chemistry.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;
  or
- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in mathematics, English, and science* as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Graduates have found employment as instrument mechanics, working with tools; as instrument technologists in engineering offices; as junior designers; and as technical sales people. With broad experience and additional training, some graduates have moved into management positions.

For further information on possible transfer of credit, see the Instrumentation Engineering Technology Program brochure.
Instrumentation Engineering Technology
(continued)

Program Outline

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<td><strong>Instrumentation Engineering Technology</strong></td>
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**Term 1**
- ELE-E101 Electric Circuits
- ELE-E102 Electrical Instruments
- ELE-E104 Personal Computers 1
- ELE-E106 Drafting
- ELE-M102 Mathematics
- ELE-P109 Physics
- ELE-R100 Report Writing

**Term 2**
- ELE-E201 Electric Circuits
- ELE-E202 Electrical Instruments
- ELE-E204 Personal Computers 2
- ELE-E207 Basic Electronics
- ELE-M202 Calculus
- ELE-P209 Physics
- ELE-R200 Report Writing

**Term 3**
- ELE-E301 Electric Circuits
- ELE-E303 Introductory Logic Circuits
- ELE-E305 Introductory Microprocessors
- ELE-E307 Basic Electronics
- ELE-M302 Calculus
- ELE-P309 Physics

**Term 4**
- ELE-I432 Process Practices and Devices
- ELE-I435 Programmable Logic Controllers
- ELE-I436 Electrical Practices
- ELE-I437 Instrumentation Electronics
- ELE-I439 Basic Process Control
- ELE-M432 Calculus
- ELE-I538 Fluid Mechanics

**Term 5**
- ELE-I532 Process Measurements
- ELE-I535 Data Acquisition and Communication
- ELE-I536 Electrical Practices
- ELE-I537 Power Electronics
- ELE-I438 Final Control Elements
- ELE-I539 Linear Process Control
- ELE-K531 Intro Chemical Instrumentation
- ELE-M532 Calculus

**Term 6**
- ELE-I632 Process Measurements
- ELE-I637 Power Electronics
- ELE-I638 Industrial Control Application
- ELE-I639 Computer Process Control
- ELE-K631 Chemical Instrumentation
- ELE-R630 Report Writing
Library and Information Technology

Purpose
To provide students with the necessary public service and technical skills to be a productive employee in library and other related fields.

Program
Library and Information Technology is a two-year diploma program with a September entry date. This program will be offered in alternate years.

The program combines technical and academic courses. The student learns the fundamentals of both manual and automated systems for acquiring, organizing, and disseminating information in a variety of formats. Academic courses are directed towards broadening students' general knowledge in order to enhance their ability to function effectively in an information environment. A variety of instructional techniques are employed including oral presentations, written assignments and group projects. Practical work experience is provided through field placements in different types of libraries.

Entrance Requirements
A — 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300; 
   or
   – Adult Basic Education 11B; 
   and
B — successful completion of the reading skills assessment test at the minimum required competency level; 
   and
C — official proof of typing speed of not less than 35 wpm with not more than three errors on a recent test; 
   and
D — an interview with the Library Selection Committee.

Employment Potential
The program will provide graduates with training to be employed as a library technician. Technicians occupy mid-range positions with a level of responsibility between that of a clerk and a librarian. They may direct clerks, student assistants or other library technicians. Duties may be limited to a specific area within a technical or public service unit of a library or may cover a wide range of activities according to the size of the library. Technicians may also manage small libraries.

Continued on next page
Library and Information Technology (continued)

Program Outline

YEAR 1

B05-L001 Introduction to Libraries
B05-L002 Basic Library Procedures
B05-L004 A/V and Office Equipment and Materials
B05-L005 Reference 1: Ready Reference
B05-L006 Cataloguing 1: Introduction to Descriptive Cataloguing
B05-L007 Acquisitions 1: Collection Development and Acquisitions
B05-L008 Field Placement 1
B05-L009 Cataloguing 2: Dewey Decimal and Sears Subject Headings
B05-L010 Reference 2: Theory and Effects of Automation
B12-L001 Academic Course: Introduction to Economics
B13-L001 Academic Course: Human Behaviour in Organizations
B15-L001 Microcomputers and Word Processing for Library Technicians
B15-L002 Spreadsheeting
B16-L001 Academic Course: Business Communications
B16-L002 Academic Course: Career Writing
B16-L003 Academic Course: Children's Literature
B16-L004 Academic Course: Young Adult Literature

YEAR 2

B05-L011 Cataloguing 3: Derivative Cataloguing and MARC Coding
B05-L012 Acquisitions 2: Special Materials and Serials Management
B05-L013 Reference 3: Social Sciences and Humanities
B05-L014 Field Placement 2
B05-L015 Cataloguing 4: Library of Congress Classification and LCSH
B05-L016 Reference 4: On-Line Searching
B05-L017 Marketing the Library and Information Services
B05-L018 Academic Course: Issues in Canadian Society
B05-L019 Field Placement 3
B05-L020 Cataloguing 5: Advanced Descriptive Cataloguing
B05-L021 Management Skills for Library Technicians
B05-L022 Reference 5: Science and Technology
B05-L023 Selected Library Topics
B12-L002 Academic Course: Levels of Canadian Government
B13-L002 Academic Course: Multiculturalism in Canada
B16-L005 Academic Course: Canadian Literature
B16-L006 Academic Course: Literary Genres
Machine Drafting

Purpose
To develop the skills and knowledge needed to assemble and produce working drawings, manually and computer-generated, as required by the industrial and manufacturing industries.

Program
Machine Drafting is a 10-month certificate program with a September entry date. The program is designed to train the student to produce working drawings of machines and their components and focuses on the development of both traditional manual drafting skills and high technology methods using computer-assisted drafting systems.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with one of Mathematics 200* or 201. Standing in Physics 200 or Physical Science 201 is strongly recommended;
- Adult Basic Education 11A.

*Mandatory: Mathematics 200 or its academic equivalent is advised. A strong background in mathematics is essential to the drafting field.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Job opportunities have been found as junior draftspeople with machinery manufacturers and in tool and die production shop offices. Some graduates have found employment with structural fabricators, equipment manufacturers and in the aircraft industry. Other graduates are working in consulting engineering offices. After gaining experience, many have found employment as technical representatives or salespeople for metal-working equipment and product companies, or as shop inspectors, estimators and designers.

Program Outline

Term 1
T03-M105 Fundamentals of Delineation
T03-M102 Applied Machine Drafting 1
T03-M103 Computer-Aided Drafting 1
T13-M524 Drafting Math
T03-M104 Computer Applications 1
T13-W100 WHMIS Workshop

Term 2
T03-M201 Strength of Materials
T03-M205 Applied Machine Drafting 2
T03-M206 Computer-Aided Drafting 2
T03-M204 Work Experience

Term 3
T03-M301 Mechanics
T03-M305 Computer-Aided Drafting 3
T14-R504 Communications
T03-M304 Applied Machine Drafting 3
Machine Shop Practice – Advanced

Purpose
To develop the skills and knowledge to be able to perform safely and proficiently basic operations on a variety of machine shop equipment found in machine and tool and die shops. This program will enable the student to perform, at a higher level, safe and proficient operations covered in the Machine Shop Practice – Basic program. Advanced operations not previously covered will also be included.

Program
Machine Shop Practice – Advanced is a five-month certificate program with September and February entry dates. Graduates of this program who achieve a minimum of a “C” average will be allowed to apply to the Department of Education, Apprenticeship Branch, for credit in the Apprenticeship Level 1 Machinist program.
This program includes one month of industrial experience.

Entrance Requirements
Successful completion of the Red River Community College Machine Shop Practice or Machine Shop Practice – Basic program.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resumé and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Many graduates have found employment as machine tool operators or as machinist apprentices in the areas of manufacturing, repair or servicing in aircraft, automotive, mining, construction and agricultural equipment industries. Other graduates have found that the knowledge and skills gained through this program have provided a sound basis for related occupations, such as mechanical draftsperson, mechanical technician, estimator and industrial salesperson.

Program Outline
- T04-A053 Geometric Dimensioning and Tolerancing
- T04-A054 Quality Control
- T04-A055 Industrial Training
- T10-A058 Machine Shop
- T10-A001 Mathematics 2
- T10-A002 Science 2
- T13-W100 WHMIS Workshop
- T14-A045 Communication Skills 2
Machine Shop Practice – Basic

Purpose
To develop the knowledge and skills to be able to perform safely and proficiently basic operations on a variety of machine shop equipment found in machine and tool and die shops.

Program
Machine Shop Practice – Basic is a five-month certificate program with September and February entry dates. The tools involved in this program are metal cutting types which include: hand cutting tools, basic grinders, drill press, lathe and milling machine. Students will also be able to interpret engineering drawings, read measuring tools, inspect various parts and do basic mathematic calculations as required.

Graduates of this program may advance to Red River Community College’s Machine Shop Practice – Advanced program or CNC Machine Operator program, or the Apprenticeship Level 1 Machinist program.

Please note that because Workers Compensation regulations stipulate that steel-toed footwear must be worn in industrial workplaces, students are required to provide and wear appropriate safety footwear in welding and machine shops, both in the College and during in-industry placements.

Entrance Requirements
- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended; or

- Adult Basic Education 7-10 program completion.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Program Outline
T04-A056  Machine Shop
T04-A057  Interpreting Engineering Drawings
T10-A003  Mathematics 1
T10-A004  Science 1
T13-W100  WHMIS Workshop
T14-A046  Communication Skills 1
Masonry

Purpose
To develop skill and speed in bricklaying through the practical use of tools, and through an understanding of trade terminology, types of materials and bonds.

Program
Masonry is a five-month certificate program with two entry dates: September and February. The program is designed to develop a basic theoretical knowledge of all aspects of the trade; to acquire practical skills in masonry; to develop standards and pride of craftsmanship; and to develop proper working habits.

Entrance Requirements
- complete Manitoba Grade 9,* or equivalent, with Mathematics 9 and Science 9. English 9 is strongly recommended;

or
- Adult Basic Education 7-10 program completion.

* Applicants must be able to do basic operations in mathematics with whole numbers, fractions, and decimals and should be able to read with good comprehension at a Grade 9 level.

Mature Student Admission. Mature students must be 20 years of age on or before September 30 in the year of registration, but must still meet the prerequisite courses. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications an official transcript and a detailed work resume, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Although there have been some job opportunities in related occupations for which the knowledge of masonry is an asset, almost all graduates have chosen to enter the apprenticeship program. After reaching journeyman level, graduates have worked in a variety of positions: mason, foreman, estimator, draftsperson, contractor or building inspector, in maintenance or as a sales representative.

For further information on apprenticeship and possible transfer of credit, please see the Masonry program brochure.

Program Outline

Term 1
T02-M001 Introduction, Materials and Tools Used in Masonry
T02-M004 Practical Work
T02-M006 Masonry Bonds – Theory
T02-M008 Definitions – Theory
T02-M010 Walls – Theory
T02-M011 Estimating – Theory
T03-R019 Blueprint Reading and Sketching for Masonry
T13-M502 Masonry Math
T13-W100 WHMIS Workshop
T14-C003 Communications
Mechanical Engineering Technology

Purpose
To develop knowledge and skills in mechanical design, the production side of manufacturing, and technical supervision.

Program
Mechanical Engineering Technology is a two-year diploma program with a September entry date. The objective of the program is to prepare the student to work in design, manufacturing, quality assurance, equipment selection and computer-aided engineering. The emphasis is on mechanical analysis and design, manufacturing methods, building systems design and control, supervision and management, and computer applications.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;
  or
- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits in mathematics, English, and science* as outlined above. Mature students must also be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Employment Potential
Graduates have found employment in design, technical sales, manufacturing, research, instruction and management with companies involved in the areas of agriculture, mining, aerospace, air conditioning, refrigeration, transportation, foundries, fluid power, consulting engineering and government services. For further information on possible transfer of credit, see the Mechanical Engineering Technology program brochure.

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# Mechanical Engineering Technology (continued)

## Program Outline

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<td>MET-1027 Stress Analysis 2</td>
<td>MET-1049 Engineering Design</td>
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</table>
Medical Laboratory Technology

Purpose
To develop the knowledge and skills required to examine and analyze body specimens using various chemical, microscopic and bacteriological tests.

Program
Medical Laboratory Technology, a 22-month program with a September entry date, is designed to train students to work in medical laboratories or clinics. The program comprises 10 months at the College where both academic and practical courses are emphasized, followed by 12 months in an affiliated clinical training center to supplement theory and develop practical skills.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation);

or

− Adult Basic Education Pre-Technology (Adult 12) program completion*;

*English 300 or 301, Mathematics 300, Chemistry 300 and Biology 300 will be required.

*Preparation at the 300 level in all course areas is preferred. Physics 300 and English 300 are strongly recommended.

and

B – completion of hospital application form. The necessary form will be sent to applicants once a College application and supporting educational documents are received;

and

C – may include an orientation and interview conducted by the hospital training centre;

and

D – submission of immunization records after notification of acceptance is received.

Mature Student Admission. Mature students are not required to have complete Grade 12 standing but must have specific credits in mathematics, English, chemistry and one other science, as outlined in A above. Mature students must also meet entrance requirements B through D and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine eligibility. Testing by the College may be necessary.

This is a special selection program. The Selection Committee(s) will interview applicants who have completed the preliminary requirements and will select students on the basis of academic preparation, maturity, motivation, and potential to work as part of a health care team.

* Applicants are advised that Selection Committees may give preference to candidates possessing 20 high school credits (with standing in 300 level courses) or post-high-school science preparation.

Because this special selection program has a cut-off date, applications should be submitted as early as possible. Please contact the Registration Department at 632-2327 to confirm the exact date.

Continued on next page
Medical Laboratory Technology (continued)

Employment Potential
Upon successful completion of the program, and with the hospital’s recommendation, the graduate is eligible to write the Canadian Society of Laboratory Technologists (CSLT) national examinations which lead to a certificate as a Registered Medical Laboratory Technologist (RT), a nationally-recognized certification. Successful completion of these exams will qualify the graduate for membership in the CSLT.

Graduates have found employment in hospital laboratories, medical clinics, research agencies and in veterinary and pharmaceutical laboratories aiding the medical practitioner in the diagnosis and subsequent treatment of the patient.

Program Outline

Term 1
- H03-L101 Anatomical Structure and Function
- H03-L107 Introductory Chemistry
- H03-L109 Microscopy
- H03-L119 Applied Laboratory Mathematics
- H03-L116 General Knowledge and Safety
- H03-L117 Spectrophotometry
- H03-L120 Computers
- H03-L230 Immunology
- T13-W100 WHMIS Workshop

Term 2
- H03-L201 Anatomical Structure and Function
- H03-L202 Clinical Microbiology
- H03-L203 Clinical Chemistry
- H03-L204 Hematology
- H03-L205 Histotechnology
- H03-L206 Immunohematology
- H03-L220 Computers
- H03-L222 Clinical Microbiology Laboratory 202
- H03-L223 Clinical Chemistry Laboratory 203
- H03-L224 Hematology Laboratory 204
- H03-L225 Histotechnology Laboratory 205
- H03-L226 Immunohematology Laboratory 206
- H03-L230 Immunology

Term 3
- H03-L302 Clinical Microbiology
- H03-L303 Clinical Chemistry
- H03-L304 Hematology
- H03-L305 Histotechnology
- H03-L306 Immunohematology
- H03-L322 Clinical Microbiology Laboratory 302
- H03-L323 Clinical Chemistry Laboratory 303
- H03-L324 Hematology Laboratory 304
- H03-L325 Histotechnology Laboratory 305
- H03-L326 Immunohematology Laboratory 306
Medical Radiological Diagnostic Technology

Purpose
To develop proficiency in the management of patients and the safe operation and manipulation of x-ray equipment.

Program
Medical Radiological Diagnostic Technology is a two-year diploma program with a September entry date. The program is designed to provide the academic foundation and supervised practical experience to develop the required skills for taking x-rays of diseased or injured areas of the human body. Training takes place at both Red River Community College and the training hospital that has accepted the student.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300, Mathematics 300 and two of Physics 300, Chemistry 300, and Biology 300. (It is strongly recommended that Physics 300 be one of the two sciences);

or

- Adult Basic Education Pre-Technology (Adult 12) program completion;

B – satisfactory reading proficiency as measured by a reading test administered by the College;

and

C – completion of a hospital application form, and a two-page autobiography. Details on this requirement will be sent to the applicant once a College application form and supporting educational documents are received;

and

D – attendance at an orientation and interview conducted by the hospital training centre;

and

E – submission of immunization records after notice of acceptance is received.

Note: Effective September 1996, entrance requirements will be 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300, Mathematics 300, Physics 300, and one of Chemistry 300 or Biology 300.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing however, they must have specific credits in mathematics, English, and science(s) at the 300 level, as outlined in A above. Mature students must also meet entrance requirements B, C, D and E and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

This is a special selection program. When the applicant has met entrance requirements A and B above, the application will be forwarded to the hospital training centre for consideration. The Selection Committee will interview applicants who have completed the preliminary requirements and will select students on the basis of academic preparation, maturity, motivation, and potential to work as part of a health care team.

Continued on next page
Medical Radiological Diagnostic Technology
(continued)

Entrance Requirements continued

Because some special-selection programs may have an application deadline after which applications cannot be
considered for the annual Fall intake of students, applications should be submitted at the earliest possible date.
Contact the Registration Department at 632-2327 in regard to the deadline date for a specific program.

Employment Potential

After successful completion of training, and with the hospital’s recommendation, the graduate will
be eligible to write examinations that lead to a diploma as a Registered Radiological Technologist
RT(R) and qualification for membership in the Canadian Association of Medical Radiation
Technologists.

Graduates are employed in hospitals and clinical x-ray departments, in laboratories, and in commercial
chemical companies. Some graduates are working in related areas of teaching and research, and others
are employed as technical advisors or representatives for x-ray equipment and supply manufacturers.

As this program is nationally accredited, Canadian certification as a RT(R) is recognized across Canada
and in Australia, Great Britain, Holland and Switzerland.

Program Outline

Term 1

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<td>H04-X105</td>
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<td>H04-X110</td>
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<td>H11-N120</td>
<td>Human Anatomy and Physiology</td>
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</table>

Term 2

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<th>Course Code</th>
<th>Course Title</th>
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<td>H04-X216</td>
<td>Radiographic Positioning</td>
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<td>H04-X217</td>
<td>Apparatus and Accessory Equipment</td>
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<td>H04-X218</td>
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<td>H04-X223</td>
<td>Radiobiology and Protection</td>
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</tbody>
</table>

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Motor Vehicle Mechanic (Certificate)

Purpose
To develop the knowledge and skills required to disassemble, inspect, machine, calibrate and reassemble motor vehicle units and components.

Program
Motor Vehicle Mechanic (Certificate) is a 10-month certificate program with two entry dates: September and February. The program is designed to develop an understanding of the basic purpose, construction, operation and service of component parts and assemblies of an automobile.

Entrance Requirements
- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;
or
- Adult Basic Education 7-10 program completion.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Please note that reference books are essential components of the work procedures for this program so applicants require above-average reading vocabulary and comprehension. Applicants are strongly encouraged to take Reading Comprehension and Study Skills through the College’s Continuing Education Department prior to entering skill training.

Employment Potential
Graduates of this program have found employment in service stations, dealerships, large corporations, farming communities and allied industries where they work in service/repair, sales or parts distribution. Graduates who have entered apprenticeship programs, and reached journeyman level, work as journeyman mechanics, shop foremen, service managers, parts managers, machine operators and service station operators.

For further information on apprenticeship and possible transfer of credit, please see the Motor Vehicle Mechanic (Certificate) program brochure.
Motor Vehicle Mechanic (Certificate) continued

Program Outline

T01-T011 Shop Practice and Hand Tools – Theory
T01-T012 Shop Practice and Hand Tools – Practical
T01-T015 Electrical Systems – Theory
T01-T016 Electrical Systems – Practical
T01-T017 Fuel Systems – Theory
T01-T018 Fuel Systems – Practical
T01-T019 Tune-Up – Theory
T01-T021 Standard Transmissions – Theory
T01-T022 Standard Transmissions – Practical
T01-T023 Rear Axles and Drivelines – Theory
T01-T025 Brakes – Hydraulics – Theory
T01-T026 Brakes – Hydraulics – Practical
T01-T027 Steering and Suspension – Theory
T01-T028 Steering and Suspension – Practical
T01-T029 Automatic Transmissions – Theory
T01-T030 Automatic Transmissions – Practical
T01-T031 Engine Construction and Operation – Theory
T01-T056 Electrical – Repairs and Service – Live Shop
T01-T058 Fuel Systems – Repairs and Service – Live Shop
T01-T060 Tune-Up – Live Shop
T01-T062 Transmission Overhaul Standard – Live Shop
T01-T064 Rear Axles and Drivelines – Live Shop
T01-T066 Brakes – Hydraulic and Disc Power – Live Shop
T01-T068 Steering Repairs – Live Shop
T01-T070 Automatic Transmission Repairs – Live Shop
T04-G510 Related Gas Welding
T04-M510 Related Machine Shop
T13-M508 Motor Vehicle Mechanic Technician Math
T13-S508 Power Mechanics Science
T14-C504 Communication
Motor Vehicle Mechanic (Diploma)

Purpose
This new 36-week diploma program is designed to meet the demand for training in new technology. It supplements current Motor Vehicle Mechanic certificate programs and will prepare graduates to work in the electronic technician field. Training will combine instruction at the College with paid co-operative education work experience. This program is delivered in the following format: three terms of six weeks each classroom instruction alternating with three terms of six weeks each work experience placement. This program would be an asset to both employees and employers due to the continued technological change and the need for constant updating.

Program
This program will include areas of study to support the skills needed for electronic technicians. Classroom instruction will be designed to broaden the student’s knowledge in the Automotive Electronics area as well as engine management, fuel injection, and ABS brakes.

Entrance Requirements
A — must have successfully completed a Motor Vehicle Mechanic certificate program at Red River Community College, Assiniboine Community College or Keewatin Community College or the Motor Vehicle Mechanic (Work Experience) certificate program at Red River Community College, and attend an orientation session; 

or

B — must have a three-year Vocational Power Mechanics Certificate with a grade of “C” or better in both theory and practical, and an interview by a College selection committee. Testing may be required.

or

— must have a minimum of two years appropriate work experience in the automotive service industry and an interview by a College selection committee. Testing may be required.

Program Outline
T01-G011 Service Manuals
T01-G013 Electronic Information, Storage and Retrieval Systems
T01-G015 Automotive Electrical and Electronics
T01-G017 Introduction to Computer Systems
T01-G019 Electrical Diagnosis
T01-G020 Practical Training in Industry 1
T01-G021 Electronic Fuel Injection Systems (Domestic)
T01-G023 Electronic Fuel Injection Systems (Import)
T01-G025 Introduction to Diesel Fuel Injection Systems
T01-G027 Emission Controls

T01-G029 Automotive Performance Diagnosis
T01-G030 Practical Training in Industry 2
T01-G031 Advanced Steering and Suspension Systems
T01-G033 Advanced ABS and Traction Control
T01-G035 A/C System Diagnosis and Service
T01-G037 Supplemental Restraints
T01-G040 Practical Training in Industry 3
T14-A026 Customer Relations
T14-A027 Business Communications
T14-A028 Automotive-Related Business Practices
Motor Vehicle Mechanic
(Work Experience)

Purpose
To develop the knowledge and skills required to disassemble, inspect, machine, calibrate and reassemble motor vehicle units and components.

Program
Motor Vehicle Mechanic (Work Experience) is a 10-month certificate program with two entry dates: September and October. The program is designed to develop an understanding of the basic purpose, construction, operation and service of component parts and assemblies of an automobile.

The program is a Co-operative Education Program that aims at an effective blend of classroom study, practical lab training and off-campus work experience in program-related industry. It goes beyond the traditional supplementary on-the-job training in that the student spends alternate four-week terms in the work force.

Entrance Requirements
- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;

or

- Adult Basic Education 7-10 Program completion.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications, a detailed resume and official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Please note that reference books are essential components of the work procedures for this program and require above-average reading vocabulary and comprehension. Applicants are strongly encouraged to take Reading Comprehension and Study Skills through the College's Continuing Education Division prior to entering skill training.

Employment Potential
Graduates of this program have found employment in service stations, dealerships, large corporations, farming communities and allied industries where they work in service/repair, sales or parts distribution. Graduates who have entered apprenticeship programs and reached journeyman level, work as journeyman mechanics, shop foremen, service managers, parts managers, machine operators and service station operators.

For further information on apprenticeship and possible transfer of credit, please see the Motor Vehicle Mechanic (Work Experience) Program brochure.

Continued on next page
Motor Vehicle Mechanic (Work Experience) (continued)

Program Outline

T01-C026  Automotive Service Fundamentals – Theory
T01-C027  Automotive Service Fundamentals – Practice
T01-C028  Work Experience 1
T01-C029  Engines and Related Systems – Theory
T01-C030  Engines and Related Systems – Practical
T01-C031  Work Experience 2
T01-C032  Drivetrain – Theory
T01-C033  Drivetrain – Practical
T01-C034  Chassis: Suspension, Steering, Brakes – Theory
T01-C035  Chassis: Shop, Service, Diagnoses – Practical
T01-C036  Electrical – Theory
T01-C037  Electrical – Practical
T01-C038  Work Experience 3
T13-M122  Motor Vehicle Technician Mathematics 1
T13-M123  Motor Vehicle Technician Mathematics 2
T13-M124  Motor Vehicle Technician Mathematics 3
T13-S122  Motor Vehicle Technician P/E Science 1
T13-S123  Motor Vehicle Technician P/E Science 2
T13-S124  Motor Vehicle Technician P/E Science 3
T14-C122  Communications 1
T14-C123  Communications 2
T14-C125  Communications 3
Municipal Engineering Technology

Purpose
Municipal Engineering Technology is a 30-month Co-operative Education diploma program within the Civil Engineering Technology program group. Students in this program will acquire the knowledge and skills needed to assist in the design and construction of municipal services and roadways, including soils and materials testing, engineering surveying, open channel flow hydraulics, terrain interpretation and environmental analysis.

Program
The Civil Engineering Technology program group consists of the Engineering Design and Construction, Municipal, Structural and Survey programs. Co-operative Education, which integrates two six-month terms of paid employment with six terms of classroom theory, is included in all of these programs. Red River Community College offers Co-operative Education as part of its education strategy to enhance students' career training opportunities.

All applications will be processed for entry into Civil Engineering Technology, where the emphasis will be on mathematics, engineering graphics, mechanics, surveying, communications and computer-assisted drafting. Students who successfully complete the first year of studies in Civil Engineering Technology may then apply for entry into Municipal Engineering Technology. The emphasis will shift to the study of hydraulics, hydrology, soil mechanics, roadway design, water supply and waste disposal design, terrain interpretation, environmental analysis and construction practices. In order to proceed in Co-operative Education terms, students must meet departmental academic requirements.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;
  
  or

- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment with consulting engineering companies and various government departments and agencies in the design and construction of sewer and water projects, highway projects, and earth-retaining and hydraulic structures.

Other graduates are employed in equipment and material sales and in the research and manufacture of construction-related products.

Continued on next page
## Program Outline

### YEAR 1
**Civil Engineering Technology**

**Term 1 – Academic**
- CIV-C192  Engineering Graphics 1
- CIV-C193  Computer Assisted Drafting 1
- CIV-C195  Mechanics
- CIV-C196  Surveying 1
- CIV-C197  Communications
- CIV-C199  Mathematics 1
- T13-W100  WHMIS Workshop

**Term 2 – Academic**
- CIV-C292  Engineering Graphics 2
- CIV-C293  Computer Assisted Drafting 2
- CIV-C295  Strength of Materials 1
- CIV-C296  Surveying 2
- CIV-C297  Report Writing
- CIV-C299  Calculus 1

**Term 3 – Work**
- CIV-W100  Work Term 1
  - (16 weeks minimum)

### YEAR 2
**Municipal Engineering Technology**

**Term 4 – Academic**
- CIV-C497  Principles of Management
- CIV-C499  Calculus 2
- CIV-U493  Terrain Analysis
- CIV-U495  Strength of Materials 2
- CIV-U496  Surveying 3
- CIV-U498  Soil Mechanics 1

**Term 5 – Academic**
- CIV-C597  Engineering Economics
- CIV-U593  Water Supply and Waste Disposal 1
- CIV-U595  Hydraulics
- CIV-U596  Roadway Design 1
- CIV-U598  Soil Mechanics 2
- CIV-U599  Environmental Analysis

**Term 6 – Work**
- CIV-W200  Work Term 2
  - (16 weeks minimum)

### YEAR 3
**Term 7 – Academic**
- CIV-U792  Pavement Mix Design 1
- CIV-U793  Water Supply and Waste Disposal 2
- CIV-U795  Hydrology
- CIV-U796  Roadway Design 2
- CIV-U797  Project Management
- CIV-U798  Soil Mechanics 3

**Term 8 – Academic**
- CIV-C897  Costing and Contract Administration
- CIV-U892  Pavement Mix Design 2
- CIV-U893  Water Supply and Waste Disposal 3
- CIV-U894  Thesis Project
- CIV-U896  Urban Roadway Design
- CIV-U898  Stabilization

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Nursing

Purpose
To develop the knowledge and skills required to use the nursing process in the provision of direct nursing care to persons of all ages with commonly-occurring health interferences.

Program
Nursing is a two-year diploma program with a September entry date. The program is designed to prepare graduates for eligibility to write examinations for registration in the Manitoba Association of Registered Nurses (MARN). Nursing has both theoretical and practical components and College instructors directly supervise the weekly practical experiences planned for the student.

Entrance Requirements
A - 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) including English 300; Mathematics 300, 301, or 200; and one science at the 300 level (Chemistry 300 is strongly recommended);

or

- successful completion of College Preparation for Nursing. (Applicants who lack several of the required programs should consider the College Preparation for Nursing program, described in a separate brochure.);

and

B - completion of the supplementary application form;

and

C - successful completion of the prescribed reading skills test at the required competency level;

and

D - good health. Immunizations are required of all students and must commence as indicated upon notification of acceptance into the program;

and

E - must provide evidence of current certification in CPR at the Basic Rescuer level in the year of admission. Yearly re-certification is required.

Mature Student Admission. Mature student applicants are not required to have complete Grade 12 standing but must have specific credits in English, mathematics and science as noted in A above. As well, mature students must meet entrance requirements B and C, and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration for review.

Employment Potential
Graduates enter the workforce as beginning practitioners and have found employment in hospitals, personal care homes and with other health agencies.

Students who have standing in English 300, and Chemistry 300 or Mathematics 300, and who graduate with a diploma in nursing and are registered nurses, meet the minimum entrance requirements for the Baccalaureate program for Registered Nurses at the University of Manitoba.

Continued on next page
Nursing (continued)

Program Outline

YEAR 1

B13-S106  Interpersonal Relations
F01-C003  Activity for Life
H11-N108  Introduction to Nursing
H11-N109  Nursing Practice
H11-N120  Human Anatomy and Physiology
H11-N208  Nursing
H11-N209  Nursing Practice
H11-N220  Human Anatomy and Physiology
H11-S101  Social Science
H11-S201  Social Science
H11-S301  Social Science (3)

YEAR 2

B13-S201  Introduction to Sociology (Dnur)
B13-S302  Social and Health Problems (Dnur)
H11-N308  Nursing
H11-N309  Nursing Practice
H11-N311  Nursing Microbiology
H11-N408  Nursing
H11-N409  Nursing Practice
H11-N405  Trends in Health Care
H11-N406  Community Health
Piping Trades

Purpose
To develop the knowledge and skills required to install and repair plumbing, heating, fire-protection and other piping systems.

Program
Piping Trades is a 10-month program with an entry date of September. The program is designed to develop skills in installing and repairing piping systems, and in the safe use of tools and materials in accordance with piping, safety and building codes and regulations.

Entrance Requirements
— seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;

— Adult Basic Education 7-10 program completion.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Please note that reference books are essential components of the work procedures for this program so applicants require above-average reading vocabulary and comprehension. Applicants are strongly encouraged to take Reading Comprehension and Study Skills, through the College's Continuing Education Department, prior to entering skill training.

Employment Potential
Many graduates have found employment with plumbing, heating or fire-protection contractors, or in industrial plants as maintenance people. Some graduates have found employment with plumbing and heating wholesale or retail outlets. Job opportunities at the journeyman level are as plumbers, steamfitters or sprinkler and fire-protection installers. After gaining work experience, some graduates have moved into positions as foremen, estimators, plumbing contractors and building inspectors. Others are self-employed.

For further information on apprenticeship and possible transfer of credit, please see the Piping Trades program brochure.

Program Outline
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>T03-R013</td>
<td>Blueprint Reading and Sketching for Plumbing PE</td>
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</tr>
<tr>
<td>T04-G520</td>
<td>Related Gas Welding</td>
<td></td>
</tr>
<tr>
<td>T13-M513</td>
<td>Plumbing P/E Math</td>
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<tr>
<td>T13-S513</td>
<td>Plumbing Science</td>
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<tr>
<td>T14-C502</td>
<td>Communication</td>
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<tr>
<td>T15-P012</td>
<td>Introduction to the Piping Trades and General Information</td>
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<tr>
<td>T15-P013</td>
<td>General Shop Work - Practical</td>
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<tr>
<td>T15-P014</td>
<td>Piping and Materials - Theory</td>
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</tr>
<tr>
<td>T15-P015</td>
<td>Piping and Materials - Practical</td>
<td></td>
</tr>
<tr>
<td>T15-P016</td>
<td>Regulations and Project Installations - Theory</td>
<td></td>
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<tr>
<td>T15-P017</td>
<td>Project Installations - Practical</td>
<td></td>
</tr>
<tr>
<td>T15-P007</td>
<td>Hot Water Heating - Theory</td>
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<tr>
<td>T15-P008</td>
<td>Hot Water Heating - Practical</td>
<td></td>
</tr>
<tr>
<td>T15-P009</td>
<td>Basic Sprinkler/Fire Protection - Theory</td>
<td></td>
</tr>
<tr>
<td>T15-P010</td>
<td>Basic Sprinkler/Fire Protection - Practical</td>
<td></td>
</tr>
<tr>
<td>T15-P011</td>
<td>In-Industry Work Experience</td>
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</tr>
<tr>
<td>T13-W100</td>
<td>WHMIS Workshop</td>
<td></td>
</tr>
</tbody>
</table>
Power Engineering

Purpose
To develop the knowledge and skills required for the safe operation of the major equipment in commercial, industrial and public buildings.

Program
The College offers three levels of Power Engineering training:
4th Class — five-month program with September entry date.*
3rd Class — five-month program with February entry date.*
2nd Class — 10-month program with September entry date.*
* The programs are not offered on an annual basis. The 4th Class and 3rd Class programs are offered on alternate years to the 2nd Class. Contact the Registration Department for scheduled entry dates.

The operation of major equipment in commercial, industrial and public buildings is closely regulated by Manitoba Labour. The physical size of the plant determines licensing requirements at the 1st, 2nd, 3rd or 4th Class level with the smaller plant requiring a 4th Class Power Engineer. The Power Engineering programs are designed to prepare the student for the applicable Manitoba Labour examination and the related type of plant in which the graduate would work.

Power Engineering has an Advisory Committee that includes representatives from the industry, government licensing representatives and College staff. Through this committee, the College keeps up-to-date with industry standards and the requirements of prospective employers.

Entrance Requirements

4th Class
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with English 200 or 201, Mathematics 200, and one of Physics 200 or Chemistry 200;
  or
- Adult Basic Education 11A with supplemental mathematics and chemistry topics.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 11 standing but they must have specific credits in mathematics and science as noted above. 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 Director of Registration to determine applicant suitability. Testing by the College may be necessary.

3rd Class
A — 3rd Class Certificate from a provincial Department of Labour;
  and
B — specific credits in Mathematics 200 or 290 (academic) and one of Physics 200 or 290 or Chemistry 200 or 290;
  or
- Adult Basic Education 11A with supplemental mathematics and chemistry topics.

Mature Student Admission. All applicants must meet entrance requirements A and B above.

Continued on next page
Power Engineering (continued)

2nd Class

A – successful completion of the Red River Community College 3rd Class program or an equivalent day program* within the past five years;

or

B – if graduation took place prior to five years ago: 3rd Class License and specific credits in Mathematics 300 and Physics 300;

or

C – if graduation took place prior to five years ago: 3rd Class License and a passing grade in a pre-admission test at the 3rd Class Level in mathematics, Mechanics and Thermal Studies (to be administered by Red River Community College).

Mature Student Admission. All applicants must meet entrance requirement A or B or C above.

* Please contact the Registration Department for information on equivalent programs.

Employment Potential

Graduates have found employment in industrial plants, food-processing plants, cold-storage plants and in other commercial, industrial or public buildings.

Program Outlines

<table>
<thead>
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<th>4th Class</th>
<th>2nd Class</th>
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</thead>
<tbody>
<tr>
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<td>T06-A311</td>
</tr>
<tr>
<td>Blueprint Reading</td>
<td>Control Instrumentation</td>
</tr>
<tr>
<td>T06-S121</td>
<td>T06-A314</td>
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<tr>
<td>Thermal Studies</td>
<td>ASME Codes</td>
</tr>
<tr>
<td>T06-S123</td>
<td>T06-A321</td>
</tr>
<tr>
<td>Instrumentation and Controls</td>
<td>Thermodynamics</td>
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<tr>
<td>T06-S124</td>
<td>T06-A324</td>
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<tr>
<td>Fuels and Combustion</td>
<td>Water Treatment and Combustion</td>
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<tr>
<td>T06-S125</td>
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<tr>
<td>Engines</td>
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<tr>
<td>T06-S131</td>
<td>T06-A331</td>
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<tr>
<td>Mechanics</td>
<td>Applied Mechanics</td>
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<tr>
<td>T06-S133</td>
<td>T06-A334</td>
</tr>
<tr>
<td>Electrical Fundamentals</td>
<td>Boilers, Pumps, and Piping</td>
</tr>
<tr>
<td>T06-S134</td>
<td>T06-B302</td>
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<tr>
<td>Boilers</td>
<td>Mechanical Drawing</td>
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<tr>
<td>T06-S135</td>
<td>T06-B312</td>
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<tr>
<td>Refrigeration</td>
<td>Electrotechnology</td>
</tr>
<tr>
<td>T10-M161</td>
<td>T06-B313</td>
</tr>
<tr>
<td>Mathematics (P.E. 4th)</td>
<td>Plant Administration and Maintenance</td>
</tr>
<tr>
<td>T14-C124</td>
<td>T06-B325</td>
</tr>
<tr>
<td>Communications 1</td>
<td>Turbines and Engines</td>
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<tr>
<td>T13-W100</td>
<td>T06-B335</td>
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<tr>
<td>WHMIS Workshop</td>
<td>Refrigeration</td>
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</table>

<table>
<thead>
<tr>
<th>3rd Class</th>
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</thead>
<tbody>
<tr>
<td>T06-S202</td>
<td>Mechanical Drafting</td>
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<tr>
<td>T06-S221</td>
<td>Thermal Studies</td>
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<tr>
<td>T06-S223</td>
<td>Instrumentation</td>
</tr>
<tr>
<td>T06-S224</td>
<td>Fuels and Water Treatment</td>
</tr>
<tr>
<td>T06-S225</td>
<td>Turbines and Engines</td>
</tr>
<tr>
<td>T06-S231</td>
<td>Mechanics</td>
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<tr>
<td>T06-S233</td>
<td>Electrical</td>
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<tr>
<td>T06-S234</td>
<td>Boilers</td>
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<td>T06-S235</td>
<td>Refrigeration</td>
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<tr>
<td>T10-M261</td>
<td>Mathematics (P.E. 3rd)</td>
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<tr>
<td>T14-C224</td>
<td>Communications 2</td>
</tr>
</tbody>
</table>
Radiation Therapy

Purpose
To develop the knowledge and skills required to work with the treatment of disease, primarily malignant, by use of ionizing radiation.

Program
Radiation Therapy is a 24-month program followed by an optional five-week internship program. The program has an entry date of the first Monday in May and is designed to develop an understanding of the many aspects of a radiotherapy technologist's daily work. It includes lectures and demonstrations in professional ethics, patient care, anatomy and physiology, elementary pathology, radiation therapy techniques, radiobiology and radiation protection. Teaching is shared by staff from various departments. Affiliation is also provided at the Health Sciences Centre, Department of Nuclear Medicine and Department of Radiology.

Please note that the 24 months are consecutive and that the academic terms are separated by clinical blocks. The entire second year of training is delivered at the Manitoba Cancer Treatment and Research Foundation.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with English 300 or 301, Mathematics 300, and Physics 200 or 300. (If Physics is at the 200 level, then another 300 level Science is required);

Note: These are minimum requirements. Preference will be given to applicants with high academic achievements and/or study at the post-secondary level.

or

- Adult Basic Education Pre-Technology (Adult 12) program completion;

and

B – satisfactory reading proficiency, as measured by a reading test administered by the College;

and

C – completion of a hospital application form and a two-page autobiography. Details on this requirement will be sent to the applicant once a College application form and supporting educational documents are received;

and

D – attendance at a tour and interview conducted by the Selection Committee of the Manitoba Cancer Treatment and Research Foundation;

and

E – submission of immunization record after notice of acceptance is received.

Mature Student Admission. Mature student applicants are not required to have a complete Grade 12 standing but must have specific credits as indicated in A above. Mature students must also meet entrance requirements B through E and be 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Testing by the College may be necessary.

Continued on next page
Radiation Therapy (continued)

This is a special selection program. The Manitoba Cancer Treatment and Research Foundation Selection Committee screens applications for academic requirements, additional post-secondary education, work experience and other pertinent information. The short-listed applicants will be interviewed and students selected on the basis of all the above plus personal suitability, communication skills, and ability to work as part of a health-care team.

Because the program starts in early May, applicants must have the academic prerequisites completed at the time of application or be able to provide documentation of completion by early January.

Contact the Registration Department at 632-2327 in regard to the deadline date for submission of applications.

Employment Potential

Graduates are eligible to write the qualification examinations set by the Canadian Association of Medical Radiation Technologists. Successful candidates are awarded Registered Technologist Therapy RTT certificates. Graduates of the Radiotherapy Technology program are employed in cancer treatment centres in Manitoba and across Canada.

Program Outline

YEAR 1

Term 1
Manitoba Cancer Treatment and Research Foundation
May - June (7 weeks)
Anatomy
Patient Care and Communications
Radiation Therapy 1
Treatment Planning
Radiation Physics
(These courses are currently under review.)

Term 2
Red River Community College and the Manitoba Cancer Treatment and Research Foundation
September - December (15 weeks)
H04-T114 Radiation Protection for Therapy
H04-T115 Patient Care and Interpersonal Skills for Therapy
H04-T116 Radiation Therapy
H04-T117 Treatment Planning
H04-T118 Radiation Physics and Apparatus
H04-T119 Apparatus and Imaging for Radiotherapy
H11-N120 Human Anatomy and Physiology
H11-N220 Human Anatomy and Physiology

Year 2
The entire second year of training is delivered at the Manitoba Cancer Treatment and Research Foundation.
Registered Nurse Refresher

Purpose
The purpose of the RN Refresher program is to assist graduate nurses to regain eligibility for active practising status with the Manitoba Association of Registered Nurses (MARN).

Program
This refresher program is for nurses who have been away from active practice for five years or more and for nurses who may be new to the Canadian RN examinations. Nurses currently registered may take the program to review and update their knowledge.

The program consists of two courses:

Theory course – This course provides a review of nursing theories, nursing process, theory basic to nursing care with an emphasis on physiological and pathophysiologic theory as these relate to medical and surgical clients. The theory is divided into modules within units. Each module outlines and guides the learner through specific content areas.

Clinical Practice course – This course provides opportunities for nursing practice in a health care setting allowing the learner to integrate theory with nursing care of clients. Teaching and supervision will be provided.

Entrance Requirements

Theory course –
- verification of eligibility for registration with the Manitoba Association of Registered Nurses (MARN);

or

- a recommendation by MARN re: eligibility to write registration exams in Manitoba;

and

- successful completion of the prescribed reading skills test at the required competency level.

Clinical Practice course –
- successful completion of the RN Refresher Theory course;

or

- verification of status as an active practicing registered nurse;

and

- evidence of current certification in CPR at the Basic Rescuer level; (Yearly recertification is required.)

and

- good health and evidence of up-to-date immunizations.

Program Outline
S17-R101  Theory
S17-R102  Clinical Practice
Structural Engineering Technology

Purpose

Structural Engineering Technology is a 30-month Co-operative Education diploma program within the Civil Engineering Technology program group. Students in this program will acquire the knowledge and skills needed to work with the engineering team in the formulation and calculations for structural building systems. Students will receive comprehensive training in soils investigation, foundation design, reinforced concrete design, steel, masonry and timber design and structural analysis.

Program

The Civil Engineering Technology program group consists of the Engineering Design and Construction, Municipal, Structural and Survey programs. Co-operative Education, which integrates two six-month terms of paid employment with six terms of classroom theory, is included in all of these programs. Red River Community College offers Co-operative Education as part of its education strategy to enhance students' career training opportunities.

All applications will be processed for entry into Civil Engineering Technology, where the emphasis will be on mathematics, engineering graphics, mechanics, surveying, communications and computer-assisted drafting. Students who successfully complete the first year of studies in Civil Engineering Technology may then apply for entry into Structural Engineering Technology. The emphasis will shift to the study of soil mechanics, structural analysis, concrete and masonry design, timber and steel design and construction practices.

In order to proceed in Co-operative Education terms, students must meet departmental academic requirements.

Entrance Requirements

A - 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;

or

- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

Mature Student Admission. Mature students must be at least 20 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript, which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential

Graduates have found job opportunities in structural design and inspection with consulting engineering firms, architectural firms, contractors or various government departments. Some graduates have found interesting careers in technical sales or as managers in the building materials or construction equipment fields.

Continued on next page
Structural Engineering Technology (continued)

Program Outline

YEAR 1
Civil Engineering Technology

Term 1 – Academic
CIV-C192 Engineering Graphics 1
CIV-C193 Computer Assisted Drafting 1
CIV-C195 Mechanics
CIV-C196 Surveying 1
CIV-C197 Communications
CIV-C199 Mathematics 1
T13-W100 WHMIS Workshop

Term 2 – Academic
CIV-C292 Engineering Graphics 2
CIV-C293 Computer Assisted Drafting 2
CIV-C295 Strength of Materials 1
CIV-C296 Surveying 2
CIV-C297 Report Writing
CIV-C299 Calculus 1

Term 3 – Work
CIV-W300 Work Term 1
(16 weeks minimum)

YEAR 2
Structural Engineering Technology

Term 4 – Academic
CIV-C499 Calculus 2
CIV-C797 Project Management
CIV-D491 Building Science
CIV-T494 Strength of Materials 2
CIV-T495 Structural Analysis 1
CIV-T498 Soil Mechanics 1

Term 5 – Academic
CIV-C497 Principles of Management
CIV-T592 Structural Detailing Practices
CIV-T594 Timber Design
CIV-T595 Structural Analysis 2
CIV-T596 Reinforced Concrete Design 1
CIV-T598 Soil Mechanics 2

Term 6 – Work
CIV-W600 Work Term 2
(16 weeks minimum)

YEAR 3

Term 7 – Academic
CIV-C597 Engineering Economics
CIV-T792 Masonry Design
CIV-T794 Steel Design
CIV-T795 Structural Analysis 3
CIV-T796 Reinforced Concrete Design 2
CIV-T798 Soil Mechanics 3

Term 8 – Academic
CIV-C897 Costing and Contract Administration
CIV-T892 Testing Materials
CIV-T894 Thesis Project
CIV-T895 Structural Analysis 4
CIV-T896 Reinforced Concrete Design 3
CIV-T898 Foundation Design
Survey Engineering Technology

Purpose
Survey Engineering Technology is a 30-month Co-operative Education diploma program within the Civil Engineering Technology Program group. Students in this program will acquire the knowledge and skills needed to work in the legal and engineering surveying fields. Students will receive comprehensive training in land, topographic, construction, mining, hydrographic, and geodetic surveying; as well as photogrammetry and cartography.

Program
The Civil Engineering Technology program group consists of the Engineering Design and construction, Municipal, Structural, and Survey programs. Co-operative Education, which integrates two six-month terms of paid employment with six terms of classroom theory, is included in all of these programs. Red River Community College offers Co-operative Education as part of its education strategy to enhance students’ career training opportunities.

All applications will be processed for entry into Civil Engineering Technology, where the emphasis will be on mathematics, engineering graphics, mechanics, surveying, communications and computer-assisted drafting. Students who successfully complete the first year of studies in Civil Engineering Technology may then apply for entry into Survey Engineering Technology. The emphasis will shift to the study of advanced survey computations, route surveys, plan preparation, town planning, astronomy, photogrammetry, cartography, control and legal surveys.

In order to proceed in Co-operative Education terms, students must meet departmental academic requirements.

Entrance Requirements
- 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with Mathematics 300, English 300 or 301, and Physics 300* or Physical Science 301;

  or

- Adult Basic Education Pre-Technology (Adult 12) program completion.

*Physics 300 is strongly recommended as a more appropriate background for technology.

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment opportunities in a broad range of construction and resource industries, and in government services. They have been hired for jobs in land surveys, construction and topographic surveys, mining surveys, hydrographic and geodetic surveys.

A graduate also has the opportunity for further technical advancement. Credits may be obtained towards a commission as a Manitoba Land Surveyor through the Western Canadian Board of Examiners for Land Surveyors. A baccalaureate degree can be completed in an accredited university program. These advancements are completed by serving a term of Articles and successfully completing final professional examinations.

Continued on next page
## Survey Engineering Technology (continued)

### Program Outline

#### YEAR 1
Civil Engineering Technology

**Term 1 – Academic**
- CIV-C192 Engineering Graphics 1
- CIV-C193 Computer Assisted Drafting 1
- CIV-C195 Mechanics 1
- CIV-C196 Surveying 1
- CIV-C197 Communications
- CIV-C199 Mathematics 1
- T13-W100 WHMIS Workshop

**Term 2 – Academic**
- CIV-C292 Engineering Graphics 2
- CIV-C293 Computer Assisted Drafting 2
- CIV-C295 Strength of Materials 1
- CIV-C296 Surveying 2
- CIV-C297 Report Writing
- CIV-C299 Calculus 1

**Term 3 – Work**
- CIV-W30 Co-op Work Placement

#### YEAR 2
Survey Engineering Technology

**Term 4 – Academic**
- CIV-R492 Plan Preparation 1
- CIV-R493 Computer Applications
- CIV-R494 Photogrammetry
- CIV-R496 Theory and Use of Instruments 1
- CIV-R498 Surveying 3
- CIV-R499 Mathematics 2

**Term 5 – Academic**
- CIV-C497 Principles of Management
- CIV-C499 Calculus 2
- CIV-R592 Route Surveys
- CIV-R594 Cartography 1
- CIV-R598 Theory and Use of Instruments 2
- CIV-R599 Advanced Survey Computations 1

**Term 6 – Work**
- CIV-W600 Co-op Work Placement

#### YEAR 3

**Term 7 – Academic**
- CIV-C597 Engineering Economics
- CIV-R792 Terrain Interpretation
- CIV-R794 Cartography 2
- CIV-R796 Advanced Survey Computations 2
- CIV-R798 Legal Survey 1
- CIV-R799 Control Surveys 1

**Term 8 – Academic**
- CIV-R892 Town Planning
- CIV-R894 Geographic Information Systems
- CIV-R895 Hydrology
- CIV-R896 Astronomy
- CIV-R898 Legal Survey 2
- CIV-R899 Control Surveys 2
Telecommunications

Purpose
To develop the electronic knowledge and skills required to function in an entry-level job in the telecommunications industry.

Program
Telecommunications is a 39-week certificate program with 35 hours per week scheduled class time. There are two entry dates to the program: September and December. Evaluation in the program is based on skill competency, as determined through written assignments, tests and/or practical demonstration. Training is designed to emphasize hands-on experience in all skill areas and there is a close coordination of theory and application.

Entrance Requirements
- 14 high school credits (Manitoba Grade 11 or equivalent secondary school preparation) with Mathematics 200 and one of Physics 200 or Physical Science 201. English 200 or 201 is strongly recommended;
- Adult Basic Education 11A

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 Director of Registration to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Graduates have found employment with telephone and telecommunication companies as installers and maintenance technicians, with banks and copy machine companies as service technicians, and with radio communication companies as radio and equipment technicians. Some graduates have chosen to work for a manufacturer of telecommunication equipment as field-service technicians, quality-control checkers or equipment technicians.

Please note that some employers of graduates require Mathematics 300 as a condition of employment.

Program Outline

Term 1

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
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<td>T12-I001</td>
<td>DC Fundamentals</td>
</tr>
<tr>
<td>T12-I003</td>
<td>AC Fundamentals</td>
</tr>
<tr>
<td>T12-I016</td>
<td>Electronic Soldering and Desoldering</td>
</tr>
<tr>
<td>T12-I017</td>
<td>Computer Basics and Keyboarding Skills</td>
</tr>
<tr>
<td>T12-I060</td>
<td>Number Systems and Digital Logic</td>
</tr>
<tr>
<td>T12-T004</td>
<td>Semiconductor Devices</td>
</tr>
<tr>
<td>T12-T006</td>
<td>Communications Transmitters and Receivers</td>
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<tr>
<td>T12-T008</td>
<td>Transmission Lines, Antennas, Intro Microwaves</td>
</tr>
<tr>
<td>T12-T009</td>
<td>Multiplexing Techniques</td>
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<tr>
<td>T12-T012</td>
<td>Telephony and Telephone Switching Principles</td>
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<tr>
<td>T12-T014</td>
<td>Digital Techniques</td>
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<tr>
<td>T12-T016</td>
<td>Micro Processors</td>
</tr>
<tr>
<td>T13-M523</td>
<td>Telecom Math Term 1</td>
</tr>
<tr>
<td>T13-W100</td>
<td>WHMIS Workshop</td>
</tr>
</tbody>
</table>

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Visual Language Interpreter Training Program

Purpose
The purpose of the program is to develop the skills required to function as a visual language interpreter (an English/American Sign Language (ASL) interpreter) in facilitating communication between hearing and Deaf individuals in a wide variety of settings and for diverse populations.

Program
The Visual Language Interpreter Training Program (ITP) is a two-year diploma program with a biennial September entry date. The program is designed to increase the interpretation student’s proficiency in ASL and English; to develop the skills necessary for consecutive and simultaneous interpretation; and to provide cognitive and practical tools to interact as a professional interpreter in both the Deaf and hearing communities.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent secondary school preparation) with one of English 300/301; or
   – Adult Basic Education 11B; and
B – an interview with the Visual Language Interpreter Training Program Selection Committee; and
C – a fluent level of ASL proficiency, as determined through an individual evaluation by the Selection Committee

This is a special selection program. The Selection Committee chooses candidates on the basis of educational preparation, ASL and English skills, maturity, and aptitude for a career as an interpreter. Applicants are encouraged to do some background research on this profession before attending the interview.

Applicants should be available to attend an interview in Winnipeg during the month of April of an intake year. Both the interview and screening of English and ASL language skills will take place at that time.

Because this is a special selection program, an early deadline for submission of applications has been set at January 31st of each year of intake.

Employment Potential
As the demand for English/ASL interpreters grows across Canada, employers have hired graduates in numerous settings. Graduates work in interpreter referral agencies, in post-secondary institutions, as freelance interpreters, and in many specialized settings such as medical, legal, employment, government, educational, mental health, recreational, religious and performing arts areas.

Continued on next page
### Visual Language Interpreter Training Program (continued)

#### Program Outline

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<th>Term 2</th>
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<tbody>
<tr>
<td>B10-C113 Composition and English Grammar</td>
<td>S01-B153 Seminar in Psychology</td>
<td>S01-B113 Cross Cultural Interaction</td>
<td>S01-B121 Interpretation Settings</td>
</tr>
<tr>
<td>S01-B102 Culture and Ethnology I</td>
<td>S01-B108 Deaf Culture</td>
<td>S01-B118 Literature Review 1</td>
<td>S01-B126 Interpretation Lab 4: Consecutive Interpretation</td>
</tr>
<tr>
<td>S01-B114 English 1</td>
<td>S01-B124 English 2</td>
<td>S01-B140 Ethics 1</td>
<td>S01-B127 Interpretation Lab 5: General Practice Lab</td>
</tr>
<tr>
<td>S01-B134 ASL 1</td>
<td>S01-B135 ASL 2</td>
<td>S01-B141 ASL 3</td>
<td>S01-B150 Interpretation Lab 6: Mock Situations</td>
</tr>
<tr>
<td>S01-B136 Introduction to the Interpreting Field</td>
<td>S01-B138 Culture And Ethnology 2</td>
<td>S01-B139 Building Translation Skills: ASL</td>
<td>S01-B130 Special Projects: Independent Study</td>
</tr>
<tr>
<td>S01-B137 Building Translation Skills: English</td>
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<td></td>
<td>S01-B151 Practicum 2</td>
</tr>
<tr>
<td>S01-B152 Deaf History</td>
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<td></td>
<td>S01-B132 Practicum 3</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>S01-B133 Literature Review 2</td>
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</table>

<table>
<thead>
<tr>
<th>Term 5</th>
<th>Term 6</th>
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</thead>
<tbody>
<tr>
<td>S01-B123 ASL 5</td>
<td>S01-B132 Practicum 3</td>
</tr>
<tr>
<td>S01-B126 Interpretation Lab 5: General Practice Lab</td>
<td>S01-B133 Literature Review 2</td>
</tr>
<tr>
<td>S01-B127 Interpretation Lab 6: Mock Situations</td>
<td></td>
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</tbody>
</table>
Vocational Industrial Teacher Education

Purpose
To develop the knowledge and skills required for Vocational Industrial Teacher certification by Manitoba Education and Training.

Program
Vocational Industrial Teacher Education is a 10-month program with a September entry date. The program is designed to meet the certification requirements of Manitoba Education and Training for vocational industrial teachers. Graduates from the Vocational Industrial Teacher Education program may be granted credit of up to 60 credit hours (two years) in the four-year Bachelor of Education program at the Faculty of Education, University of Manitoba. Graduates' credentials will be assessed by the university on an individual basis.

Entrance Requirements
A – 20 high school credits (Manitoba Grade 12 or equivalent high school preparation).
Mathematics 300 or 301 and English 300 or 301 are recommended;
and
B – a Journeyman’s Certificate in a designated trade with a minimum of six years approved work experience in that trade, including the apprenticeship period;
or
– evidence of satisfactory trade training in a non-designated trade with a minimum of six years approved work experience in that trade, including the training period;
or
– evidence of satisfactory training in an approved technical or industrial area other than the trades with a minimum of six years of approved work experience, including the training period specific to the technical or industrial area;
and
C – submission of acceptable verification of all work experience, as set out in B above*;
and
D – submission of a personal resume;
and
E - an interview with the Vocational Industrial Teacher Education Admissions Committee.

*Acceptable verification of training period/work experience would include a journeyman's license or, in the case of a non-designated trade, documents which verify required training and supervised experience. As well, the applicant must include letters of reference which confirm six years of work experience in the applicant's area of specialty.

Mature Student Admission. Mature students may submit either the Manitoba Education Mature Student Grade 12 Diploma or GED 12 standing in lieu of 20 credits; however, they must also meet entrance requirements B, C, D, and E above and be 21 years of age on or before September 30 in the year of registration. All mature student applications are referred to the Chair, Teacher Education, for review.

Continued on next page
Entrance Requirements (continued)
This is a special selection program. The Selection Committee looks for applicants who have an above average skill/trade background, adequate academic preparation, and an aptitude for teaching. Applicants who are found to be marginal in mathematics or reading, but who are otherwise suitable candidates, may be required to take remedial programs to overcome deficiencies.

Employment Potential
Upon successful completion of this program, the graduate will be eligible for a Special Vocational Industrial teaching certificate issued by Manitoba Education and Training, and a diploma from Red River Community College. Graduates have found employment in high schools that offer vocational industrial programs and in community colleges.

For further information on possible transfer of credit, see the Vocational Industrial Teacher Education program brochure.

Program Outline

Term 1
B22-E206 Educational Psychology
B23-E103 Audiovisual and Technical Education
B23-E104 Communication Skills
B23-E105 General Teaching Methods 1
B23-E201 Organizing Industrial Education Facilities
B23-V202 Introduction to Microcomputers
B23-E301 Independent Study
B23-V101 Vocational Training and Related Work Experience

Term 2
B22-E204 Educational Testing and Evaluation
B22-E210 Classroom Counselling
B23-E202 Principles of Industrial Education
B23-E203 Course Development in Industrial Education
B23-E205 General Teaching Methods 2

Term 3
B23-T202 Student Teaching
Welding

Purpose
To develop the skills and knowledge required to safely and effectively perform the oxyacetylene, arc, tungsten-inert-gas, and metal-inert-gas welding processes and related operations.

Program
Welding is a seven-month certificate program with an entry date in September. The program comprises five hours each day of practical shop work, and two hours of classroom instruction in welding, mathematics, science, industrial communications and blueprint reading.

Please note that because Workers Compensation regulations stipulate that steel-toed footwear must be worn in industrial workplaces, students are required to provide and wear appropriate safety footwear in welding and machine shops, both in the College and during in-industry placements.

Entrance Requirements
- seven high school credits (Manitoba Grade 10 or equivalent secondary school preparation) with Mathematics 100 or 101 and Science 100 or 101. English 100 or 101 is strongly recommended;
  or
- Adult Basic Education 7-10 program completion.

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 Director of Registration for review to determine applicant suitability. Applicants must include with their applications a detailed resume and an official transcript which may assist in determining eligibility. Testing by the College may be necessary.

Employment Potential
Some graduates have found employment in aircraft maintenance, in the manufacturing of farm equipment, and in heavy-equipment repairs. Other graduates are employed in highway construction, northern mines and hydroelectric power plants.

Program Outline

Term 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>T03-R033</td>
<td>Blue Print Reading and Sketching for Welding</td>
</tr>
<tr>
<td>T04-A011</td>
<td>Safety Precautions in Welding and Cutting</td>
</tr>
<tr>
<td>T04-A021</td>
<td>General Principles of Arc Welding – Theory</td>
</tr>
<tr>
<td>T04-A022</td>
<td>Fusion Welding</td>
</tr>
<tr>
<td>T04-A031</td>
<td>General Principles (Gas Metal Arc and Tungsten Inert)</td>
</tr>
<tr>
<td>T04-A041</td>
<td>Combined Review and Testing</td>
</tr>
<tr>
<td>T04-A038</td>
<td>Gas Metal Arc Welding (Semi-Automatic)</td>
</tr>
<tr>
<td>T04-A052</td>
<td>Tungsten Inert Gas Welding TIG</td>
</tr>
<tr>
<td>T04-A039</td>
<td>Special Welding Applications</td>
</tr>
<tr>
<td>T04-G011</td>
<td>General Principles</td>
</tr>
<tr>
<td>T04-G013</td>
<td>Fusion (Gas) Welding, Brazing and Flame Cutting</td>
</tr>
<tr>
<td>T04-G021</td>
<td>Principles of Flame Cutting and Miscellaneous Application</td>
</tr>
<tr>
<td>T04-W012</td>
<td>In-Plant Training</td>
</tr>
<tr>
<td>T13-M504</td>
<td>Welding Math</td>
</tr>
<tr>
<td>T13-S504</td>
<td>Welding Science</td>
</tr>
<tr>
<td>T14-C502</td>
<td>Communication</td>
</tr>
<tr>
<td>T13-W100</td>
<td>WHMIS Workshop</td>
</tr>
</tbody>
</table>
B01-A101 Basics of Form
Basics of Form is a study of the elements of design. Students will develop an understanding of point, line, plane, and texture in imagery and page composition. Spatial relations in visual design will be investigated.

B01-A102 Principles of Drawing
Principles of Drawing is an introductory course in life-drawing skills. Students will concentrate on revisualizing (learning how to examine the world around them), and developing basic rendering skills. Students will become acquainted with drawing media and support surfaces, develop an awareness of structure in natural and manufactured forms, apply basic line-drawing techniques, render the structure of the human skull, execute portraits from life, and develop planal compositions.

B01-A103 Basic Art Production Techniques 1
Basic Art Production is an introduction to the process and mechanics of producing camera-ready artwork for printing production. Students will develop basic technical skills used to produce mechanical artwork. Workplace health, and safety will be discussed.

B01-A108 History of Graphic Design
An introduction to the history of graphic design and art, this course will explore the evolution of graphic communication and art. This presentation will deal with visual communication from prehistoric times through to ancient Egypt and medieval civilizations up to the invention of movable typographic printing and the Renaissance.

B01-A109 Intro to Computers for Electronic Publishing
The graphics industry as a whole is moving towards skill areas that require expertise in related computer applications. This course is an introduction to the microcomputers used by the graphics industry. Students will learn the basic operating commands, terms, and technology of the IBM-platform computer. Constant references will be made to the practical applications of computer systems used in graphic design, illustration, multimedia presentations, and electronic prepress.

B01-A110 WHMIS Training
Students will learn about health and safety in the workplace by applying knowledge of the requirements as set out by the Workplace Safety and Health Act. Particular emphasis will be placed on materials and procedures used in the graphic communications industry. The student will learn to visually recognize and demonstrate use of WHMIS standards. This is a required course.

B01-A111 Reproduction Methods and Materials
Reproduction Methods and Materials introduces the students to the theory behind the preparation of mechanical art for various printing processes. This term will explore typesetting technology, terms used and copyfitting methods. This course is a prerequisite for Term 2 Reproduction.

B01-A203 Basic Art Production Techniques — 2
This term of Basic Art Production will introduce the concept of mechanical colour separation, film cutting, and proofing. Students will gain basic skills in camera and stripping techniques used in the Graphic Arts industry.

B01-A425 Electronic Prepress Theory
Electronic Prepress Theory consists of examining concepts in the desktop prepress from black and white photography to four-colour separation, and examination of technological concepts relating to output essentials which include paper and film output. Technology, terminology, and processes will be viewed as they pertain to desktop prepress colour. This is a theory course.
B01-A211 History of Graphic Design
A continuing introduction to the history of graphic design and art, this course will explore the evolution of visual communication. This presentation will deal with the birth of printing, graphic design, and typography. The evolution of art and graphic communication through the Renaissance in Europe will be explored. History of Graphic Design B01-A108 is a prerequisite for this course.

B01-A212 Introduction to Electronic Publishing – 2
Training will emphasize hands-on experience with page creation software. Through a series of assignments, students will be encouraged to explore the electronic publishing medium. They will develop skills on IBM-compatible computers. Windows, Windows Write, and paint applications will be taught. PageMaker and CorelDraw programs will be introduced.

B01-A213 Life Drawing
Life Drawing is a continuation of basic drawing skills developed in Term 1 Principles of Drawing. Students will apply rendering skills to three-dimensional drawing. Students will apply the study of composition, anatomy, figure drawing, linear perspective, and value (tone) in their rendering assignments. Each unit of instruction is introduced through a lecture and/or demonstration and students are provided with handouts as reference material.

B01-A215 Graphic Design
This course is an introduction to visual design using tonal relationships and colour. Emphasis is placed on the understanding of colour theory, colour mixing, and the application of colour to visual statements.

B01-A216 Reproduction Methods and Materials
Reproduction Methods and Materials will explore printing processes, camera-ready artwork, and basic camera techniques applied to line art and half tones. Students will understand the process followed from paste-up to stripping. Emphasis will be placed on masking, windows, and the preparation of overlays for colour. This course is a prerequisite for Reproduction Methods and Materials B01-A308.

B01-A301 Graphic Design
Type is introduced as a fundamental element of design. The history and development of letterforms is discussed. Emphasis is placed on the use of letterforms as a means of visual communication and artistic expression.

B01-A302 Sketching For Illustration
Sketching for Illustration is an introduction to expressive life drawing and illustration. Students will work with full colour and mixed medium applying their rendering skills to illustration problems presented by the instructor. Felt marker rendering techniques will be developed for presentation art work, and students will be encouraged to develop more personalized and interpretive drawing.

B01-A308 Reproduction Methods and Materials
Term 3 Reproduction Methods and Materials will cover full colour printing and bindry process, electronic prepress and imposition. Students will learn through lectures, demonstrations, and industry tours. Electronic image enhancement and modification will be discussed.
B01-A309 Layout and Design
This course involves looking at the basic principles of design and applying these in practical exercises. Composition of typographic and illustrative elements, copyfitting, photo cropping and scaling, along with reproduction methods and materials are explored. The aim is to give the student some fundamental skills towards layout of magazine/newspaper advertisements and newsletters, coupled with a grasp of the terminologies used in the graphic arts industry.

B01-A313 Advanced Production
Advanced production techniques used in printing will be addressed in this term. Students will study electronic prepress systems and production controls. Field trips to production houses and printers will be an important part of this term.

B01-A315 History Of Graphic Design
A continuing introduction to the history of graphic design, this subject will explore the effects of the Industrial Revolution on graphic design. The invention of photography; Victorian-era graphics; the arts and crafts movement; Art Nouveau; and graphic design at the turn of the 20th century will be discussed. History of Graphic Design B01-A211 is a prerequisite for this course.

B01-A316 Work Experience 1
The learner will participate in a two-week work experience placement while enrolled in the first year of the Advertising Art Program. This work placement will be at the end of the Spring term. The learner will work in a graphic design studio, advertising agency, or printing house, and will gain first-hand knowledge of the operation, procedures, and expectations of the industry.

B01-A318 Introduction To Electronic Publishing 3
Operation of the Apple Macintosh computer using the FreeHand and QuarkXPress programs and application of design concepts to complete practical assignments.

B01-A403 Electronic Publishing
The learner will be introduced to Electronic Publishing hardware and software. With constant reference to the traditional design skills, emphasis will be placed upon the manipulation of page creation software. Through a series of hands-on assignments, students will be able to produce work at a professional level, using a variety of hardware devices.

B01-A406 Advertising Design (optional)
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 continuity in an ad series and campaigns. Projects presented will require students to prepare comprehensive layouts, write rationales, and make presentations in class.

B01-A407 Graphic Design
The student will approach Graphic Design as an objective problem-solving activity involving thorough research and analysis of concrete and abstract information. This process involves poster design based upon knowledge acquired via the History of Graphic Design and Art, followed by Consumer Packaging, which focuses on the historical and contemporary. Students will come to balance objective and subjective concerns. Attention also will be given to students' traditional and computerized production art skills.
B01-A419 History Of Graphic Design
A continuing introduction to the History of Graphic Design and Art, this course will explore the development and growth of graphic design and art as it influenced and was influenced by modern art and the Bauhaus through to post-modernism. History of Graphic Design B01-A315 is a prerequisite for this course.

B01-A420 Work Experience 2
The learner will participate in a three-week work experience placement while enrolled in the second year of the Advertising Art Program. This work placement will take place during the winter term. The learner will work in a graphic design studio, advertising agency, or printing house, and will gain first-hand knowledge of the operation, procedures, and expectations of the industry.

B01-A421 Practicum
This course gives credit for experience gained through summer employment. To qualify for this credit, the learner will work a minimum of eight weeks under the supervision of an experienced art director in a job directly related to the student’s program of study. The work placement will be approved by the department head and will follow a prescribed training plan.

B01-A422 Design Management
Design Management averages approximately one hour lecture and one hour practical application per week. Lectures involve guided practice in design management methods and procedures that carry over into practical application. The forecasting and planning of design project hours; the recording and management of tasks, hours and materials; the quoting or estimating of time and material costs; the tracking of project progress; the preparation of written proposals and contracts; and the preparation of service bureau and printing specifications are taught. Design Management students are expected to maintain accurate records for all on-going assignments within the Advertising Art program.

B01-A423 Publication Design (optional)
Publication Design averages approximately one hour of classroom lecture and six hours of practical application per week. Lectures involve a general history of publication design, the anatomy of publications, and the dynamics and application of typography, photography, and illustration in publication, publication design principles, and methods and procedures of publication production management. Practical application involves design assignments which take the student through the problem solving process. The manipulation of copy and type, and the conceptualizing and designing of graphics, photographs, and illustrations within the prescribed objective will be taught. Assignments are based upon a variety of publication formats.

B01-A424 Rendering For Illustration
Rendering for Illustration is a forum for the development of communication art. This course will deal with the exploration of artists' materials and techniques. It will focus on the development of artistic ability and individual direction, involve concept development, and will have practical application within other courses offered in the Advertising Art Program.

B01-A501 Advertising Design
This course will study the design of advertising as a process of graphic design and communication. The student will develop skills in project analysis, research, and evaluation. Projects presented will require the student to consider contemporary style and to effectively integrate typography and illustrative material. The student is expected to further develop professional skills in craftsmanship and practice.
B01-A507 Graphic Design
The students' activity in research, analysis, and solution continues with specific attention given to corporate identity design: the design of symbols, logos, and icons, and their application to various items composed within an identity manual. Attention will also be given to students' traditional and computerized production art skills. Real projects may also be presented to students. This will involve direct client/designer contact with real outcomes.

B01-A518 Creative Imaging
With constant reference back to traditional design and illustration skills, students will be taught high-end imaging software. Emphasis will be placed upon both MS-DOS and Macintosh environments. Through a series of hands-on assignments that encourage serious exploration of the medium, students will be able to produce electronic artwork to a professional level using a variety of software, hardware, and input/output devices.

B01-A519 Applied Electronic Prepress
Applied Electronic Prepress develops Aldus FreeHand 3.1 and QuarkXPress 3.1 in great depth. This advanced course looks into prepress concepts that affect the output that the designer controls through files they have created using the computer. The practical prepress concepts will be further developed through actual assignments which will be involved with the prepress concepts that are pertinent to the industry standards and changes today.

B01-A520 Rendering for Illustration 2
Rendering for Illustration 2 is a forum for the development of communication art. This course will deal with the exploration of artists' materials and techniques applied to illustration for graphic communication. It will focus on the development of artistic ability and direction, involve concept development, and will have practical application within other courses offered in the Advertising Art Program.

B01-A522 Design Management
Term 5 Design Management averages approximately one hour lecture and one hour practical application per week. Lectures involve guided practice in design management methods and procedures that carryover into advanced application. The on-going forecasting and planning of design project hours; the recording and management of tasks, hours and materials; the on-going quoting or estimating of time and material costs; the tracking of project progress is still stressed, but with the added dimension of preparing advanced written proposals, and understanding legal obligations and contracts; and the preparation of service bureau and printing specifications. Design Management students are expected to maintain accurate records for all Advertising Art Program assignments.

B01-A523 Publication Design
Publication Design averages approximately one hour of classroom lecture and six hours of practical application per week. Lectures involve advanced anatomy of publications, typography, photography, and illustration in publication, and advanced methods and procedures of publication production management. Practical application is still on-going with design assignments which take the student through advanced problem-solving processes. The manipulation of copy and type, and the conceptualizing and designing of graphics, photographs, and illustrations within the prescribed objective is at a higher level.

B01-A601 Advanced Advertising Design
This term will be used to polish professional skills. Students will get involved in more complicated advertising problems. They will learn to work as part of a team that includes copywriters and production artists. Assignments will be designed to address legal and moral issues that affect the profession of graphic design.
B01-A616 Advanced Graphic Design Problems

Each student will be required to complete a major term project under the direction of the course instructor. A co-operative assignment will be undertaken with other disciplines from within the College and/or advertising agencies or studios from the industry. Publication design will also be a focus: the design of large volume magazines and/or corporate literature (i.e., annual reports). Students will be required to make a project presentation to a panel of representatives selected from the industry. Students will be instructed in presentation and job search techniques.

B01-A617 Portfolio Presentation

A portfolio of work completed in Year 2 will be presented to an examining panel made up of instructors and others knowledgeable in visual communication. The student will be required to demonstrate an acceptable level of professional preparedness in design and/or illustration. The student will be evaluated on the quality of work presented, technical knowledge, communication skills, and general professional attitude.

B01-A620 Advanced Rendering for Illustration

Advanced rendering for illustration is the final term of Advertising Art drawing. Students are challenged to conclude their artistic exploration by focusing on an individual direction in illustration. By the end of the term, students are expected to have a body of work which addresses a range of course matter and medium.

B01-A621 Advanced Electronic Prepress

This course is a continuation of applied electronic prepress. Students will advance the concepts learned in Term 4. Graphic design and illustration assignments will be carried through to the printing process using both IBM and Macintosh platforms. Final film will be output using an Imagesetter.

B01-A622 Design Management

Term 6 Design Management is a continuation of Term 5. Students will be taught studio organization and management skills that will establish operational budgets, forecast capital cost and human resource needs. The basics of developing a business plan and registering a business will be discussed.

B01-A623 Advanced Publication Design

Advanced Publication Design is a continuation of the winter term Publication Design course. Students will be challenged with a series of increasingly complicated problems in the design and production of newspapers, magazines, and books. Students will be expected to develop personal concepts related to the application of text and the visualization of illustrative material in their design solutions.

B01-A624 Advanced Creative Imaging

This course will teach advanced skills in computer graphics and illustration. Through a series of hands-on assignments, students will produce presentation graphics. Image manipulation and retouching, color image scanning, and video capture will be taught. Output for high-end presentation and print graphics will be addressed.

B02-P516 Photojournalism 1

This introductory course provides the student with the theory and practical skills to make photographs to compliment the written word. The following topics are covered in this course: the major developments in documentary and photojournalistic photography from 1983 to present, the camera and its controls, the processing of the record, the enlarging and developing of the print, lighting for photography, and techniques for improving photographs.
B02-P626 Advanced Photojournalism 2
In this course the student is taught how to research, photograph, process and print, and caption a photo story at a professional level. Topics covered in this course include: the news photograph, the feature photograph, the photograph sequence, and the photograph and essay.

B05-L001 Introduction to Libraries
This course is an introduction to various types of libraries, their organization, purpose, function, and services. Levels of library employees are studied, with particular emphasis on the role and duties of library technicians. Students are introduced to library terminology and are taught skills in the use of libraries. The history of books and book publishing is discussed. The importance of professional library associations is covered. Students visit a variety of Winnipeg libraries.

B05-L002 Basic Library Procedures
Students learn basic library procedures such as simple book repair, materials processing, shelving, and all aspects of circulation. Procedural variations according to the type of library are also covered.

B05-L004 AV and Office Equipment and Materials
Students learn to operate and perform basic maintenance of basic audiovisual and office equipment. Students are exposed to safety and security issues and to criteria for selection and purchase of equipment. The course also introduces students to types of major non-print format and their storage, handling, preservation, circulation, and scheduling.

B05-L005 Reference 1: Ready Reference
Students are introduced to the reference process, with emphasis on sources used to answer ready reference questions. Types of sources include encyclopedias, dictionaries, directories, almanacs, periodical indexes, yearbooks, and bibliographies.

B05-L006 Cataloguing 1: Intro to Descriptive Cataloguing
This course is an introduction to descriptive cataloguing of monographs using latest edition of Anglo-American Cataloguing rules. Students learn to choose appropriate access points and preferred form of personal name, cross-references for names, and name authorities. Filing according to latest edition of ALA filing rules is also covered.

B05-L007 Acquisitions 1: Collection Development and Acquisitions
This course is an introduction to basic techniques in collection development (community analysis, needs assessment, and collection development policy). Students learn selection, verification, ordering, and receiving procedures for book materials and examine the organization and function of the Acquisitions Department. Acquisition procedures for handling gifts, exchanges, and weeding are also covered.

B05-L008 Field Placement 1
Students work full-time in a library under the supervision of qualified librarians or library technicians for a two-week session. Students apply the knowledge and skills acquired in courses to practical workplace settings.

B05-L009 Cataloguing 2: Dewey Decimal and Sears Subject Head
This course is an introduction to the principles and procedures of course cataloguing and classification using the Dewey Decimal Classification scheme and Sears subject heading (including Canadian supplement). Maintenance of subject authority files and cross references are also covered.
B05-L010 Reference 2: Theory and Effects of Automation
Students learn how to conduct a reference interview both in person and over the telephone. Basic bibliographic instruction and the creation of subject bibliographies and pathfinders are covered. Interlibrary loan procedures in both manual and automated environments are taught. CD-ROM tools are discussed within the framework of the reference setting. Specialized services in various types of libraries are also discussed.

B05-L011 Cataloguing 3: Derivative Cataloguing and MARC Coding
Students are introduced to procedures for manual and automated copy cataloguing as well as MARC coding of machine-readable bibliographic records. The use of software packages is also discussed.

B05-L012 Acquisitions 2: Special Materials and Serials Management
Students learn to create and maintain vertical files. Acquisitions of French and foreign language materials, pamphlets, government publications, and audiovisual materials is also covered. Serials management and automation of the acquisitions function are included.

B05-L013 Reference 3: Social Sciences and Humanities
This course is an introduction to information sources in the social sciences and humanities with emphasis on the variety of specialized literature available. The special characteristics of information and communication in social sciences and humanities disciplines are also covered. The pertinent CD-ROM sources will be demonstrated and some hands-on experience is provided.

B05-L014 Field Placement 2
Students work full-time in a library under the supervision of qualified librarians or library technicians for a two-week session. Students apply the knowledge and skills acquired in courses to practical workplace settings.

B05-L015 Cataloguing 4: Library of Congress Classification and LCSH
This course is a general introduction to all aspects of the Library of Congress classification scheme with emphasis on the most-used sections of the schedule including auxiliary tables. Library of Congress subject headings and cross-references are also covered. Other specialized indexing is briefly covered. Cross-references are also covered. Other specialized indexing is briefly covered.

B05-L016 Reference 4: On-line Searching
This course is an introduction to on-line searching focusing on DIALOG and CAN/OLE. Search strategy, Boolean logic, choice of appropriate databases and systems, and full text retrieval are covered. Special attention is given to downloading and post-search processing using WordPerfect. Current awareness services and their uses in various types of libraries are discussed. In addition, students are exposed to other on-line systems.

B05-L017 Marketing the Library and Information Services
This course introduces students to promoting library use and marketing the library through print and non-print media. Special emphasis is placed on enhancing students' skills in the use of WordPerfect as a basic desktop publishing packages. Specialized marketing procedures in a variety of different libraries is emphasized.

B05-L018 Academic Course: Issues in Canadian Society
A survey of major issues that are affecting Canadians today, with special emphasis of sources of information about Canada.
B05-L019 Field Placement 3
Students work full-time in a library under the supervision of qualified librarians or library technicians for a two-week session. Students apply the knowledge and skills acquired in courses to practical workplace settings.

B05-L020 Cataloguing 5: Advanced Descriptive Cataloguing
This course provides a further look at bibliographic description concentrating on analytics, non-book materials, and serials. Appropriate form of geographic name and corporate body headings is also discussed.

B05-L021 Management Skills for Library Technicians
This course is an introduction to management techniques including front line supervision. Basic budgeting, planning, statistics, and application of appropriate legislation within the library are covered. Where appropriate, the position of libraries within the overall organizational structure of their parent institution is also discussed.

B05-L022 Reference 5: Science and Technology
This course is an introduction to the specialized literature of science and technology. Emphasis is on the types of information sources which are available and the major titles in each category. Also covered are some of the special features of scientific communication and their effect on library service. The pertinent on-line databases will be demonstrated and some hands-on experience is provided.

B05-L023 Selected Library Topics
Students choose an area of library or information technology work of interest to them to study. All topics are approved by the instructor. A major paper and oral presentation on the topic are required. Special emphasis is given to unique features of services in a variety of types of libraries.

B09-A101 Dining Room Service
Students are taught dining room sanitation and safety procedures, to post customers' orders and prepare for service, and to provide food and beverage services to customers.

B09-A102 Front Office Operations 1
Students learn front office guest services including guest registration, accounting, computer applications, and reservations. Special attention is paid to the importance of the front office as an information centre for the hotel.

B09-A104 Front Office Operations 2
Students continue the study of front office operations including night audit procedures, room rate management, yield management, forecasting occupancy, and handling group bookings.

B09-A105 Housekeeping Operations
Students learn basic functions and operations of hotel housekeeping departments including the linen room and the basic cleaning and maintenance procedures of linens, bedding, floors, walls, and windows. Staff recruitment, selection, training, and evaluation of staff are also covered.

B09-A106 Inventory Management 1
Students learn purchasing functions and procedures for food and non-food and beverage items, receiving, storing, and issuing procedures. The course covers calculating daily food costs, yield tests and pre-costing menus, dining room controls, and inventory of alcoholic beverages.
B09-A107 Wines, Spirits and Beers
This course covers classification of alcoholic beverages, factors in consumption, the viticulture and
vinification processes and selection criteria. It examines history, classification, and control of French,
German, Spanish, Portuguese, other European and non-European wines, and covers spirits and beers.
Merchandising strategies are examined.

B09-A108 Inventory Management 2
This is a continuation of Inventory Management 1.

B09-A113 Human Resource Management
Personnel management concepts are covered including job analysis, description and specifications,
and employee recruitment and selection. Employee training and development, performance appraisals,
and factors affecting labour costs in the hospitality industry are examined.

B09-A114 Co-operative Education
This course covers hospitality industry practical job skills and analysis and evaluates personal and
professional goals and development.

B09-A116 Tourism
This course examines the development and growth of tourism. Students examine the government’s
role in tourism, various transportation systems, accommodations and food service sectors, effect of
attractions on destination choices, economic, environmental and cultural impacts of tourism and
explains tourism marketing management.

B09-A118 Co-operative Education
This course covers hospitality industry practical job skills and analysis and evaluates personal and pro-
fessional goals and development.

B09-H212 Design, Layout and Maintenance
This course 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 satisfactory cost percentages for
food, labour, and other operating expenses.

B09-H404 Design Project
Develop and design viable licensed hospitality business utilizing knowledge and experience obtained
in the program with potential application, in part or in whole, in industry.

B09-H662 Bartending

B09-H666 Advanced Dining Room Service
This section is divided into two parts. Section one provides for experiences in Flambé preparation,
serving foods French style, serving and presenting wines and for the making of a variety of drinks.
Section two provides for experiences in the preparation of a variety of typical gourmet foods and for
developing greater knowledge in kitchen operations.

B10-C109 Introduction to Advertising
This course 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. Two hours per week.
B10-C110 Public Relations: Introduction
This introductory course provides the student with a basic understanding of the history of public relations as it related to the contemporary practice. The common roles, functions and activities associated with public relations as well as the dynamics of public opinion formation will be examined. Information will be presented through lectures and class discussions, with frequent representative guests from the field. Students will gain practical experience in preparing media releases, the most basic communication tool of the field. The course is designed to meet the needs of those planning further study in public relations as well as those pursuing careers in related fields.

B10-C111 Creative Writing: Fiction
This course provides instruction and practice in the application of basic elements of fiction as related to the contemporary short story. Study focuses on the writing process with numerous writing activities designed to stimulate thought and enhance existing writing abilities.

B10-C112 Journalism: Introduction
This course introduces students to journalism by examining news values and news content. Interviewing styles and techniques, as well as researching tools are taught and practiced. CP style and news writing are emphasized.

B10-C113 Composition and English Grammar
This course is designed to develop the student's ability to write effectively through an analysis of different modes and rhetorical techniques. This course includes a review of grammatical principles, especially the structure of the sentence, but emphasize the larger rhetorical variables of purpose, voice, and audience.

B10-C114 Advertising: Introduction
In this introductory course the student studies the evolution of advertising and current marketing and advertising theory, emphasizing the role of advertising in modern business communications and relationships with media.

B10-C115 Literary Structure and Styles
This course introduces the student to some of the structural and stylistic choices that a successful writer makes through examination of a variety of (mostly modern) works. The student examines such aspects as genre, style, and tone in both poetry and prose in order to reach an understanding not only of the what of a work of literature (its theme or content) but also of the how and why which motivated its production — the conscious and unconscious choices made by the writer. This course provides a conceptual vocabulary for Canadian Literature (Term 4).

B10-C209 Intro 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-C216 Current Events
This course is designed to introduce students to a variety of significant current events both domestic and international. This course examines the deeper issues underlying major events in order to provide students with a perspective framework for understanding events in relation to the larger historical and ideological forces which are shaping our century.
B10-C217 Oral Communication
This course is designed to introduce the student to the techniques and skills of public speaking. The student learns techniques for overcoming stage fright, scripting a speech, and “shaping” a delivery through voice and gesture. Extensive use is made of video playbacks in order to analyze and evaluate speaking styles.

B10-C218 Radio and Television 1
This course is designed to teach both radio and television skills. Firstly, it introduces the student to the medium of radio. The student becomes familiar with the organization of a radio station and learns the differences of this electronic medium in the information age. The student learns about all the opportunities involved in radio. Emphasis is placed on discovering the student’s own radio potential through studio work. Secondly, this course introduces the student to the various components of television production. Emphasis is placed on the student learning through hands-on experience with portable, studio, and editing video tape equipment.

B10-C220 Public Relations: Process
Term 2 of Public Relations provides the student with a comprehensive introduction to the four-step problem solving process fundamental to the contemporary practice of public relations. Assignments are designed as practical applications of the principles to be examined in the areas of research, planning and programming, action and communications, and evaluation. The emphasis in this term is on research and planning with attention to MBO techniques.

B10-C221 Creative Writing: Drama and Poetry
This course is designed to explore the elements of poetic language and to look at two different ways of creating a dramatic scene. The poetry section will concentrate on the tools of language used in the writing of contemporary poetry. In the drama section, scenes will be studied and students will write their own scenes.

B10-C222 Journalism: Style and Practice
Students put book learning and class lectures from the previous term to practice by covering civic politics, press conferences, and writing feature profiles on prominent local personalities. The course emphasizes freelancing and selling news stories, and students are given direction on selling their work.

B10-C224 Advertising: Electronic Media
This course focuses on the study of advertising planning and approaches for the creation of commercials for radio and television. Emphasis is placed on practical exercises plus extensive study of the role of electronic media theory and practice.

B10-C309 Intro 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-C319 Radio and Television 2
This course is designed to enhance the student skills learned in Radio and Television 1.

B10-C325 Canadian Literature
This course is designed to introduce the student to the works of some of the major writers in twentieth-century Canada and to the individual and cultural backgrounds which have shaped their writing. It also develops a critical awareness of the presuppositions which shape our notions of what literature is and is not; and which also mandate what we regard as “Canadian” literature. The material covered helps the student to respond effectively to professional situations requiring a knowledge of Canadian literature.
B10-C330 Public Relations: Management
Term 3 of Public Relations addresses the identification of an organization's internal and external publics and examines the most effective means of communicating with each. Study focuses on the managerial role of PR in such key areas as media, consumer and corporate relations. This course also addresses the emergence of issues management as a major PR function in the '80s as well as the ongoing concern for ethics in terms of standards or principles of conduct. Topics are presented in both lecture and workshop format with an emphasis on case studies.

B10-C331 Creative Writing: Style
The course examines the various writing styles in reviews, editorials, and features. Some fiction is discussed. The students write throughout the term and are expected to work in a group on a major project. The project involves a practical demonstration of student writing.

B10-C332 Journalism: Media and the Law
This course addresses intricate Canadian laws that affect the media, from defamation to contempt of court. Students cover a police press conference and attend court for news assignments. The course addresses the use of statistics by examining Canadian crime statistics. Special emphasis is on community newspapers. Students visit rural weekly papers to research the paper and write a feature story. Lectures and class discussion deal with media ethics, morals, and taste.

B10-C334 Advertising: Print Media
This course is designed to encourage the student to learn the role and current status of print media advertising while creating ads for newspaper, magazine, out-of-home and other print media vehicles.

B10-C410 Business Communications
This course introduces the student to the conventions and formats of business correspondence including letters, memos, and reports. A major part of the work involves preparing the student for entering the work force after graduation by assisting him/her to develop a professional resume and work portfolio.

B10-C420 Independent Professional Project 1
This course is designed to encourage students to develop a major, independent project related to their professional interests and ambitions. The type of projects offered vary from year to year depending on the participating instructors. The purpose of the course is to allow the students time not normally afforded in the classroom to develop an idea from concept to product, from the initial proposal to the finished presentation.

B10-C429 Television Production
This course is designed to further develop the student's skills in television production. Productions involving portable and studio equipment are designed with course majors (journalism/public relations/advertising) as the dominant factor. Special attention is given to the audio portion of video recording and lighting techniques.

B10-C430 Radio: Production
The student is introduced to a radio studio, and by example, will develop and understand basic announcing techniques. Emphasis is placed on broadcast writing skills. This course also involves a study of the CRTC and BBM, and other regulatory agencies that effect radio.
B10-C440 Public Relations: Practicum 1
Term 4 focuses on the study of numerous communication tools used in the contemporary practice of public relations. The student becomes acquainted with writing and producing techniques related to the creation of such tools as brochures, AV scripts and internal newsletters through lectures, workshops and working for clients from industry. Students are also introduced to the implications of desktop publishing.

B10-C442 Journalism: Practicum 1 TV and Radio News
This course addresses broadcast writing with emphasis on meeting hourly and daily deadlines. Students attend prearranged press conferences or events in the community and are required to write radio and television stories. Instruction emphasizes the changes in writing style as students move from print to broadcast, from the written word to the use of visual in telling a story. Assignments in this journalism course dovetail with assignments in the radio and television courses.

B10-C444 Advertising: Practicum 1
The student focuses on advertising writing for various media with emphasis on print media and study of the advertising function. The student will write and format copy for a variety of advertising and promotions.

B10-C509 Media Buying 1
This course is designed for the student to study the advertising planning and buying processes for major media where industry guest speakers will play a key role in providing up-to-date data and information required to implement and execute the media buy.

B10-C510 Field Work 1
This course is designed to give second-year students the opportunity to gain workplace experience through a three-week media placement. Term 5 students are assigned placements in accordance with their designated major (journalism, advertising, or public relations) with the instructor coordinating all placements.

B10-C512 Freelance Writing 1
Freelance Writing 1 is an introduction to the research, development, and preparation of marketable freelance material. Query letters, journalism styles, copyright, and market analysis are among the topics presented. The course is of interest to students who are actively writing and concerned with selling material.

B10-C513 Cultural Arts 1
The first term of this optional course develops the student's knowledge of and capacity to respond to the visual arts. It is initially concerned with the different interpretive techniques used in responding to painting, sculpture, and architecture. This course is not simply "art history", however, but an examination of the ways in which the visual arts interact with other areas of our cultural reality. The student is responsible for the exact direction of the second half of the term through the group projects they choose to work on. Issues covered typically include the concept of "taste," the nature of artistic truth, the use of cultural icons in advertising, and the distinction between the erotic and the pornographic.

B10-C514 Theatre Arts 1
This course is designed to give the students both practical and theoretical experience in theatre arts. This experience is accomplished by workshops, study of scenes, plays, field trips, and presentations. The student is able to recognize the dramatic structure of a play, study a character and portray that character in a class presentation and, as a group project, organize and present a scene from a designated play.
B10-C520 Independent Professional Project 2
This course is designed to encourage students to develop a major, independent project related to their professional interests and ambitions. The type of projects offered vary from year to year depending on the participating instructors. The purpose of the course is to allow the students time not normally afforded in the classroom to develop an idea from concept to product, from the initial proposal to the finished presentation.

B10-C537 Television Workshop
This course is designed to develop advanced television production skills in the areas of electronic field production and studio production. Additional emphasis is placed on scripting for television, on-air presentations, control room and editing techniques.

B10-C544 Radio: Fine Tuning for the Ear
This course is designed to fine tune earlier radio basics, and deals with the production of radio specials, commercial writing for the ear, documentaries, sports and news features. Microphone technique and air sound are developed.

B10-C550 Public Relations: Practicum 2
This course is designed to meet the needs of students intending to seek an entry level position in PR and go on to build a career in the field. Terms 5 and 6 will include practical assignments involving selected clients and additional study of specialized applications of the theory addressed in previous terms. The projects to be undertaken and the areas of specialization to be further addressed are determined at the first class meeting.

B10-C552 Journalism: Practicum 2: The Newsroom
In this course the classroom becomes a newsroom, as students are assigned news stories on a daily basis and are expected to research and write the stories for the end of the class. Students are assigned news stories from the community that mainstream media would be covering and are given direction on sources and angles. Their copies are edited by guest editors from local newspapers. Students are directed on how and where to sell their work.

B10-C554 Advertising Practicum 2
This course refines the student's advertising skills with increased emphasis on conceptualization, intermedia executions and advanced copywriting techniques. Project activities are designed to enhance the student's planning and organizational abilities.

B10-C609 Independent Professional Project 3
This course is designed to encourage students to develop a major, independent project related to their professional interests and ambitions. The type of projects offered vary from year to year depending on the participating instructors. The purpose of the course is to allow the students time not normally afforded in the classroom to develop an idea from concept to product, from the initial proposal to the finished presentation.

B10-C610 Field Work 2
This course is designed to give second-year students the opportunity to gain workplace experience through a three-week media placement. The instructor coordinates all placements.

B10-C612 Media Buying 2
This course involves practical exercises for the planning and buying of media, culminating in the delivery of a major buy for an assigned actual local client.
B10-C614 Theatre Arts 2
This course is designed to build upon the practical experience the student was exposed to in Theatre Arts 1. Emphasis is placed on the further development of acting skills as well as the expansion of the student’s knowledge of how to put a show together.

B10-C622 Freelance Writing 2
Freelance Writing 2 is an extension of Freelance Writing 1. The major focus is on writing style, manuscript presentation, and broader market contact.

B10-C623 Cultural Arts 2
The second term of this option focuses on the performing arts: film, theatre, opera, music, and dance. This course assumes little prior knowledge on the part of the student and attempts to develop a working vocabulary of those arts which tell stories and develop themes through non-literary means. The student is expected to attend whatever artistic performances are available at the time, and the class draws on the pool of talented local professionals for guest lectures and advice. Not all of the performing arts are necessarily covered in the term; the exact choice of courses depends on the wishes of the instructor and students. This term’s work is especially valuable to students interested in reviewing and freelancing in arts-related areas.

B10-C635 Manitoba Literature
This optional course introduces the student to a sampling of works by Manitoba authors and develops skills in researching and writing about these authors. The course is concerned both with the authors’ individual techniques and styles and also with their generic responses (comic, satiric, tragic) to the experience of living on the prairies. A natural outcome of this process is trying to discover how far the concept of an autonomous Manitoba literature is justified. Through assignments such as interviews, the student is encouraged to develop a personal appreciation of local writers and of the pressures they face.

B10-C644 Radio: You’re on the Air
This subject is designed to fine-tune all aspects of radio production. The student learns how to handle portable tape equipment, edit electronically, feed audio by phone, cart audio, and develop added skills on a production/broadcast board. Students are given the opportunity to be “ON AIR.”

B10-C649 Television: Broadcasting
This course emphasizes major production work for a client-based assignment. Students will incorporate EFP and studio production skills to accomplish the productions. Journalism and public relations majors will produce documentaries, while advertising majors will produce commercials for client campaigns.

B10-C659 Public Relations: Practicum 3
This course is designed to meet the needs of students intending to seek an entry-level position in PR and go on to build a career in the field. Terms 5 and 6 include practical assignments involving selected clients and additional study of specialized applications of the theory addressed in previous terms. The projects to be undertaken and the areas of specialization to be further addressed are determined at the first class meeting.

B10-C663 Journalism: Practicum 3: Developing Print
This course allows students to apply all their previous experience to a documentary. Students work in teams to produce a package of stories around a theme. The stories are edited and then laid out on a desktop publishing system.
B10-C664 Advertising: Practicum 3
In this course the student works for an assigned actual local client. Creative Communications students are teamed with students from Advertising Art to develop the complete ad campaign. In a competition judged by local advertising professionals, the student teams will make a formal presentation of the campaign for adjudication and evaluation.

B11-A002 Accounting Systems 1
This course covers business transactions, basic accounting entries, the accounting cycle, ledgers, accounts and journals, internal controls, petty cashier duties, bank reconciliation, bad debts and credit card charges, inventory systems, plant and equipment, employee payroll, partnerships and corporate structures.

B11-A004 Accounting Systems 2
This is an continuation of Accounting Systems 1

B11-A005 Accounting System 3
This is an continuation of Accounting Systems 2.

B11-A006 Hospitality Management Accounting 1
This accounting course is specific to the hospitality industry and covers financial statements, ratios, internal controls, “bottom-up” approach to pricing, and cost controls.

B11-A007 Hospitality Management Accounting 2
The second part of this course covers cost, volume, profit, decision making, budgeting, working capital, capital assets, feasibility studies, and financial goals specific to the hospitality industry.

B11-A103 Business Mathematics B U A C
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-A105 Business Mathematics – Term 1
This course begins with a review of basic calculations with business applications such as averages, inventory valuation and depreciation. Other topics include algebra, ratio and proportion.

B11-A106 Business Mathematics – Term 2
This course looks at commercial discount, markup and markdown, simple and compound interest, negotiable instruments and simple annuities.

B11-A161 Financial Account A
Financial Accounting A gives a thorough working knowledge of double entry bookkeeping, adjustments and work sheets for preparation of financial statements pertaining to sole proprietorships and partnerships; special journals; subsidiary ledgers and controlling accounts; cash and accounts receivable; inventories internal control procedures.
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B11-A162 Introductory Accounting – Term 1, ABE Integrated
The work of an accountant, accounting principles and concepts, balance sheet equation, effects of transactions on the accounting equation, posting to the ledger, debit and credit, mechanics of double entry accounting, the trial balance, adjusting the accounts, adjusted trial balance, preparation and classification of the balance sheet, preparing a work sheet and its use thereof, closing entries, the post-closing trial balance; the accounting cycle.

B11-A163 Introductory Accounting – Term 2, ABE Integrated
Sales, purchases, cost of goods sold, gross profit, worksheet for a merchandising concern, closing entries for a merchandising concern, debit and credit memos, sales journal, cash receipts and cash disbursements ledgers, purchases journal, control accounts, subsidiary ledgers, sales and purchase returns, internal control principles and procedures, controlling purchases, voucher system and control, voucher register, petty cash fund, control over cash, bank reconciliation, accounting for notes receivable and accounts receivable – discounting notes receivable, dishonoured notes receivable, bad debts and allowance for doubtful accounts.

B11-A191 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-A193 Intro Accounting A BAI
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-A204 Cost Accounting A
An introduction to the procedures and techniques utilized in accounting for a manufacturing concern, preparation of a cost of goods 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 overhead, department overhead cost and setting overhead rates.

B11-A205 Cost Accounting Principles and Applications – Term 2
This is a compulsory course taught in Term 2 of Business Accountancy Integrated program. The course material is the job order method of cost accounting.

B11-A206 Cost Accounting Principles and Applications – Term 3
This is a compulsory course taught in Term 3 of the Business Accountancy Integrated program. The course material is a continuation of the Job Order Method of cost accounting covered in Cost Accounting A.

B11-A218 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-A261 Financial Accounting B
Application of accounting principles, procedures and techniques as they apply to plant, inventories and equipment, intangible assets, partnership accounting, formation of corporations, share capital and retained earnings, payroll accounting; accounting principles and concepts.

B11-A262 Introductory Accounting – Term 3, ABE Integrated
Income Tax: information and preparation of personal returns; inventories and cost of goods sold: specific invoice prices, weighted average; FIFO, LIFO; estimated inventories: retail and gross profit methods; plant and equipment: cost of a plant asset, nature of depreciation, service life of plant asset, salvage value, allocating depreciation, four methods; plant and equipment/intangible assets: disposals and exchanging plant assets, revising depreciation rates, ordinary and extraordinary repairs, betterments, capital and revenue expenditures, natural resources, entries required to account for intangible assets.

B11-A291 Introductory Accounting B
Accounting for inventories and their valuation, procedures and techniques in the treatment of plant and equipment transactions, accounting principles and concepts, accounting for partnerships, departmentalization.

B11-A293 Intro Accounting B BAI
Accounting for inventories, plant and equipment, basic accounting principles and departmental control.

B11-A304 Cost Accounting B
Accounting for the recovery and sale of high and low value scrap, recording the cost flow through accounts in a process cost system, preparation of a complete cost of production report, costing for by-products and joint products, preparation of financial budgets.

B11-A361 Financial Accounting C
Accounting for corporation-share capital and retained earnings, long-term liabilities and investments, accounting principles and concepts, analyzing financial statements, flow of funds and cash flows, tax considerations in business decisions.

B11-A391 Introductory Accounting C
Accounting procedures, methods and techniques as they apply to limited companies, share capital, retained earnings, consolidations, long-term liabilities and investments.

B11-A392 Introductory Accounting C CAP
Accounting procedures, methods, and techniques as they apply to limited companies, share capital, retained earnings, consolidations, long-term liabilities and investments.

B11-A393 Intro Accounting C BAI
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-A491 Intermediate Accounting A
Involved 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 inventories.
B11-A495 Microcomputer Accounting GL
This course will focus on hands-on learning of ACCPAC Accounting System, the most popular general accounting program for microcomputers. Through the use of comprehensive practice sets, students will learn how to set up and operate the General Ledger and Financial Reporter module of ACCPAC.

B11-A507 Cost and Management Accounting A
This course is an introduction to the problems involved in accounting for a manufacturing concern. Topics covered are financial statements, the manufacturing accounting cycle, job order cost system, budgeting, direct costing, and departmentalization.

B11-A591 Intermediate Accounting B
This course involves an indepth study of tangible fixed assets—acquiring, retirement, depreciation, intangible fixed assets, corporations contributed capital, retained earnings, quasi-reorganizations, long-term investments and long-term liabilities.

B11-A595 Microcomputer Accounting AR AP
This course will focus on hands-on learning of the ACCPAC Accounting System, the most popular general accounting program for microcomputers. Through the use of comprehensive practice sets, students will learn how to set up and operate the following modules of ACCPAC: Accounts Receivable and Accounts Payable.

B11-A607 Cost and Management Accounting B
This is a continuation of Cost and Management Accounting A beginning with more advanced applications of process costing, standard costing procedures, joint product costing, and by products.

B11-A681 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 changes in accounting methods, estimating errors, incomplete records, statements of change in financial position comparative statements and ratio analysis.

B12-B111 Economics 1 BAI
This course is designed to introduce the student to the principles of microeconomics. The topics covered are fundamental to any basic course of this type. Some of the topics discussed include production possibilities, supply and demand, elasticity, time horizons, costs, the theory of the firm and profit maximization in a competitive market structure.

B12-E171 Economic Principles 1 BA
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.
**B12-E212 Economics 2 BAI**
A study of macroeconomic 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.

**B12-E272 Economic Principles 2 BA**
A study of macroeconomic 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.

**B12-E276 Economic Principles 1**
This course is an introduction to the principles of microeconomics including production possibility analysis, theory of the market and price determination, supply and demand analysis, and theory of the firm.

**B12-E292 Economics**
This introductory course is concerned with Canada's economic problems and their solutions. The emphasis is on providing a sound basis in economic principles which are then applied in the form of economic reasoning. In addition to supply, demand, elasticity and firms in various types of competition (micro section), the following macro topics are also covered: national income, taxation, monetary and fiscal policy and international trade.

**B12-E313 Economics 3 BAI**
This course is a continuation of macroeconomics. The initial topics deal with fiscal policy matters such as the budget balance, built-in stabilizers, the national debt, the nature and importance of money, the quantity theory, the banking system and the supply of money. The latter part of the course deals with the macroeconomics role of money and the theory of monetary policy and the nature of unemployment and inflation.

**B12-E373 Economic Principles 3 BA**
A continuation of the study of macroeconomics with further emphasis on stabilization policies. The role of government fiscal policy will be examined, followed by a study of the problems and dilemmas of simultaneous inflation and unemployment. The 1975 Wage Price Control's Program and finally a study of the limitations to economic growth.

**B12-E377 Economic Principles 2**
This is a course in macroeconomic principles. Studies will include national income and its determination, the monetary system, inflation and unemployment, with special emphasis on monetary and fiscal policy.

**B12-E415 Applied Economics**
This course guides students in using economic concepts and reasoning in everyday decision making; in reading and listening to accounts of economic issues in the communications media; and in recognizing the economic components of the nation. Emphasis is placed on the role of the price system in allocating resources, factors affecting economic investment in the economy, use and purpose of money, role of government through expenditures and taxation, and the operations of the banking system.
B12-E471 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.

B12-E472 International Economics and 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 course 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.

B12-E580 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 unemployment. 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.

B12-E670 Public Finance
A study of governmental activities—the theory and structure of taxation, taxes on income, goods sold 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., Manitoba) taxation changes and problems.

B12-E675 Manitoba Economic Perspectives
This course is designed to have students examine and analyze important economic issues and perspectives of the economy of Manitoba.

B12-E676 Manitoba Economic Perspectives
This course is designed to have students examine and analyze important economic issues and perspectives of the economy of Manitoba.

B12-H110 Economics
Students learn concepts of economic principles resulting in profit maximization including absolute scarcity, market pricing in a mixed economy and the three basic forms of business organizations. The course also covers demand elasticity and gross revenue flow, how to prepare cost structures, rate schedules and pricing policies for hotel operations under competitive and non-competitive conditions.

B12-H111 Hospitality Law
Hospitality law covers the innkeeper's responsibilities and rights of compensations and lien, contracts, guest safety, guest property and guest misconduct, food services regulations, and liquor sales particular to the hotel industry.

B12-I491 Risk and Insurance
The course provides an introduction to and an analysis of the concept of risk (the chance of losses) and its efforts 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-L001 Academic Course: Introduction to Economics
This introductory course examines micro- and macroeconomic issues; involving an investigation of our market structures, how prices are determined under varying conditions in the market, the pervasiveness of supply and demand, personal and business finance, money and credit, economic growth and prosperity, the interpretation of economic statistics and projections, and international effects from trade with other nations.

B12-L002 Academic Course: Levels of Canadian Government
This course is a selective study of Canadian politics with emphasis on multiple viewpoints pertaining to federal as well as provincial and municipal politics. The implications on policy formation and political behaviour of such factors as culture, regional diversity, the economy, labour, business and Canada's close ties with the USA are examined.

B12-L199 Business Law 1 BA1
The course is 11 weeks in duration and consists of five 50-minute periods per week involving lecture, problem solving and discussion. It is meant to be an introduction to the laws of business.

B12-L360 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-L367 Legal Aspects of Health Records
The objective of this course is to develop an understanding and appreciation of the rights and responsibilities attached to the various positions of an employee in the medical and health care environment and to familiarize students with the legal aspects of these fields of endeavor. The course is seven weeks long and consists of four one-hour periods per week. It provides an introduction to the Canadian legal system and the administration of justice, to the law of torts, general contracts, and the confidential relationship existing between and among professional practitioners, patients, and employees. A study also is made of private and public health insurance programs and of legislation particularly applicable to health records.

B12-L466 Business Law 2
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-O333 Principles of Organization and 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.

B12-P555 Entrepreneurship
This course focuses on the development of new business ventures, as well as on the operation or management of a small business. Cases have been developed to stimulate the student to analyze the opportunities, risks and factors necessary for the success of the entrepreneur and his/her new enterprise.

B12-P666 Entrepreneurship Practicum
In small groups, students will prepare a formal feasibility study (business plan) for starting a profit-making enterprise and then present it to a panel of instructor-judges for examination. Written, oral and group work will be evaluated.
B13-C100 Co-op Work Placement
B13-C200 Co-op Work Placement

B13-I800 Business Mathematics BAI
The general objective of the course is to ensure that students develop the mathematical skills necessary to handle basic quantitative material in Financial Mathematics, Statistics, Economics, Accounting, Real Estate and Finance courses.

B13-I801 Introduction to Business BAI
Students examine business careers, make tentative occupational choices, and survey the following topics: the economic system, the business firm, forms of ownership, franchising, and small business, labour-management relations, marketing, production, computers, accounting, and finance.

B13-I804 Human Behavior in Organizations BAI
This course is concerned with the study of individual and group behaviour in organized or purposeful group settings.

B13-I805 Statistics 1 BAI
This course covers the "descriptive" portion of statistics topics include: charts and graphs, frequency distributions, mean, median, mode, range, interquartile range, standard deviation, index numbers, probability theory, conditional profit, loss and expected values, payoff tables and normal approximation to the binomial.

B13-L001 Academic Course: Human Behavior in Organizations
This course is concerned with the study of individual and group behavior in organized and purposeful group settings. The focus of the course will be to develop an understanding of the needs and behavior of people in groups and to develop skills in dealing with people in these group settings. Understanding our own behavior, and the behavior of others will lead to better choices of behavior in our own lives.

B13-L002 Academic Course: Multiculturalism in Canada
The student examines the evolving realities of race and ethnic relations in Canada from a multicultural perspective. The course explains the sociological concept of culture and identifies significant aspects of culture, such as language, values and norms, socialization, institutions, and cultural diffusion. The course presents a demographic profile of Canadian society, a description of ethnicity and ethnic identity in Canadian society, a celebration of diversity, an examination of the policy of multiculturalism at the federal, provincial, and municipal levels of government, a look at the mosaic versus the melting pot approaches to managing linguistic diversity, and an analysis of mass media and minorities.

B13-M602 Management
Provides practice in the recognition and solution of business problems by applying the knowledge gained in previous terms. The medium used is case discussions, written case projects, and class discussions. The theory section deals with the roles of the manager in decision-making, strategy formulation, and group dynamics. Attention is paid to the Canadian management environment. The case studies used assume a previous knowledge of break-even analysis, financial statement analysis, and report writing. Special attention is directed to the topics of women in management, total quality management, and Canadian competitiveness.

B13-M610 Organization and Management
An introduction to management principles for supervisors and staff in health care delivery system.
B13-M611 Introduction to Business CAP
A broad analysis of business concepts, functional internal characteristics of business and the inter-
relationships between business, government, and the consumer. The course content includes trends
affecting Canadian business, world economic systems, economic issues affecting Canadian business,
forms of business ownership, entrepreneurship, small business, management and leadership, motivat-
ing employees, employee management issues, ethics-based management, total quality management,
automation technology, and public fears.

B13-M612 Introduction to Business BA
See B13-M611 Introduction to Business.

B13-M613 Human Resource Management
The learning in this course follows the principles of “Project-based Learning” in which the student
works through a series of activities. These are divided into two sections, the first of which is based on
the text and reinforces all the basics. Upon successful completion of the first section, the student then
embarks upon a series of learning projects keyed to the student’s interest areas. There is a wide variety
of activities to appeal to different learning styles. Students selecting this option need to be self-moti-
vating and will need report writing skills. The instructor acts as a resource person. Grading is based
on achieving mastery level.

B13-M614 Canadian Real Estate
This course 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 specula-
tion. This course integrates the students knowledge gained in law, economics, business finance and
accounting.

B13-M618 Credit Management
A course designed to familiarize the student with credit authorization and collections. Credit man-
age ment 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-M623 Co-operative Enterprise
The general objectives of the course are to: 1. appreciate the co-operative sector of the economy of
Manitoba and Western Canada, 2. understand the problems and principles that are unique to the
management of Canadian co-operatives and credit unions, 3. research the potential for new co-opera-
tive development as a member of a team of approximately seven students.

B13-M624 Politics and Government in Canada
A comprehensive study of Canadian federal politics which goes beyond the mere description of gov-
ernmental institutions and processes. The approach is a practical one, where emphasis is placed on
understanding the implications of such factors as culture, political behavior and public policy.
Consideration is made of the fact that the environment is shared with business and labor. Also,
provincial and municipal governments are looked into, as well as the international scene.

B13-M625 Politics and Government in Canada
A comprehensive study of Canadian federal politics which goes beyond the mere description of gov-
ernmental institutions and processes. The approach is a practical one, where emphasis is placed on
understanding the implications of such factors as culture, political behavior and public policy.
Consideration is made of the fact that the environment is shared with business and labor. Also,
provincial and municipal governments are looked into, as well as the international scene.
B13-R701 Production Management and Quality Control
This course shows how the quality objective is applied to production of goods and services. It embraces W. Edward Deming as a guru and shows how the Japanese successfully adopted his philosophy. Topics include work study, quality control, critical path analysis, and equipment analysis.

B13-R703 Financial Mathematics
The application of mathematics to practical business problems dealing with compound interest, installment payments, annuities, sinking funds, present values, evaluation of bonds.

B13-R704 Statistics for Health Record Technicians
This course is offered in Term 3 and includes basic regression and correlation, interpreting inpatient statistical reports and hands-on use of statistical software on microcomputers.

B13-R705 Quantitative Methods
This course builds on statistics and provides an indepth 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.

B13-R706 Statistics 1
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.

B13-R707 Statistics 2
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.

B13-R708 Business Finance
A course 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.

B13-R709 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.

B13-R713 Business Mathematics
This course begins with a review of basic arithmetic and algebraic operations. This is followed by a study of the application of ratio, proportion, and percent to business problems, including trade and cash discounts, commissions and fees, taxes, markups and income statement analysis. Finally, the student is introduced to financial mathematics topics: simple interest and discount, bank discount, equivalent payment and negotiable instruments.

B13-R714 Statistics 2
This course continues the study of statistics into the “inference” area. Topics include: probability of distributions, the normal curve, estimation hypothesis testing, quality control, statistical simulation and least squares analysis.
**B13-R715 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.

**B13-S106 Interpersonal Relations**  
This course focuses upon human behavior in general, and upon human behavior as experienced in the helping professions in particular. Emphasis is placed upon individual personal growth and self-knowledge, and upon behavior of the individual in groups. Methods of learning include lectures, discussions, planned experiences and role-playing, with the major focus on experiential learning. The student is expected to take a major responsibility for his or her own learning, with the instructor acting as a facilitator.

**B13-S201 Introduction to Sociology DNUR**  
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 upon the study of the Canadian scene, whenever possible. The student is encouraged to maintain this emphasis in the assigned term paper or project.

**B13-S302 Social and Health Problems DNUR**  
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.

**B13-S501 Psychology**  
This is an introductory course designed to give the student an overview of the major topics and concepts in the field of psychology. It examines the approaches to gathering and evaluating evidence about the causes and correlates of behavior, and also the means by which psychological knowledge is (or can be) applied to facilitate human growth and development.

**B13-S504 Psychology**  
This course is a study of major personality theorists with the focus on the value and usefulness of each theory in explaining human nature and behaviour. As many as possible of the following are considered: Freud, Jung, Adler, Horney, Erikson, Reich, Perls, William James, Skinner, Rogers and Maslow.

**B13-S508 Human Behavior for Salespeople**  
An introductory psychology course intended to provide students with a basis for understanding human behavior.

**B13-S509 Psychology of Selling C and I**  
This course is designed to provide students with knowledge about the factors that influence buyer behavior. Included among the psychological factors to be discussed are buyer's motives, perceptions, learning, attitudes, beliefs, and personalities. In addition to providing basic knowledge, this course will aid students in developing skills essential to sales success such as establishing positive buyer perceptions, active listening, needs analysis, and persuasive communication.

**B13-S513 Human Behavior in Organizations BA/SS/BUS.ED.**  
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.
B13-S514 Human Behavior in Organizations HRA

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 skills in applying that knowledge to social and organization situations.

B13-S515 Contemporary Social Issues in Canada

A course designated to broaden the student’s 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.

B13-S527 Psychology

This course is a study of major personality theorists with the focus on the value and usefulness of each theory in explaining human nature and behavior. As many as possible of the following are considered: Freud, Jung, Adler, Horney, Erikson, Reich, Perls, William James, Skinner, Rodgers and Maslow.

B13-S543 Human Behavior in Organizations

Whatever your position within the organization and society in general, human relationships play a significant role. This course is concerned with the study of human relationships in organized and purposeful settings. Its major goals are to increase the understanding of principles, to demonstrate the application of principles to concrete situations, and to provide a means of developing skills for use in group situations - skills of observing, skills of self-insight, skills of understanding the behaviors and motives of others, and skills of arranging resources to accomplish a task and meet the needs of the group and individual.

B13-S544 Sociology

This is an introduction to the perspective of sociology and how it helps us to understand our social existence. It calls attention to the continuous interplay between the individuals and the social context in which they live out their lives. It also looks at the interrelationship between society’s various institutions. Emphasis is placed on the presentation of an historical, theoretical and cross cultural perspective of Canadian society in a time of rapid change.

B13-S617 Sociology

A basic knowledge of society and how it is organized is essential for an understanding of sociology. Our behavior is learned and society is the basic teacher. The course is conducted on a lecture/discussion format, and the student’s participation is actively encouraged.

B14-A201 Marketing 1

Marketing strategy, opportunities, and research are examined in the hospitality industry by analyzing target markets, product, place, promotion, and price strategies.

B14-A202 Marketing 2

This is a continuation of Marketing 1

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 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-C114 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-C401 Consumer Behavior
This course provides an introduction to the complexity of human behavior, particularly as it applies to buying behavior on the part of the final consumer. 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 market place.

B14-D300 Marketing Decision Simulation
Marketing Decision Simulation provides the student with an opportunity to apply his/her 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. This effects work with other members of the firm which is competing with other companies in an industry.

B14-I117 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 courses are concerned with. Part one deals with business and its environment; part two deals with establishing a business, the legal and financial aspects; part three deals with operating a business; part four deals with managing a business; part five deals with opportunities in business.

B14-L314 Canadian Business Law
This course is designed to provide an appropriate foundation in business law specific to the needs of students involved in Commerce/Industry Sales and Marketing. The major portion of the course will be allocated to the formation and factors affecting contractual relationships. The introductory portion of Business Law deals with the origin, sources of law and the court system, followed by a section on tort law.

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-M111 Marketing 1 BAI
An introduction to the marketing concept and the role of marketing in society. The student will know the basic problems and practice in marketing management and understand the marketing manager's job relative to his or her firm and the macro-marketing system. The student will recognize the importance of the consumer and the necessity of marshaling the firm's efforts to serve the consumer.
B14-M122 Marketing 2 BAI
An introduction to the concepts of marketing segmentation and forecasting market potential. The student will understand the need for proper product planning and development of channel systems. Included are the concepts of retailing, wholesaling and physical distribution.

B14-M161 Business and Financial Mathematics
This course reviews basic arithmetic and algebraic operations. This is followed by a study of the application of ratio, proportion, and percent to business problems, including trade and cash discounts, markup, markdown, and depreciation. The student is then introduced to financial mathematic topics such as simple interest and discount, compound interest, annuities, bonds, depreciation, credit collection, and financial statements.

B14-M202 Basic Marketing
Basic marketing builds on the principles developed in Term 1. 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-M213 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 are they apply in the various marketing institutions. The student is introduced to marketing strategy and the uncontrollable factors considered in developing the marketing mix. The course ties in closely with the simulation exercise in B14-T21s Advanced "In Business" Training, where the business game focuses on marketing strategies in a competitive environment.

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 pertains to buying, handling, controlling and pricing, sales promotion and customer services, merchandising, accounting controls, coordination and retailing management.

B14-P319 Advertising and Promotion
The objective is to learn the fundamentals of advertising and promotion within the full marketing arena and to appreciate the skills required in planning and executing advertising and promotion programs. To implement the uses and applications of advertising as a marketing tool and as a means of communication within the marketplace. The course uses films, videos, workshops, and lectures; and requires the student to consistently demonstrate skills and knowledge acquired throughout the course which takes a strong marketing – management approach to advertising.

B14-R312 Merchandising
This course provides the student with a managerial, practical introduction to retailing (all activities involved in the sales of goods and services to the ultimate consumer), focusing directly on the issues faced by the owner, the manager, or the employee of a retail institution. While department and chain stores receive considerable attention, this course presents a broad view of retail strategies including the opportunities of self-employment.
B14-R602 Marketing Research
This course 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-S211 Basic Sales
The purpose of this course is to prepare the student for the field of selling at a basic level, such as order taking or support sales work. The course presents a broad picture of the field of selling. Basic skills are studied and discussed and role play situations are developed for skill practice. The theory involved includes review of a variety of elements that are important to selling, prospecting, sales planning, sales interviews, and post purchase follow-up. The emphasis is on sales planning and the interview process.

B14-S311 Advanced Sales
This course builds on the foundation of B14-S211 Basic Sales in the second term. It represents 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 practice situations.

B14-S401 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-S501 Psychology
This is an introductory course designed to give the student an overview of the major topics and concepts in the field of psychology. It examines the approaches to gathering and evaluating evidence about the causes and correlates of behavior, and also the means by which psychological knowledge is (or can be) applied to facilitate human growth and development.

B14-S544 Sociology
This is an introduction to the perspective of sociology and how it helps us to understand our social existence. It calls attention to the continuous interplay between the individuals and the social context in which they live out their lives. It also looks at the interrelationship between society's various institutions. Emphasis is placed on the presentation of an historical, theoretical and cross-cultural perspective of Canadian society in a time of rapid change.

B14-T118 "In Business" Training
The course is designed to give students a fundamental understanding of the business world and how it operates in our society to achieve its objectives and make its contribution to the standard of living.

B14-T218 Advanced "In Business" Training
This course provides more exposure to the business world and its problems. In addition to speakers, the student works one week in the field with a sponsoring company. During the "in business" week, the student prepares a report which overviews the marketing strategy of the sponsoring firm.
B14-T318 "In Business" Sales Training
This course is designed to further familiarize the student with a business environment. There is a more direct focus on sales careers. 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. As in Term 2, a major "in business" training report is completed and focuses on the sales strategy.

B15-C101 Data Processing 1 Introduction and Assembler
This course is a basic introduction to data processing. The initial part of the course deals primarily with basic concepts and terminology. Following this, programming concepts are introduced. For this, the Red River Community College and University of Manitoba computer systems are used. The student is required to design, code, and test a number of programs using ASSIST (IBM BASIC Assembler).

B15-C201 Data Processing 2 COBOL
Data Processing 2 is a continuation of the work begun in Term 1. The initial part of the term is devoted to more Assembler Language programming concepts with an emphasis on table handling techniques. Following this, the COBOL portion of the term is begun and continues through to the end of the term.

B15-C301 Data Processing 3 COBOL and "C" Language
The first half of the term is a continuation of the work began in Data Processing 2, that is, COBOL and structured concepts are continued. Some of the topics covered include variable length records, GO-TO-LESS programming, indexed files, etc. Forms management concepts are also covered. For this Hewlett-Packard's VIEW PLUS software is used in conjunction with COBOL. The second half of the term is given over to C Language on the HP.

B15-C303 Operating Systems
As an introduction to operating systems, this course covers the general theory of operating systems. Three types of operating systems are covered: 1) a mainframe operating system, 2) a minicomputer operating system, and 3) a microcomputer operating system. Students learn JCL and receive hands-on instruction using: 1) IBM's OS-JCL (mainframe), 2) HP's MPE-XL JCL (minicomputer), and 3) UNIX (microcomputer).

B15-C308 Systems Analysis
This is the first in a series of two courses in Systems Analysis and Design offered in Terms 3 and 4 of the Computer Analyst Programmer Program. This, the first course, focuses on the analysis phase of systems development while the second covers the design phase. The objective of this course is to provide the student with an understanding of the duties of the systems analyst together with an understanding of specific methods and techniques used in the analysis phase of the systems life cycle. Three basic approaches are covered: traditional (classical), structured, and prototyping. The application of CASE tools is illustrated with demonstrations of the use of Excelerator from Index Technology.

B15-C405 RPG Programming
This course will provide the student with a sound understanding of the Report Program Generator language. This language is different from procedure-oriented languages in that specification forms are used to invoke the built-in logic to facilitate processing data. The emphasis is practical and applied to the business environment. All specification forms are covered. Topics covered include the use of tables and arrays as well as sequential and indexed sequential file processing concepts. The course uses the lecture/lab approach to present the material. Several programming assignments are written by the student to reinforce learning the language specifications and programming techniques.
B15-C406 File Structures
File Structures provides an introduction to database processing from the standpoint of the physical representation of the database. The topics provide background material needed to understand how database systems operate. Major topics include input/output processing and file organization, data structures commonly used in the database environment, representation of trees and networks, techniques for representing secondary keys and IBM's VSAM files. A student should write three COBOL programs to simulate database processing: a) to create a simple linked-list structure, b) to maintain a tree structure using the child and twin pointer technique, c) to create and manipulate a values and occurrence table to maintain non-unique secondary keys.

B15-C408 Systems Design
This is the second in a series of two courses in Systems Analysis and Design offered in Terms 3 and 4 of the Computer Analyst Programmer Program. This, the second course, focuses on the design phase of systems development while the first covered the analysis phase. The objective of this course is to provide the student with an understanding of the duties of the systems designer together with an understanding of specific methods and techniques used in the design phase of the systems life cycle. Specifically, the topics covered are: output design, input design, file/database design, processing and controls, implementation and hardware/software selection. The application of CASE tools is illustrated with demonstrations for the use of Excelerator from Index Technology.

B15-C507 Business Applications
The objective of this course is to provide the student with an understanding of the functions, characteristics, and components of the most common business applications. The following applications are covered: Receivables - invoicing, cash receipts, accounts receivables; Payables - accounts payable, fixed assets, employee payroll; Materials Control - customer order entry, inventory control, purchasing and receiving; Financial and Marketing - general ledger, sales analysis, and market planning. Also included: "real world" software applications.

B15-C508 Microcomputers
The objective of Microcomputers is to provide the student with a basic understanding of commonly used software packages. The students work through a program of practical exercises on personal workstations in the microcomputer lab. WordPerfect 5.1 wordprocessing software, the spreadsheet package Lotus 1-2-3, and DOS.

B15-C509 dBASE IV
The objectives of this course is to familiarize students with microcomputer database processing. The course material is designed to provide extensive hands-on database experience using a database management system called dBASE IV. dBASE is currently the most widely used database package for microcomputers in the business environment. The course will provide students with the ability to create and maintain databases, performing database tasks such as adding, changing, deleting, sorting, printing and querying. Processing from the Control Centre as well as programming from the DOR Prompt will be covered. The course is tutorial in nature. Instruction and demonstration of database principles and techniques are supplemented by lab assignments.

B15-C601 Edit Project
This is a lab course in which the student is required to complete the on-line/edit program. Assigned in Term 5 in the Business Applications course, the project is designed to give the student experience in designing, writing, and testing a large on-line program in a main-frame environment. The student is required to use COBOL along with VIEW PLUS (Hewlett Packard's forms management software).
The objective of this course is to introduce Computer/Analyst Programmer students to commercially available database management systems. Specifically, the data base products covered are hierarchical: IMS (IBM); relational: SQL (Hewlett-Packard). (All Base).

This course instructs students in the latest fourth generation methodologies. The POWER HOUSE system developed by COGNOS is used for this purpose. Instruction and hands-on experience are given to each student using the four main products that make up the system: PDL - data dictionary processor, QUIZ - report generator, QTP - volume processor, Quick - screen design and on-line data entry processor.

This course is structured as a series of modules that change with changes in industry. Emphasis is on an introduction to data communications, current trends, and current hardware developments (networking is included).

Students will work for six weeks full-time in a computer installation in Winnipeg.

This course is an introduction to basic computer concepts and terminology. Students are provided with hands-on experience with MS-DOS. Students also learn word processing skills using WordPerfect. Computer knowledge and skills are related to the library workplace.

Students learn to use Lotus 1-2-3. Library applications are emphasized.

Review of algebra, numbering, systems, discount, simple interest, negotiable instruments, ordinary annuities, installment buying, annuities due, deferred annuities, debt extinction by amortization and sinking fund, bonds, depreciation, perpetuities, capitalization and comparison of buying costs.

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.

General computer literacy and the WordPerfect word processing software.

Students learn basic DOS commands and functions. Document creation, editing, formatting, printing, and various enhancements are covered in Word Perfect. Spreadsheet application for the hospitality industry are applied using Lotus 1-2-3.

Computer Literacy 1 has been designed to meet the needs of students wishing to become comfortable with using the IBM-PC. To achieve this goal, the students will use a hands-on approach using WordPerfect and DOS software programs.
B15-S213 Microcomputer Productivity Software 1
This course will cover: a) computer literacy including software, hardware, CPU input/output, secondary storage files and databases, communications, and information systems, b) introduction to DOS microcomputer operating systems, c) word processing – WordPerfect 5.1 to include editing, formatting, spelling, headers, text, columns, mail merge, and other features.

B15-S214 Microcomputer Productivity Software 1 Int.
This course will cover: a) computer literacy including software, hardware, CPU input/output, secondary storage files and databases, communications, and information systems, b) introduction to DOS microcomputer operating systems, c) word processing - WordPerfect 5.1 to include editing, formatting, spelling, headers, text, columns, mail merge, and other features.

B15-S309 Computer Literacy 2
Computer Literacy 2 has been designed to meet the needs of students wishing to become familiar with spreadsheets on the IBM-PC.

B15-S310 Microcomputer Database
The objective of the course is to familiarize students with microcomputer database processing. The course material is designed to provide extensive hands-on data base experience using a database management system called DBASE IV. DBASE is currently the most widely used database package for microcomputers in the business environment. The course will provide students with the ability to create and maintain databases, perform database tasks such as adding, changing, deleting, sorting, printing, and to look up information.

B15-S313 Microcomputer Productivity Software 2
This course is a continuation of B15-S213 and will cover: a) DOS to include working with root and subdirectories, b) spreadsheet Lotus 1-2-3 to include formulas, copying, inserting, conditional statement, tables, sorting, and graphics.

B15-S314 Microcomputer Productivity Software 2
This course is a continuation of B15-S213 and will cover: a) DOS to include working with root and subdirectories, b) spreadsheet Lotus 1-2-3 to include formulas, copying, inserting, conditional statement, tables, sorting, and graphics.

B15-S601 Microcomputer Database
Microcomputer Database presents the RBASE 5000 software package.

B16-C695 Hospitality Advertising, Sales and Public Relations
Students learn the essential elements of promotion planning and the requirements of effective advertising, public relations, sales management, and personal selling in promotion strategy.

B16-E123 Sales Communications
The objective is to develop the potential salesperson's communication skills. These skills are speaking, listening, reading, and writing. The student will be expected to complete formal presentations and to participate actively in classes and workshops in order to develop the skills needed for these presentations. The student will also prepare a résumé and cover letter.
B16-E129 Business Communication 1
Students will review the fundamentals of grammar, punctuation, tone, and organization while applying these skills to routine types of business communication: letters, memos, and resumés. They will also learn study skills applicable to all their courses.

B16-E202 Advanced Sales Communications
This course will cover the practical application of communication skills to the needs of sales and marketing personnel. During this trimester, the student will become familiar with specific types of business correspondence and informal reports which are necessary to succeed in the program. The student will also participate in two role-plays to demonstrate effective group dynamics.

B16-E289 Business Communication 2
Students will prepare a detailed report relating to computers. They will learn research skills, organization, and analytical thinking. In addition to their written report, they will present their projects to the class in a formal oral presentation. They will also participate in a simulated employment interview.

B16-E811 Basic Business Communication
Students will review the fundamentals of grammar, punctuation, tone, and organization while applying these skills to routine types of business communication: letters, memos, and short speeches. They will also learn study skills applicable to their courses.

B16-E822 Intermediate Business Communication
Students will further develop their communication skills by preparing longer, more persuasive types of communication. They will prepare a resumé and application letter as well as participate in a simulated employment interview. They will write a short report and give a persuasive speech.

B16-E833 Advanced Business Communication
Students will conduct research to prepare for a formal presentation. They will prepare a short research report and write a summary of a larger article or report. They will also learn tactful methods of delivering bad news and dealing with opposition.

B16-E841 Basic Business Communication
Students will review the fundamentals of grammar, punctuation, tone, and organization while applying these skills to routine types of business communication: letters, memos, and short speeches. They will also learn study skills applicable to all their courses.

B16-E842 Basic Business Communication
Students will review the fundamentals of grammar, punctuation, tone, and organization while applying these skills to routine types of business communication: letters, memos, and short speeches. They will also learn study skills applicable to all their courses.

B16-E843 Advanced Business Communication
Students will conduct research to prepare for a formal presentation. They will prepare a short research report and write a summary of a larger article or report. They will also learn tactful methods of delivering bad news and dealing with opposition.

B16-E844 Advanced Business Communication
Students will conduct research to prepare for a formal presentation. They will prepare a short research report and write a summary of a larger article or report. They will also learn tactful methods of delivering bad news and dealing with opposition.
B16-E852 Intermediate Business Communication
Students will further develop their communication skills by preparing longer, more persuasive types of communication. They will prepare a résumé and application letters as well as participate in a simulated employment interview. They will write a short report and give a persuasive speech.

B16-E853 Intermediate Business Communication
Students will further develop their communication skills by preparing longer, more persuasive types of communication. They will prepare a résumé and application letters as well as participate in a simulated employment interview. They will write a short report and give a persuasive speech.

B16-L001 Academic Course: Business Communications
Students review the fundamentals of grammar, punctuation, tone, and organization while applying these skills to routine types of business communication: letters, memos, and short speeches. They also learn study skills applicable to all their courses.

B16-L002 Academic Course: Career Writing
Students continue to master written and oral skills required in a library setting. Students learn to write abstracts, business reports, book reviews, and to conduct effective meetings, and take minutes. Students also prepare résumés, letters of application, and learn proper job interview skills.

B16-L003 Academic Course: Children’s Literature
This course is designed to cover the many aspects of children’s literature to aid the student in the choice and recommendation of books for children. The practicum includes storytelling and reading aloud.

B16-L004 Academic Course: Young Adult Literature
Special emphasis is on contemporary, intermediate, and young adult literature and Canadian writers. Students learn to write book reviews. The practicum includes book-talking.

B16-L005 Academic Course: Canadian Literature
This course is designed to introduce students to works by Canadian writers and to develop basic skills in writing about literature and doing research in literary areas. Students will look at a variety of works and examine such terms and concepts as imagery, irony, point of view, and genre.

B16-L006 Academic Course: Literary Genres
This course is an introduction to types of popular fiction including westerns, historical fiction, romantic fiction, mystery and detective fiction, fantasy and science fiction, spy/espionage novels, and thrillers. Readers' advisory services is also covered.

B17-E651 Introduction to Communication
This course provides a comprehensive review of grammar, mechanics, and punctuation as well as techniques for writing effective sentences. The course also contains a learning strategies component which covers study, test writing, and note-taking skills.

B18-A205 Accounting 1
This course is designed to introduce basic accounting procedures, concepts, and applications. Accounting procedures include journalizing, posting, balancing ledgers, preparing, adjusting, and closing entries for a service industry.
B18-A305 Accounting 2
In this course, the student will use subsidiary ledgers, special journals, make adjusting, closing, and reversing entries, and prepare financial statements for a merchandising business. Students will also prepare bank reconciliations and petty cash records as well as calculating and recording a payroll.

B18-B504 Introduction to Business
The intent of this course is to provide students with a basic overview of the Canadian business system and its importance in the economy and in society. To enable the administrative assistant to participate in strategic planning, the course will familiarize students with such topics as: business ownership, organization and management, business decision-making processes, entrepreneurship, labour relations, and Canada's role in the global economy.

B18-C225 Communications 1
Through the writing process, students will be able to write clear, concise paragraphs incorporating correct grammar, spelling, punctuation, word division, and vocabulary usage.

B18-C325 Communications 2
Students will apply English mechanics in writing inter-office memos and in writing a variety of letters. Students will practice editing their work; they will also perform a job search, write a resumé and covering letter, and prepare for the job interview.

B18-C425 Report Writing
This course is designed to enable the student to prepare various types of reports, collect information including library research, correctly structure the content, prepare graphics and visual aids for use with reports and oral presentations, and write, evaluate, and edit suitable to a business organization.

B18-C505 Oral Communications
This course is designed, through active participation, to enhance students' ability to communicate verbally on a one-to-one basis and in group situations. Students will evaluate and summarize relevant information in preparation for their oral presentations. This course also includes all aspects of preparing for and managing effective meetings.

B18-D405 dBASE IV
This course is designed to provide the student with an opportunity to use databases in relation to the dBASE IV software, become familiar with the relational capabilities of the dBASE IV software, set up and enter data, search for data, understand user commands, design and create reports, customize input screen for user friendliness, and validate input into database.

B18-E400 Co-operative Work Experience 1
Co-operative education is paid, on-the-job work experience. Students are exposed to the practical aspects of their training and to the requirements and expectations of employers. The experience is monitored by the co-operative coordinator. The student's performance and the work placement are evaluated, and students are required to write a comprehensive report on the experience.

B18-E402 Employment Preparation 1
This course is designed to prepare students for their first co-operative work experience in Term 4. Included will be the philosophy of co-operative education, the reporting system and the student's responsibility within it, individual skills and interests assessment, and the job application.
B18-E502 Employment Preparation 2
This course is designed to prepare students for their second co-operative work placement in Term 6. It includes feedback and analysis of the first placement and developing strategies to meet employers’ needs for the second placement.

B18-E600 Co-operative Work Experience 2
This is the program’s second paid on-the-job work experience. Goals and requirements are the same as those for Co-operative Work Experience 1.

B18-F403 Records Management 1
This course will provide the student with an understanding of what a records management system is; the rules and filing procedures covering alphabetic, subject, numeric, and geographic classifications; familiarity with filing equipment.

B18-F503 Records Management 2
The student will learn how to evaluate a records system, control the creation of records, analyze forms, conduct a records inventory, evaluate storage and retrieval procedures, establish records retention schedules, transfer records, and evaluate safety and security of records.

B18-G604 Desktop Publishing
This course is designed to introduce the student to electronic desktop publishing. The student will design and produce a variety of documents that maximize the use of text and graphic display.

B18-L305 Lotus 1-2-3
Lotus 1-2-3 is the most popular computer spreadsheet program in business today. Students will prepare an electronic database and manipulate data through spreadsheeting, graphing, and data management techniques.

B18-M305 Office Procedures
The role of the Administrative Assistant requires efficiency and competence. This course encourages the student to use initiative and time-management principles in planning, organizing, and carrying out routing office duties. As well, there is practice in organizing meetings, taking minutes of meetings and formatting them, preparing materials for visual presentations, making travel arrangements, and preparing expense reports.

B18-O605 Organization/Seminar
Students working in groups will organize and facilitate seminars on such topics as: cultural differences in the workplace, ergonomics, sexual harassment, environmental issues, and career development. With guidance from instructors, students will be responsible for all aspects of each seminar. These seminars will be open to other students and faculty in the Business department.

B18-P405 Transcription
This course requires the student to transcribe mailable letters and other business documents from machine-recorded dictation at an acceptable rate.

B18-S604 Supervision
This course is designed to enable the student to explore the basic principles underlying human behavior, the fundamentals of motivation and to discuss individual and group behavior as it pertains to the work environment. This course will also include topics such as: effective delegation, leadership, strategies for implementing change, performance evaluation, discrimination, and office politics.
B18-T100 Keyboarding for Information Processors
This course is designed to prepare students to use touch-typing techniques on a typewriter keyboard. Concentrates on familiarizing students with letters, symbols, and numbers of the typewriter keyboard. (These keys are identical with most microcomputer and word processor keyboards.) Numerous word and sentence drills develop accuracy and speed. A minimum keyboarding speed of 20 words per minute is required (or must be achieved).

B18-T210 Keyboarding 1
This course develops touch-typing techniques and introduces basic formatting.

B18-T310 Keyboarding 2
This course develops touch-typing speed on straight copy and includes formatting of letters, memos, forms, tables, and reports.

B18-T405 WordPerfect – Basic
This course requires the student to produce (in mailable form) a variety of letters, memos, tables, business forms, financial statements, and reports.

B18-T505 WordPerfect – Advanced
Using the knowledge gained from the WordPerfect – Basic course, students will expand their knowledge of some of the more advanced functions. Some of the functions included are: macros, sort and select, math functions in tabular columns, parallel/newspaper columns, graphics, and file management.

B18-V205 Interpersonal Communications
Interpersonal skills are considered to be extremely important in business today. This course will focus on the communications process, verbal and non-verbal communication, working effectively in a group, communicating effectively with co-workers, supervisors and the public, projecting professional attitudes, managing conflict, and managing stress.

B18-W120 Word Processing: Introduction
This course introduces students to keyboarding and to creating, editing, printing, indexing, and filing documents. Students apply their knowledge to processing documents relevant to their main course areas.

B18-W402 Windows
This is an introductory course designed to develop the skills necessary to work in the Windows graphical environment using IBM or IBM-compatible personal computers using Microsoft Windows software.

B18-W405 Keyboarding 3
This course requires the student to produce in mailable form a variety of letters, memos, tables, business forms, financial statements, and reports at an advanced level. Students must also touch type at a minimum of 50 wpm on straight copy.

B18-W505 Keyboarding 4
This course is designed to increase touch-typing skills and to develop decision-making skills through working with items of varying importance.
B18-W535  Word Processing
This course is 60 hours in duration and consists of lectures and hands-on practical experience completing medical applications on an IBM-compatible computer using WordPerfect software. Students should have approximately 35-40 wpm and may or may not be familiar with appropriate set-up for various medical documents. A small portion of time will be spent on improving keyboarding skills using medical terminology and drills.

B18-W555  WordPerfect Application 1
During this course, students will apply knowledge gained in the Basic and Advanced levels of WordPerfect, along with communication skills, to a series of in-basket situations. The course will include forms design and the preparation of visuals for presentations. Students are required to make decisions and are encouraged to use their creativity.

B18-W656  Microsoft Word/Windows
Through the creation of realistic business documents, students apply the features of Word for Windows. The course begins with basic formatting and progresses through advanced character formatting, tables and columns, styles and macros, merging, and graphics.

B18-X205  Introduction to Computers
This course serves as a foundation for all the other computer courses in this program. It includes fundamental computer concepts, DOS and file management, computer systems, and hardware specifications.

B18-X605  Software Applications
In this course, students will select appropriate computer applications to manage and display information. Students will practice software integration through import and export functions. Students will also investigate and compare the latest in software designed to make the job of administrative assistant easier and more efficient.

B19-C762  Medical Coding 1
An introduction to coding principles and the various systems for the classifications of diseases, conditions and procedures in health care facilities and agencies. The major emphasis is placed on ICD-9CM. Prerequisite: B19-R741 Health Records Science 1, B19-M751 Medical Terminology 1, and H03-L113 Anatomy and Physiology I.

B19-C763  Medical Recording 2
A continuation of B19-C762 designed to develop proficiency in ICD-9CM coding. Abstracting of health information according to MHIS and introduction to other health information processing systems. Prerequisite: B19-C762 Medical Coding 2.

B19-E751  Communications 1
Communications 1 is the first of three terms designed to develop written communication skills. Through the writing process, students will be able to write clear, concise paragraphs incorporating correct grammar and mechanics, spelling, word division, and vocabulary usage as it applies to the medical field.

B19-E752  Communications 2
Communications 2 will focus on written communication skills – resumes, effective job applications, letters, and memos. Particular emphasis will be placed on medical/health applications. Prerequisite: B19-E751 Communications 1.
B19-E753 Communications 3
Communications 3 will focus on the application of writing skills relative to report writing, especially the practicum essay. In addition, you will participate in a simulated interview role play. Prerequisite: B19-E752 Communications 2.

B19-M751 Medical Terminology 1
An introduction to the technical language of medical science through the study of combining forms, roots, stems, prefixes, suffixes, and derivatives; synonyms, homonyms, common disease terms, and specialty classifications.

B19-M752 Medical Terminology 2
A continuation of the study of the language of medicine through the study of medical abbreviations, laboratory and x-ray tests, drugs and drug classifications and disease, operations, and conditions relative to each body system.

B19-N751 Medical Transcription
A course designed to introduce principles of transcribing medical and surgical reports and to apply these to format and procedures currently utilized in health care facilities. The objective is to provide students with an opportunity to apply theory learned in Health Records Science, Medical Terminology, and Anatomy and Physiology. Prerequisite: B19-R752 Health Records Science 2, B19-M752 Medical Terminology 2, and H03-L213 Anatomy and Physiology 2.

B19-P303 Hospital Practicum
This is a 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. Students are assigned to accredited health care facilities and are under the direction of certified health records practitioners. This is a mandatory component of the Health Record Technician program and no supplementary privileges are granted. Students are responsible for all costs incurred. Prerequisite: B19-R752 Health Records Science 2, B19-M752 Medical Terminology 2, H03-L213 Anatomy and Physiology 2, B19-C762 Medical Coding 2, and B19-N751 Medical Transcription.

B19-R741 Health Records Science 1
An introduction to the development of the health records profession and study of the fundamental standards for health records, numbering, and filing systems, quantitative and qualitative analysis, and maintenance of health records, indices and retrieval of records, retention of records and microfilming. Emphasis on the professional organizations in health records (CHRA/CCHRA, MHRA, IFHRO) and the Code of Practice for health records. Relationship of health records and medical staff relative to organization, committee functions, and responsibilities for the health record.

B19-R752 Health Records Science 2
The compilation of health statistics and computation of ratios; emphasis on confidentiality and the legal aspects of health records and patient access. Quality assurance, utilization review and management, and the role of the health records technician in organization and management.

B22-B110 Shorthand 1
A course introducing elementary principles and practices in Pitman Shorthand with daily instruction in recording, writing and transcription.
B22-B112 Keyboarding and Basic Formatting
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. Prerequisite: a typing speed of 25 wpm.

B22-B113 Keyboarding plus Advanced Formatting
Skill building in straight copy is continued as well as further instruction in more complicated styles of letters, tables and manuscripts. Speed requirements in both areas are increased and straight copy speed is increased to 50-60 wpm. The course also includes modules in word processing and dictaphone. Prerequisite: B22-B112 Keyboarding and Basic Formatting.

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-B120 Data Processing 1
A general overview of the development of business data processing dealing with hardware, software, data communications, internal architecture and information systems. A series of BASIC programs using loops, decisions and sequential files, and assignments using the basic functions of word processing, database and spreadsheet business software will be completed on a microcomputer.

B22-B205 Management Accounting Systems
The role of accounting systems, mathematical models and computer software in the creation and application of the information required for the planning and controlling of the business operation. The topics include accounting information systems and controls, manufacturing and cost accounting, profit planning and operational budgeting, and investment decisions and capital budgeting.

B22-B208 Business Organization and the Consumer
A broad analysis of business concepts, functional internal characteristics of business, the interrelationships of business, government and consumers and discussion of consumer decision making.

B22-B209 Intermediate Accounting
Involves accounting information useful in decision making with a review of all accounting procedures. The course includes an in-depth study of the principles and techniques as applied to cash, temporary investments, receivables and fixed assets. (Equivalent to 9.201 in Faculty of Management, University of Manitoba). Prerequisite: Grade of C in B22-B116 or equivalent.

B22-B210 Intermediate Accounting 2
Includes an in-depth study of accounting principles and techniques as applied to long-term investments, inventories, general problems flow matching and estimation procedures and intangible assets. The course also deals with accounting for corporations.

B22-B220 Data Processing 2
An introduction to business data processing including the design of business systems and information systems, the structure of data files, and the utilization of microcomputer word processing, database, spreadsheet, and accounting software for business applications. Prerequisite: B22-B120 or equivalent.

B22-B222 Records Management
Technological changes have impacted greatly on the creation, content and dissemination and retention of information. Records Management deals extensively with each of these areas. Current technology is used to develop systems to integrate all of these elements which make up an effective records management program.
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-E209 Methods of Teaching Retailing
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 Counselling
This course is designed to help student teachers gain the fundamentals of knowledge and guidance skills in human understanding and show sensitivity to the hidden messages of students. Explanations of what counselling 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 these effectively. Teacher counselling 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-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 course.

B22-E220 Methods of Teaching Data Processing
Preparation to teach accounting and data processing using high school curriculum guides and texts to determine the content and resources, and plan instructional techniques and objectives. The use of accounting, database and spreadsheet microcomputer applications software will be emphasized. Prerequisites: B22-B116 and B22-B120 or equivalents.

B22-E222 Comparative Shorthand Systems
This course prepares student teachers to instruct in three shorthand systems authorized in the public schools. Basic methods will be adoptable to all three systems. Students will be given the opportunity to compare the systems and teach theory and use speed-building strategies applicable to any system.
B22-M102 Marketing
This course 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 course they will take.

B22-T111 Seminar and School Experience
A period of student involvement in actual classroom practice. Students will be assigned to an experienced teacher in public school to observe and participate in teaching activities. Informative conferences will be arranged to assist and evaluate the student in the student teaching period.

B22-T211 Student Teaching
A continuation of B22-T111 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.

B23-C102 Construction - Introduction
Construction Introduction 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-E103 Audio Visual and Technical Education
The application of audio visual materials and equipment, the microcomputer and application software, and other instructional support technology to the development of effective lesson presentations and demonstrations, useful instructional packages, and technology oriented projects in vocational education programs. This includes the development of audio visual materials and equipment, and microcomputer software and equipment for lecture, demonstration, individualized, project-based, and technology-based instruction.

B23-E104 Communication Skills
This course involves reading, writing, listening, and speaking. This 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, with emphasis being placed on their application within the education structure.

B23-E105 General Teaching Methods 1

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 Canadian federal and provincial programs. Current trends. Emphasis will be placed on vocational industrial or industrial arts education as required. Student research and report 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 2**

Prerequisite: B23-E105 General Teaching Methods 1. Continuation of General Teaching Methods 1 with 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 Chair, Teacher Education, 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 lithographic, 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 interchangeable parts.

**B23-M202 Manufacturing – Advanced**

An in-depth 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 case 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 in-depth 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. Students will be assigned to an experienced teacher in public school to observe and participate in teaching activities. Informative conferences will be arranged to assist and evaluate the 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 extra curricular activities.

B23-V101 Vocational Training and Related Work Experience
Credit is received for related work experience.

B23-V202 Introduction to Microcomputers
The course looks at the structure and operation of a microcomputer as well as the fundamentals of programming in the language BASIC.

B23-W102 Co-operative Business/Industrial Education
A special program designed to provide educational experiences relevant to Industrial Arts/ Business Teacher Education students 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 a project summarizing the student activities will be a major requirement.

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.

B31-CX01 Practical Yeast Goods
Must be able to prepare a variety of yeast-raised goods.

B31-DX01 Practical Muffins
Must be able to prepare muffin-type products.

B31-FX01 Practical Cakes
Must be able to prepare cakes and icings.

B31-XE01 Practical Pies and Tarts
Must be able to prepare pies and short pastries.

B31-XE02 Practical Choux Pastry
Must be able to prepare choux pastry items.

B31-XG01 Practical Cookies
Must be able to prepare a variety of cookies.

B31-0A00 Demonstrate Basic Baking Prerequisites
Explain basic baking principles and procedures.
B31-0A01 Basic Sanitation Principles and Procedures
Demonstrate and explain basic sanitation principles and procedures.

B31-0A02 Basic Bakeshop Safety Rules
Explain basic bakeshop and kitchen safety rules and procedures.

B31-0A03 Safe and Efficient Use of Bakeshop Equipment
Explain the safe and efficient use of standard commercial baking equipment.

B31-0A04 Standardized Recipes and Conversions
Explain standardized recipes (formulas) and measurement proc. and calculation conversions.

B31-0B00 Basic Baking Ingredient Knowledge
Identify and describe the basic ingredients used to produce baked goods.

B31-0B01 Typical Ingredients Used in Baking
Identify and describe the functions of flour, sugar, water, yeast, and salt, etc.

B31-0C00 Prepare Yeast-Raised Goods
Prepare a variety of yeast-raised goods.

B31-0C01 Basic Methods to Prepare Yeast-Raised Goods
Identify and describe the basic methods used to prepare yeast-raised goods.

B31-0D00 Prepare Muffin-type Products
Prepare muffin-type products (quick breads).

B31-0D01 Basic Preparation for Muffin-type Products
Describe the basic preparation methods used for muffin-type products.

B31-0E00 Prepare Pies and Short Pastry
Identify and describe the methods used to produce pies and short pastry.

B31-0E01 Methods Used to Produce Pies and Tarts
Identify and describe the methods used to produce pies and tarts.

B31-0E04 Preparation of Puff Pastry
Explain the preparation of puff pastry and prepare a selection of items.

B31-0F00 Prepare Cakes and Icing
To prepare a basic variety of cakes and simple fillings and icings.

B31-0F01 Identify Mixing Methods for Cakes
Describe the mixing methods used.

B31-0G00 Prepare Cookies
To describe and apply the methods used to prepare a basic variety of cookies.

B31-0G01 Methods for Preparing Cookies
Describe the methods used to produce a basic variety of cookies.

B31-0H00 Basic Management Functions
Explain basic management functions as they relate to bakeshop operations.
**B31-OH01 Purchasing Functions**
Explain the elements of purchasing function.

**B31-OH02 Describe Receiving, Storing and Issuing**
Describe the essentials of receiving, issuing and record keeping. Identify storage procedures and describe the basics of inventory control.

**B31-OH03 Calculate Cost and Selling Prices**
Calculate rec. cost and selling prices and identify the components of basic financial statements.

**B31-OH04 Scheduling Staff and Production**
Explain scheduling of staff and production.

**B31-OH05 Explain the Role of Merchandizing**
Explain the importance of effective product promotion.

**B32-AX01 Practical Restaurant Cooking**
This constitutes a summation of the student's practical performance.

**B32-AX02 Practical Food Preparation**
This constitutes a summation of the student's practical performance.

**B32-A012 Basic Food Preparation**
This course involves learning basic sanitation principles and procedures, familiarization with basic kitchen safety and the use of commercial kitchen equipment and knives. Students examine standardized recipes, measurement procedures and calculating conversions. Preparation of stocks, soups and sauces, meat, poultry and fish, rice and pasta and salads and dressing are covered.

**B32-CX01 Practical Cooking Quantity**
This constitutes a summation of the student's practical performance.

**B32-C206 On-the-Job Training**
The student will spend one block of eight-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 our co-operative education co-ordinator.

**B32-C207 On-the-Job Training**
The student will spend a second block of eight weeks duration in the employment of a restaurant or hotel, as arranged by the College on a co-operative education basis.

**B32-DX01 Practical Patisserie**
This constitutes a summation of the student's practical performance.

**B32-N506 Nutrition**
Introduction to aspects of nutrition as they pertain to the hospitality industry.

**B32-0A00 Food Preparation Skills**
This consists of compacs 1 - 17.

**B32-0A01 Explain Sanitation Principles and Procedures**
Explain basic sanitation principles and procedures.
B32-0A02 Explain Kitchen Safety Rules and Procedures
Explain basic kitchen safety rules and procedures.

B32-0A03 Safe and Efficient Use of Kitchen Equipment
Explain the safe and efficient use of standard commercial kitchen equipment.

B32-0A04 Use Kitchen Knives Safely and Efficiently
Must be able to, using a French knife, perform basic cutting and sharpening techniques safely and efficiently.

B32-0A05 Measurement Procedures and Conversions
Explain standardized recipes, measurement procedures and calculate conversions.

B32-0A06 Preparation of Typical Breakfast Items
Describe the preparation of typical breakfast items.

B32-0A07 Describe Use of Dairy Products
Describe the use of dairy products.

B32-0A08 Prepare Coffee and Tea
Must be able to describe the handling, the storing and the preparation methods used for coffee and tea. Identify the common types of equipment used.

B32-0A09 Preparation of Basic Stocks
Explain the preparation of basic stocks.

B32-0A10 Prepare Soups
Must be able to, provided with recipes, prepare a variety of soups and apply appropriate garnishes.

B32-0A11 Prepare Sauces
Must be able to, provided with recipes, prepare brown, velouté, béchamel, tomato and hollandaise sauces and four small sauces (as specified by your instructor).

B32-0A12 Cook Vegetables, Rice and Pasta
Must be able to, based on the classification of vegetables and the types of rice and pasta, explain, select and apply appropriate cooking methods with attention to sanitation principles and safety procedures.

B32-0A13 Cook Meat, Poultry and Fish
Must be able to cook meat, poultry and fish using dry-heat methods and moist-heat methods appropriate for meat cuts and grades, poultry parts and classifications, and for fish types and market forms.

B32-0A14 Debone and Cut Meat, Fish and Poultry
Debone, cut and portion meat, fish and poultry.

B32-0A15 Prepare Salad and Salad Dressings
Must be able to explain the classification of salads by both their function and ingredients and prepare a variety of salads and permanent-emulsion and temporary-emulsion dressings.

B32-0A16 Prepare Appetizers
Must be able to explain the classification, the function and the preparation of appetizers.
B32-0A17 Buffet Preparation and Service
Must be able to describe, identify and prepare a selection of typical foods used for buffets including their presentation and service.

B32-0B00 Describe Elements of Cost Control
Describe elements of cost control as they apply to kitchen management. This consists of compacs 1–2.

B32-0B01 Common Mechanism Control and Records of Food Sold
Name the control mechanisms commonly used and explain the recording of food items sold.

B32-0B02 Recipe Costs and Yields and Selling Prices
Calculate recipe costs, portion costs, yields and selling prices.

B32-0C00 Elements of Purchasing and Inventory Control
Describe elements of purchasing and inventory control. This consists of compacs 1–3.

B32-0C01 Elements of Purchasing Functions
Explain the basic elements of purchasing functions.

B32-0C02 Purchasing for Food and Non-alcoholic Beverages
Identify purchasing criteria for food and non-alcoholic beverage products.

B32-0C03 Receiving, Storing and Issuing Procedures
Describe receiving, storing and issuing procedures

B32-0D00 Prepare Patisserie Items
This consists of compacs 1–4.

B32-0D01 Identify Baking Ingredients
Must be able to describe the basic bakery ingredients, indicate their characteristics, uses, function and composition.

B32-0D02 Prepare Yeast and Raised Goods
Must be able to prepare a variety of fermented goods and describe the basic methods used.

B32-0D03 Prepare a Variety of Pastries
Must be able to describe how pastries are made and prepare a basic variety.

B32-0D04 Prepare Cakes, Sweets and Desserts
Must be able to describe the various methods used to produce and decorate a variety of sweets and desserts.

B32-0E00 Design Menu and Kitchen Layout
This consists of compac 1.

B32-0E01 Develop Menu
Must be able to describe the essential elements involved in planning a menu. Write a menu. Identify the types of menus used and determine item popularity.

B32-0F00 Practice Healthy Food Choices
Must be able to practice healthy food choices.
B32-0F02 Plan a Nutritionally Balanced Menu
Must be able to plan a nutritionally balanced menu.

B32-0F03 Determine a Healthy Weight
Must be able to determine a healthy weight.

B32-0F04 Interpret Food Regulations
Must be able to interpret food regulations.

B33-BX01 Practical 1
This constitutes a summation of the student's practical performance.

B33-DX01 Practical Pastry
This constitutes a summation of the student's practical performance.

B33-0A00 Demonstrate Chef Training Prerequisites

B33-0A01 Explain Basic Sanitation Principles and Procedures
Must be able to describe basic sanitation principles and explain appropriate application to food preparation and storage, garbage disposal and equipment maintenance.

B33-0A02 Explain Basic Kitchen Safety Rules and Procedures

B33-0A03 Explain Safe and Efficient Use of Kitchen Equipment
Must be able to identify basic food processing and cooking equipment and utensils and explain related safe and efficient operating and handling procedures.

B33-0A04 Use Kitchen Knife Safely and Efficiently
Will learn how to use kitchen knives safely and efficiently.

B33-0A05 Explain Standard Recipes, Measures, and Calculate Conversions
Will learn how to explain standard recipes, measures, and calculate conversions.

B33-0B00 Demonstrate Food Preparation Skills

B33-0B01 Identify Elements Essential to Food Products
Identify the elements essential to the organization of food products.

B33-0B02 Explain Seasonings, Flavorings, Herbs, Spices
Explain seasonings, flavorings and the use of herbs, spices, and condiments.

B33-0B03 Explain the Preparation of Basic Stocks
Must be able to explain the preparation of white beef, chicken, brown and fish stocks and appropriate procedures for reduction and handling.

B33-0B04 Prepare Soups
Must be able to prepare, with recipes, a variety of soups and apply appropriate garnishes.

B33-0B05 Prepare Sauces
Must be able to prepare, with recipes, a variety of sauces for different menus.
B33-0B06 Cook Vegetables, Rice and Pasta and Dumplings
Must be able to, based on the classification of vegetable and the types of rice and pasta, explain, select and apply appropriate cooking methods with attention to sanitation principles and safety procedures.

B33-0B07 Cook Meat, Fish and Poultry
Must be able to cook meat, poultry and fish using dry-heat methods and moist-heat methods appropriate for meat cuts and grades, poultry parts and classifications, and for fish types and market forms.

B33-0B08 Debone, Cut and Portion Meat, Fish and Poultry
Must be able to prepare and cut a selection of meat, fish and poultry and perform cutting test(s).

B33-0B09 Describe Preparation of Typical Breakfast Items
Must be able to describe the preparation of typical breakfast items.

B33-0B10 Describe the Use of Dairy Products
Must be able to identify and explain how to select, handle, store and use the different types of dairy produce available.

B33-0B11 Prepare Coffee and Tea
Must be able to describe the handling, the storing and the preparation methods used for coffee and tea. Identify the common types of equipment used.

B33-0D00 Serve Food and Beverage in Dining Room

B33-0D01 Explain Dining Room Sanitation Principles
Must be able to describe and explain the principles of basic sanitation expected of all serving personnel.

B33-0D02 Explain Dining Room Safety Procedures
Must be able to describe the potential dangers prevalent in restaurants and explain how accidents can be avoided through safe work habits. Handle minor accidents and explain standard emergency procedures.

B33-0D04 Prepare for Service
Must be able to commence shift punctually in Assiniboia Inn to arrange and set the tables, prepare all required supplies and equipment, and ensure that they are all in the designated places prior to service.

B33-0D05 Serve Customers
Must be able to describe common types of menus and explain the categories within the menu structure. Serve customers in an efficient, polite manner.

B33-0E00 Prepare Patisserie Items

B33-0E01 Identify Bakery Ingredients
Must be able to describe the basic bakery ingredients, indicate their characteristics, uses, function and composition.

B33-0E02 Prepare Yeast and Raised Goods
Must be able to prepare a variety of fermented goods and describe the basic methods used.

B33-0E03 Prepare a Variety of Pastries
Must be able to describe how pastries are made and prepare a basic variety.
B33-0E04  Prepare Cakes, Sweets and Desserts
Must be able to describe the various methods used to produce and decorate a variety of sweets and desserts.

B33-0F00  Describe Elements of Cost Control of Kitchen Management
Describe elements of cost control as they apply to kitchen management.

B33-0F01  Control of Mechanisms/Record Food Items Sold
Name the control mechanisms commonly used and explain the recording of food items sold.

B33-0F02  Explain Elements of Purchasing/Inventory Control
Explain the elements of purchasing and inventory control.

B33-0F03  Identify Purchasing Criteria for Food
Must be able to identify purchasing criteria for food and non-alcoholic beverage items purchased by food service operations.

B33-0F04  Describe Receiving, Storing and Issuing Procedures
Must be able to describe the common procedures used to receive, store and issue foods.

B33-0F05  Calculate Recipe Costs, Portion Costs, etc.
Calculate recipe costs, portion costs, yields and selling prices.

B33-0G00  Prepare Garde Manger Items

B33-0G01  Prepare Sandwiches
Must be able to explain the classification of sandwiches and the type of ingredients used. Prepare a variety of sandwiches.

B33-0G02  Prepare Salads and Dressings
Must be able to explain the classification of salads by both their function and ingredients and prepare a variety of salads and permanent-emulsion and temporary-emulsion dressings.

B33-0G03  Prepare Appetizers
Must be able to explain the classification, the function and the preparation of appetizers.

B33-0G04  Buffet Preparation and Services
Must be able to describe, identify and prepare a selection of typical foods used for buffets including their presentation and service.

B33-0H00  Explain Management of Human Resources
Explain the management of human resources in the hospitality industry.

B33-0H01  Describe Basic Concepts of Personnel Management
Must be able to, by examining the elements and current trends of the management process, and the roles of the manager and supervisor, describe the basic concepts of managing and motivating employees.

B33-0H02  Perform Job Analysis/Description/Specification
Perform a job analysis and prepare a job description and job specification.

B33-0H03  Recruit and Select Employees
Must be able to recruit and select employees.
B33-0H04 Explain Hotel/Restaurant Training and Development
Explain hotel and restaurant training and development needs, methods and technology.

B33-0H05 Evaluate Employee Performance
Evaluate employee performance using appropriate performance appraisal procedures.

B33-0H06 Explain Factors Affecting Labor Costs
Explain the various factors that affect total labor costs and describe appropriate cost-control measures.

B33-0I00 Design Menu and Kitchen Layout

B33-0I01 Develop Menu
Must be able to describe the essential elements involved in planning a menu. Write a menu. Identify the types of menus used and determine item popularity

B33-0I02 Design Layouts of Kitchen Equipment
Must be able to evaluate and apply the principles of kitchen and cafeteria layout and equipment.

CIV-C192 Engineering Graphics 1
Students will receive a basic understanding in the requirements for technical drawing standards. They will be required to develop basic engineering drafting skills through practice in the use of drawing instruments, the interpretation of simple drawings and sketches and production and reproduction of simple components and mechanisms. Upon successful completion of this course, students will have obtained a thorough foundation in the fundamentals of engineering graphics, a basis upon which they may further develop their drafting skill and knowledge in their technology specialties. No previous drafting skills are required to take this course and prerequisites are limited to those required to enroll in the program.

CIV-C193 Computer-Assisted Drafting 1
Two dimensional drawings are the end products of engineering design and drafting. Computer assisted drafting (CAD) is revolutionalizing the drafting field, CAD is rapidly finding its way into the industry, changing the methods used to produce drawings. This course provides an introduction to AutoCAD on personal computer work stations. The basics of setting up two dimensional drawings, drawing and editing objects, text styles and fonts, and dimensioning is covered.

CIV-C195 Mechanics 1
This course deals with the basic concepts of statics as applied to the analysis of frames, trusses, and the determination of centroids and moments of inertia of geometric bodies.

CIV-C196 Surveying 1
This course consists of the theory and use of survey measuring instruments, the steel tape, engineer's level and transit, and basic techniques in the use of these instruments.

CIV-C197 Communications
The overall goal of this course is to help students develop written communication skills, particularly those required by technologists who will be employed in a scientific, engineering, or industrial environment. Students will be introduced to computer word processing software programs.

CIV-C199 Mathematics 1
This course is basically a review of high school mathematics with emphasis being placed on trigonometry, solution of algebraic equations, exponents, and logarithms.
CIV-C292 Engineering Graphics 2
This course is planned to continue the development of the students' technical drawing and interpretation skills through the preparation of a set of construction drawings for a single family residence. Students will be introduced to residential construction practices, standards, and terminology applicable to their technology specialty.

CIV-C293 Computer-Assisted Drafting 2
The first half of this term will be a continuation of the previous one and will involve a more complex project. This will be followed by the introduction to more sophisticated software in the AutoCAD program and the production of computer-assisted drawings related to the students' technology specialty.

CIV-C295 Strength of Materials 1
This is a basic course in strength of materials which includes topics of stress and deformation, truss, and frame analysis. Demonstrations of materials testing illustrates the physical behavior of engineering materials.

CIV-C296 Surveying 2
This course is a continuation of Surveying 1 which includes topics of closures, missing courses, systems of surveys, and earth work.

CIV-C297 Report Writing
This course helps students to polish the communication skills gained in Term 1. Emphasis is on producing the written reports and giving oral briefings common in a scientific, engineering, or industrial environment.

CIV-C299 Calculus 1
This course provides an introduction to differential calculus of functions of a single variable with emphasis placed on applications related to the fields of Civil Engineering Technology.

CIV-C497 Principles of Management
This is a basic course in organizing and delegating work, making sound decisions, improving communication skills, handling conflicts, and dealing with organizational ethics and politics.

CIV-C499 Calculus 2
This course is an introduction to the process of integration of functions of one variable. It includes techniques of integration as well as applications of integration in elementary problems relating to the field of Civil Engineering Technology.

CIV-C597 Engineering Economics
This course is used to train the student to think systematically about economic issues related to banking, business and government, engineering, and personal financial management.

CIV-C797 Project Management
This course consists of the theory of project scheduling using the critical path method. It will include the logistics of the method including terminology, arrow diagrams, expediting, resource allocation, float, and calendar dating.

CIV-C897 Costing and Contract Administration
This course consists of construction estimating and its related costs with practical exercises in the methods used to estimate residential, commercial, and industrial buildings. The student will also develop an understanding of the construction process and competence with the application of management principles to construction projects.
CIV-D491 Building Science
This course introduces the student to the field of building science. It comprises application of the diverse physiological and psychological factors which serve to establish a comfortable and healthy energy and moisture balance between the human body and the surrounding enclosed environment. Also, application of thermodynamic characteristics of air/water vapour mixtures in determining the processes required to establish indoor thermal and humidity stability, insulation materials, vapor and air barriers, heating and cooling loads in a building, and finally, probability graphic interpretation of thermal and vapor gradients across building envelopes.

CIV-D492 Residential Construction
This course involves the student in the design process and production of construction drawings for a single family residence.

CIV-D493 Computer-Assisted Drafting 3
This course will involve the student in using CAD methods in the production of a variety of engineering drawings.

CIV-D591 Building Science 2
This course introduces the student to the terminology used in the field of HVAC, its symbols and abbreviations, and the determination of loads on the HVAC systems. It further provides the student with the skills to graphically study the building envelope for thermal and vapour flow; an understanding of thermal breaks and air sealing practices.

CIV-D592 Commercial Construction
This course consists of familiarizing the student with commercial building by-law requirements, building code requirements, material use and applications.

CIV-D593 Mechanical System 1
This course is an introduction to the equipment and systems used in the creation of controlled environments within the wide range of structures already occupied or under development. It covers the relationship of chilled water systems, refrigeration theory and related equipment, heat recovery systems and alternative energy systems.

CIV-D596 Construction Materials and Systems
This course introduces the student to types, principles, and functions of major construction systems.

CIV-D791 Electrical Systems
This course consists of familiarizing the student with CSA, NEC, and UL codes, basic loading, motors, protection, fuses, circuit breakers, ground-fault, lighting loads, and system coordination.

CIV-D792 Architectural Technology 1
This course is concerned with design development with an elementary building program to teach schematic layouts, idea diagrams, and general massing.

CIV-D793 Mechanical Systems 2
This course is an introduction to the design of rural and urban water supply systems, design of cold water distribution systems in buildings, design of domestic hot water systems in buildings, waste handling in rural and urban areas, design of waste and sewer systems in buildings, and relevant equipment used in such systems.
CIV-D796 Architectural Environment 1
This course is an introduction to a number of major factors affecting the built environment, noise and sound control, basic electricity leading to electrical illumination studies, and colour theory.

CIV-D892 Architectural Technology 2
This course is concerned with the planning and designing of a selected building type, limited in size and scope to allow full development of its design and production of architectural working drawings including structural framing layout.

CIV-D893 Mechanical Systems 3
This course is an introduction to the design of heating/cooling systems for the multi-occupancy buildings based on the utilization of packaged air handling equipment.

CIV-D896 Architectural Environment 2
This course involves the integration of CIV-D796 theory with engineering calculations pertaining to sound control, electrical illumination, and colour theory.

CIV-D898 Soils and Foundation Design
This course consists of the definitions and descriptions of basic soil types and structures, the computation of volume and weight relationships of soil/water mixtures, grain size distribution, and design classification systems. It will include some of basic foundation types based on soil characteristics.

CIV-G101 Introduction to GIS Technology
CIV-G102 Introduction to GIS Concepts
CIV-G201C Programming 1
CIV-G202 Database Management Systems
CIV-G203 Systems Analysis
CIV-G301 Graphics Data Concepts
CIV-G302 Advanced Application Development
CIV-G303 GIS Software Systems
CIV-G401 Resource Applications
CIV-G402 Municipal Applications
CIV-G501 Systems Administration
CIV-G502 Systems Acquisitions
CIV-G503 Systems Implementation
CIV-G601 GIS Management Issues
CIV-G602 GIS Project
CIV-R492 Plan Preparation 1
This course is a continuation of CIV-C292 Engineering Graphics 2. The student will obtain further practice in Survey Drafting by plotting hard copies from field notes, preparing hand drawn sketches for building location and staking certificates, making sketches of proposed subdivision plans, plotting and tracing township diagrams, preparing plans required for LTO registration by statute and regulation such as special surveys, special plots, expropriation of "right of way" for drains, roads and condominium plans, and calculating mass haul diagrams.

CIV-R493 Computer Applications
This course consists of the use and programming of a hand-held computer, the HP-42S, and the introduction of the use of Survey 3.0 software program, a coordinate geometry program on a personal computer work station including plotting routines.

CIV-R494 Photogrammetry
This course consists of theory relating to, and the practical work, in the relationship of areas, angles, and distances on aerial photographs to areas, angles, and distances on the ground, calculations for flight planning for aerial photography and an introduction to photogrammetric triangulation through the use of a slotted template laydown.

CIV-R496 Theory and Use of Instruments 1
This course consists of an investigation of the principles and operations of conventional and electronic survey equipment for the determination of linear, angular, and vertical measurements including azimuth and position. Standards of procedures and evaluation of data are also considered.

CIV-R498 Surveying 3
This course consists of the field methods of laying out simple and vertical curves and calculations pertaining thereto, special problems in curves, methods of stadia, and construction survey procedures.

CIV-R499 Mathematics 2
This course consists of the review of the plane triangle and associated trigonometry, plane geometry, coordinate geometry, basic statistics and the introduction to differential calculus of algebraic functions of a single variable.

CIV-R592 Route Surveys
This course consists of preliminary surveys, special curve problems, vertical curves, horizontal, and vertical alignment using RTAC design criteria, earthwork calculations including mass diagram, runoff calculations, and culvert design.

CIV-R594 Cartography 1
This course is a further introduction to the topic of coordinate systems in the use of the National Topographic System in Canada and will investigate the operation and effects of various map projections.

CIV-R598 Theory and Use of Instruments 2
This course consists of further investigation of the principles and operations of conventional and electronic survey equipment for the determination of linear, angular, and vertical measurements including azimuth and position. Standards of procedures and equipment as well as calibration procedures and evaluation of data are also considered.
CIV-R599 Advanced Survey Computations 1
This course will examine the advanced techniques in the areas of retracement surveys, curves, and right-of-way surveys with practical use of a coordinate geometry software program on a personal computer. Emphasis is on the compiling and use of clear, concise, and neat field notes.

CIV-R792 Terrain Interpretation
This course involves the student in a review of elementary geology and geomorphology on the formation of landforms identifiable on aerial photographs and a study of photographs (stereo pairs) containing these landforms. From the theory, the student will be required to identify the various landforms, the method of formation of the landforms and to deduce the types of soil present in the landform, surface moisture conditions and possible subsurface moisture conditions, soil permeability, and permafrost conditions.

CIV-R794 Cartography 2
This course consists of practical work in the production of a multi-coloured map of a given area, the setting up of a model in the Kelsh Stereo Plotter for a designated topographic area and scale, and a consideration of basic cartographic principles governing map projects of the earth.

CIV-R796 Advanced Survey Computations 2
This course will examine calculations on subdivision surveys and advanced work in computations with hand-held calculators and on a personal computer. Emphasis is on use of clear, concise, and neat field notes.

CIV-R798 Legal Survey 1
This course will introduce the student to the Canadian Legal System, Real Property Law, Boundary Concepts, Land Registration Systems, the Multipurpose Cadastre, the Dominion Lands System, and the Statutes of Manitoba and Case Law as they relate to surveys with the opportunity for the students to solve practical survey problems.

CIV-R799 Control Surveys 1
This course will introduce the student to basic concepts of geometric geodesy with the relationship to the geoid. Geodetic reference systems with emphasis on Cartesian and geodetic ellipsoidal coordinate systems and their transformation, terrestrial positioning, the direct and inverse geodetic problems in three dimensions, horizontal positioning on the ellipsoid, basic concepts with respect to map projections with particular attention to the Transverse Mercator Projection, and the concepts and basics of the Dominion Lands Systems of Survey.

CIV-R892 Town Planning
This course introduces students to the general theories of subdivision design and in particular to their application in Manitoba. This involves the examination of the function and hierarchy of the system of roads (arterial, major, and minor collector, and residential), street intersections and associated potential traffic hazards, the investigation of various elements of subdivision design including P-loops, cul-de-sacs, pedestrian access and emergency access provisions and their zoning regulations and their application. The requirement and provision of lands for PR and schools and their inter-relationship and the relationship of topography to subdivision design.

CIV-R894 Geographic Information Systems
This course consists of an introduction to the fundamental concepts of Geographic Information Systems including technology, data structures, topography, vector and raster techniques, and analysis methodologies.
CIV-R895 Hydrology
This course consists of a study of fluid statics, open channel flow and the theory, the collection and application of data pertinent to the design of irrigation, and drainage and flood control structures.

CIV-R896 Astronomy
This course consists of an introduction to spherical trigonometry, the celestial sphere and systems of coordinates, apparent, mean, and sidereal times, the use of the Star Almanac for Land Surveyors, methods of observing the sun and Polaris for azimuth and/or time, time stars, and corrections to observations.

CIV-R898 Legal Surveys 2
This course continues the study initiated in the previous term of the Canadian Legal System, Real Property Law, Boundary Concepts, Land Registration Systems, the Multipurpose Cadastre, the Dominion Lands System, the Statutes of Manitoba and Case Law as they relate to surveys with more opportunities for the students to solve practical survey problems.

CIV-R899 Control Surveys 2
This course will further the concepts of geometric geodesy with the relationship to the geoid. Geodetic reference systems with emphasis on Cartesian and geodetic ellipsoidal coordinate systems and their transformation, terrestrial positioning, the direct and inverse geodetic problems in three dimensions, horizontal positioning on the ellipsoid, vertical positions, basic concepts with respect to map projections with particular attention to the Transverse Mercator Projection with the further study of the Dominion Lands System of Survey.

CIV-T494 Strength of Materials 2
This is an advanced course in mechanics dealing primarily with the effects of hydrostatic forces on bodies.

CIV-T495 Structural Analysis 1
This course consists of calculating combined axial and flexural stresses, calculating normal stresses for bending in two directions, calculating stresses due to eccentric loading using Mohr's circle to determine stresses, defining loads, applying appropriate modifying factors to loads, applying deflection limitations, applying structural loads and procedures.

CIV-T498 Soil Mechanics 1
This course consists of the definitions and descriptions of basic soil types and structures, the computation of volume and weight relationships of soil/water mixtures, and grain size distribution.

CIV-T592 Structural Detailing Practices
Students will continue to develop technical drawing and interpretation skills through the preparation of a set of structural design drawings and subsequent related "shop" drawings for single storey, office/warehouse building project. Students will be introduced to structural detailing practices, drawing standards, and terminology applicable to their technology specialty.

CIV-T594 Timber Design
This course consists of the design of the various components that make up a timber and/or plywood structure. It also deals with the design of wood-framed buildings in accordance with CAN3-086.1-M84.
CIV-T595 Structural Analysis 2
This course consists of applying determinacy test to beams and frames to establish degree of indeterminacy, analyzing indeterminate beams using Three-Moment Equation, analyzing indeterminate beams and frames using Moment Distribution, analyzing beams and frames using Approximate Methods.

CIV-T596 Reinforced Concrete Design 1
This course consists of designing simple reinforced concrete beams for flexure, shear, deflection, designing simple columns for axial load and eccentricity, designing one way slabs, and designing reinforced concrete walls.

CIV-T598 Soil Mechanics 2
This course consists of the sampling methods for soil, permeability characteristics of soil, the determination of moist-density relationships, visual soil identification, and classification systems.

CIV-T792 Masonry Design
This course consists of reviewing the fundamental structural principles involved in the design of concrete and brick masonry components and briefly examining the related hardware and construction practices and problems.

CIV-T794 Steel Design
The design of individual steel building components such as tension members, columns, beams, base plates, bolted and welded connections based on CAN 3-S16. 1-M84, using CISC Handbook of Steel Construction, latest edition.

CIV-T795 Structural Analysis 3
This course consists of calculating deflections in beams and frames using Conjugate Beam and Virtual Work methods, constructing quantitative and qualitative influence line diagrams for moving loads on beams and frames.

CIV-T796 Reinforced Concrete Design 2
This course consists of designing reinforced concrete tee beams and doubly reinforced beams, detailing reinforcement laps, splices, development lengths, designing columns for slenderness, biaxial bending, and load transmissions through floors and to foundations.

CIV-T798 Soil Mechanics 3
This course consists of the determination of soil shear strength characteristics and load settlement relationships, pore water pressures and neutral stress.

CIV-T892 Testing Materials
This course consists of demonstrating procedures used in calibrating and verifying lab testing equipment, testing commercially available and lab fabricated structural products in accordance with the appropriate standards, introducing the concept of quality control particularly with respect to concrete and masonry, and comparing the results of theoretical assessments of structural components to their demonstrated results.

CIV-T894 Thesis Project
This course consists of producing complete design calculation notes and structural drawings for a construction project, calculating the project's structural cost, and producing progress reports and design diary.
CIV-T895 Structural Analysis 4
This course consists of using Moment Distribution on beams and frames to calculate the effects of support displacement, temperature differential, inclined and/or non-prismatic members, analyzing and designing simple structures using shear walls, and analysis applications.

CIV-T896 Reinforced Concrete Design 3
This course consists of designing two-way floor systems and reinforced concrete foundation walls.

CIV-T898 Foundation Design
This course consists of shallow foundation design (footings), friction and end bearing pile design, retaining wall analysis and design, computation of allowable stresses for various types of soil, determination of vertical stresses beneath loaded structures and the estimation of settlement of loaded structures or soil foundations.

CIV-U493 Terrain Analysis
This course consists of an introduction to the principles of photogrammetry basic terrain analysis and its application to Civil Engineering projects.

CIV-U495 Strength of Materials 2
This is a continuation of CIV-C295 Strength of Materials 1.

CIV-U496 Surveying 3
This course consists of the field methods of laying out simple and vertical curves, the calculations pertaining thereto, special problems in curves, methods of stadia, and construction survey procedures.

CIV-U498 Soil Mechanics 1
This course consists of basic soil types and structures, the computation of mass and volume relationships of soil/water mixtures, the computation of density-moisture relationships and their application to field control of compaction operations, determination of the Atterberg consistency limit and its application to soil identification, grain size determination by the "wet method". Classification of soils by means of visual identification, triangular charts, AASHTO Method and the Unified Method is also studied.

CIV-U593 Water Supply and Waste Disposal 1
This course introduces water piping networks examining demands on the system and response in terms of flow and pressure patterns. There is a review of piping materials and control of installation.

CIV-U595 Hydraulics
This course gives the student the background to solve problems in the design and operation of an engineering project for the control and use of water.

CIV-U596 Roadway Design 1
This course consists of design of simple, compound, reverse, and spiral curves for various speeds and sight distances, vertical curves to provide stopping sight distance and passing sight distance, super-elevation for horizontal curves, applying the safety features of roadway design including surveys required for roadway design and capacity analysis.

CIV-U598 Soil Mechanics 2
The students will study grain size analysis by the Hydrometer Method and by wet and dry sieving and combine the results of these tests to determine the co-efficient of hydraulic conductivity of soils and the test method best suited to each soil type. Description of quicksand and prevention of "quicking" conditions, frost action in soils and permafrost the prevention of frost damage, determination of load-settlement relationships will be included.
CIV-U599 Environmental Analysis
This course consists of a study of basic environmental factors and how they impact on the design and construction of Civil Engineering projects.

CIV-U792 Pavement Mix Design 1
This course consists of the study of the manufacture of Portland cement and its five basic types. Students will evaluate the use of aggregates in Portland cement concrete by mixing water and additives to understand the purpose of their usage in concrete. Design of mixes, mixing, transporting, placing, compaction, finishing, and curing of Portland cement concrete and inspection procedures will be included.

CIV-U793 Water Supply and Waste Disposal 2
This course continues with the topic of water piping systems, in particular with appurtenances such as pumping and storage, and covers the design of waste water systems. A major project is started at the beginning of this course, culminating in a formal report upon the conclusion of course CIV-U893.

CIV-U795 Hydrology
This course is designed to give the student a practical background in the theory, collection, and application of hydrological data pertinent to the design and operation of an engineering project for the control and use of water.

CIV-U796 Roadway Design 2
This course consists of preparation of cross-sections, profiles, mass diagram plans, calculations required for earthwork design, runoff estimates and culvert design, construction methods for placing and compaction of fills, culvert installation, construction equipment used, surveys required for construction, quality control, and pavement thickness design.

CIV-U797 Project Management
This course consists of the theory of project scheduling using the Critical Path method. It will include the logistics of the method including terminology, arrow diagrams, expediting, resource allocation, float, and calendar dating.

CIV-U798 Soil Mechanics 3
This course consists of soil shear strength analysis and determination, evaluation of soil shear strength characteristics, slope stability analysis, and evaluation of horizontal earth pressures.

CIV-U892 Pavement Mix Design 2
This course consists of a study of asphalt cement and the testing required to determine its suitability as a paving asphalt with evaluation of aggregates for use in asphaltic concretes, design of hot-mix asphalt paving mixes using the surface area method and the Marshall method, construction techniques, construction equipment, and inspection procedures for asphalt pavements.

CIV-U893 Water Supply and Waste Disposal 3
This course involves the design of land drainage systems and low-level pumping stations, the assessment and maintenance of piping systems, and a review of the fundamentals of water and waste water treatment.

CIV-U894 Thesis Project
This course consists of completing and submitting a formal report on a topic related to Civil Engineering design and/or construction.
CIV-U896 Urban Roadway Design
This course will study traffic volume projections, capacity analysis, intersection signalization, and the geometrics of urban intersection design.

CIV-U898 Stabilization
This course consists of soil stabilization fundamentals, lime stabilization, soil cement, bituminous stabilization, and the use of geo-textiles as a soil stabilization technique.

CIV-W300 Co-op Work Placement
CIV-W600 Co-op Work Placement

CNC-0111 Computer Numerical Control
This course teaches safe methods of operating computer numerical-controlled machines for the production of metal parts in a manufacturing environment. This will involve set up, operation, qualifying the program and part, and basic programming.

ELE-C421 Electronic Circuits
Matrix methods in circuit analysis, power transformers, equivalent circuits and regulation, balanced three-phase systems, analysis of three-phase systems, transformers in three-phase systems.

ELE-C423 Digital Design
This course is a continuation of the ELE-C303 Introductory Logic Circuits course. The course addresses a number of areas of digital design including: static awareness, different logic families and their interfacing, operation of specific function circuits and the operation memory devices. Approximately half the instruction time is spent doing laboratory exercises. The laboratory exercises are used to verify integrated circuit operation and test the operation of small digital designs synthesized from previous circuits covered.

ELE-C424 Computer Systems 1
This course will deal with general topics of the “classic” computer systems, with emphasis on: data types, buffered block parallel and bit serial input/output, polled versus interrupt-driven I/O, input/output devices and formats, disk hardware and software with respect to disk formats, files and linear versus hierarchical directory structures, a preparation of disks for a disk operating system. At the end of this course, the above topics are integrated to introduce the elements of a ROM monitor (such as “BIOS”) and a DOS such as “MS-DOS.”

ELE-C425 Microprocessors 1
This course is composed of two main components: a) Assembly language programming, and b) introduction to the hardware design of a microcomputer. The software skills developed in a) are used to have a minimal system microcomputer perform simple serial I/O.

ELE-C427 Electronic Devices
This course consists of topics relating to gain, coupling, frequency considerations of transistor signal and power stages. Also investigated are transistor circuit stages in the IC operational amplifier. Time allotted is five hours per week in laboratory sessions, lectures and problem solving.

ELE-C521 Circuits and Transmission Lines
This course examines transient states in R-L, R-C and R-L-C circuits, undergoing both step and AC excitation. Analysis involves using the “assumed solution” and the more rigorous Laplace approach. The course concludes by examining how wavefronts move along transmission lines.
ELE-C524 Computer Systems 2
This semester will provide a more detailed view of the internals of a current DOS and include applications specific topics of the currently most prevalent applications such as: MS-DOS, CAD(s), database and spreadsheets, word processors and widowing subsystems; with emphasis on the installation, configuration, and maintenance of these.

ELE-C525 Microprocessors 2
This course is a continuation of the course ELE-C425 Microprocessors 1. Parallel I/O is introduced with the programming continuing to be in Assembly language. Control applications, interrupts, electrical characteristics, timing and some common interfacing requirements are covered.

ELE-C527 Electronic Devices
This course is a continuation of ELE-C427. Five hours per week of lectures and labs are devoted to the IC operational amplifier in comparator, negative feedback and active filter circuits. Some other ICs related in function are also studied.

ELE-C528 Computer Peripherals
The course deals with peripheral devices used in computer systems with emphasis on floppy and hard disk drives, printers, and displays. The operation of an XT system is examined at the BIOS level and how it interacts with its peripheral devices. Two hours per week are used for lecture time and four hours for lab work.

ELE-C529 Linear Control Systems
This course introduces the fundamentals of closed-loop control (linear systems). Feedback system terminology, components, and block diagram algebra are discussed in the first half of the course. The second half of the course analyzes first and second order systems (speed control and position control) and applies control system principles to robotic systems.

ELE-C621 Data Communications
The course deals with the methods used to transmit digital information between systems using both analog and digital links. The course covers the use of modems for conversion of digital data using AM, FSK and PSK for their transmission on analog lines, data communications hardware, and data communication protocols. Also covered is digital transmission using PCM and TDM. Three hours per week are used for lecture time and two hours for lab work.

ELE-C624 Computer Systems 3
This term will deal with more advanced system types, their structure, installation, preparation and maintenance, and their target applications, specifically: UNIX (XENIX and/or QNX) multitasking a multiuser operating system as well as a relational look at distribute systems. Additionally various advanced topics will be presented, such as: bit slice architectures, site preparation and installation, and an introduction to RISC and/or parallel processing.

ELE-C625 Microprocessors 3
This course is a continuation of the course ELE-C625 Microprocessors 2. The topics of digital-to-analog conversion, analog-to-digital conversion, DMA and large system design considerations are studied. During the second half of the course, the students are introduced to a 16/32-bit microprocessor, embedded system design and the “C” programming language.
ELE-C626 Manufacturing Techniques
The Manufacturing Techniques course is an introductory course in the design of electronic equipment. The course will provide the student with basic skills in soldering and desoldering of components used on double-sided printed circuit boards with plated-thru holes, and the soldering and desoldering of surface mounted components. This course introduces the student to wire-wrapping techniques. The course introduces Printed Circuit Artwork Design and Layout.

ELE-C627 Electronic Devices
This course is a continuation of ELE-C527. It consists of a three-hour lab and two hours of lecture per week. Power control, trigger devices and associated theory and applications are investigated. Practical aspects are also covered. Some other devices relevant to the technology are also investigated.

ELE-C629 Troubleshooting Microprocessor Systems
A practical, hands-on lab course. Principles of hardware troubleshooting, troubleshooting tools, methodologies, faults and their symptoms, built-in tests, external testers. Students use a variety of tools including the Fluke Micro System Troubleshooter, logic analyzer, signature analyzer and the oscilloscope to troubleshoot faults, both in this course and in their projects. A total of 40 hours of instructional time with about 80% devoted to lab work.

ELE-E100 Introduction to Personal Computers
The course provides students with a brief hands-on introduction to personal computer hardware, the most often used DOS commands, and selected application software. Basic keyboard skills are improved by drills using "Typing Tutor IV". This is followed by an introduction to the WordPerfect word processing program.

ELE-E101 Electric Circuits
Basic concepts of electricity and electric circuits. Ohm's Law, power, energy and efficiency, Kirchhoff's voltage and current laws, voltage and current divider rules. Problem solving methods for simple DC circuits. Analysis of more complex DC electric circuits using network theorems, network conversions, branch, mesh and nodal methods.

ELE-E102 Electrical Instruments
Basic Electrical Instruments is an applied Ohm's Law laboratory course for the ELE-E101 Electric Circuits course. It includes instruction in human electrical safety and how to calibrate, measure and communicate instrument readings. Basic instrument design, circuit calculations as well as instrument characteristics are also covered. The instruments discussed include the VOM, DMM, VTVM, DC Bridge, and potentiometer.

ELE-E104 Personal Computers 1
This course will provide students with a brief introduction to personal computer hardware and the most often used DOS commands with the intent of facilitating use of personal computer-based programs. A Typing Tutor program, to improve basic keyboard skills, will be followed by an introduction to the WordPerfect word processing program. The final weeks will be spent using the ORCAD drafting program to produce a simple circuit diagram.

ELE-E106 Drafting
This is a first course in drafting, which assumes the student has little or no knowledge of drafting techniques. Simple skills such as line weight, use of the T-square and triangles are taught. As the course progresses, emphasis shifts to drawing organization and layout, with particular attention paid to electrical/electronic device symbols, schematic diagrams and logic drawings.
ELE-E201 Electric Circuits

ELE-E202 Electrical Instruments
This course is a continuation of ELE-E102 Basic Electrical Instruments and is the lab course for ELE-E201 Electric Circuits. It concentrates on the calibration and proper use of instruments for measurement in AC circuits. The instruments discussed are the function generator, VOM, VTVM, DMM and the oscilloscope. The course consists mainly of practical lab work.

ELE-E204 Personal Computers 2
This introductory programming course in the BASIC language emphasizes a structured approach to problem solving and programming. The focus of this approach is to develop an algorithm, translate it into a program, check the program for accuracy and debug the program as necessary. The three hours per week of formal class time are spent in the PC room or a classroom working on one of the series of tutorial/assignments which are keyed closely to the text and supplemented with material more relevant to applications in the Electronics, Electrical, Computer and Instrumentation Engineering Technology areas.

ELE-E207 Basic Electronics
This course is a first course in solid state electronics. Upon the completion of this course the student will be able to analyze, design and build simple diode rectifier circuits, Zener diode circuits and transistor biasing circuits.

ELE-E301 Electric Circuits

ELE-E303 Introductory Logic Circuits
The purpose of this course is to familiarize the student with popular digital integrated circuit devices and to develop the student to the point where they can describe their operation and apply them in digital circuits. The course consists of approximately 25% lecture time in which specific blocks of material are dealt with in preparation for a follow-up laboratory exercise.

ELE-E305 Introductory Microprocessors
This course starts by providing a general hardware description of microprocessor systems at the block diagram level. It then continues with an introduction to microprocessor programming at the Assembly language level, including use of the TASM Cross Assembler. Assembly language programming is implemented on systems which use the Z80 microprocessor. This course lays the foundation for the more advanced microprocessor training contained in the second year of all Electrical, Electronic, Instrumentation and Computer Engineering Technology Programs.
ELE-E307 Basic Electronics
This course is a continuation of Term 2 Basic Electronics introduction to the AC analysis and design of junction transistor, field effect, and MOS transistor circuits. It concentrates on analysis techniques to predict the terminal behavior of small signal amplifiers. It is primarily a lecture and lab-related course and consists of six hours per week.

ELE-E401 Electrical Circuits
Matrix methods in circuit analysis, power transformers, equivalent circuits and regulation, balanced three phase systems, analysis of three-phase systems, transformers in three phase systems, unbalanced three phase systems.

ELE-E402 Electrical Measurements
This course consists of four hours of lectures and labs per week. Topics covered include the application of the wattmeter, AC test set, Hall-effect watt transducer, phase angle and power factor meter, phase sequence indicator, watthour meter, demand meter, potential and current transformers and phase-shifting transformers, in the measurement of active power, reactive power, energy and demand, and in single and three-phase circuits.

ELE-E405 Programmable Logic Controllers
Reviews the architecture of a basic single board computer along with programming concepts in Assembly language and BASIC for the purpose of counting, time delay, sequencing and the handling of interrupt inputs. Topics: computer hours, CPU registers and control lines, memory types, organization and decoding, parallel part registers, timer registers, stack operation and interrupt operation.

ELE-E406 Electrical Practices and Design
The Electrical Practices and Design course is intended to familiarize the student with the design and practices of electrical power systems within the regulations of the Canadian Standard Association, Canadian Electrical Code, Part 1. Topics covered include: 1) insulating materials, 2) American wire gauge, 3) load calculations, 4) wiring methods, 5) grounding, 6) protection, 7) services.

ELE-E407 Instrumentation Electronics
A linear integrated circuits course which introduces the operational amplifier and describes the rudimentary circuits used for the acquisition and conditioning of analog signals. Topics: op-amp characteristics, single ended and differential input amplifiers, integrators, differentiators, analog switches and voltage regulators.

ELE-E408 Electrical Machines
This course introduces the student to electrical DC machines. Students are required to circuit and operate DC motors and generators as well as understand basic machine design. Dynamo construction details such as windings, commutator, magnetic circuits and brushes are covered. Operating characteristics of the various machines (i.e., shunt series and compound) are examined in detail.

ELE-E411 Communication Circuits
A study of the various electrical circuits and their applications in communication systems. First and higher order transfer functions, Bode plots, frequency and phase response measurements. Resonant circuits, parallel-series conversions, reactance curves, applications. RF coupling circuits: impedance and inductive coupling. RF matching circuits: tapped tuned circuits, L, n- and T-type circuits.
ELE-E412 Electronic Measurements
Electronic Measurements is a course intended to provide practical application of instruments, interpretation of results, methods of analysis, and documentation of data from a wide range of the more advanced instruments. Emphasis is placed on the proper use of instruments for measuring and matching levels in systems from audio to microwave. Included are wave, distortion and spectrum analyzers, delayed sweep and storage oscilloscopes, AC voltmeters and power meters. The course consists of two hours of lecture and three hours of lab per week.

ELE-E415 Microprocessors
This is an application-oriented course based on the Low Power Schottky TTL and CMOS families, the Z-80 CPU system architecture and Z-80 peripheral devices. The course is a continuation of the Introductory Logic and Introductory Microprocessor courses of Term 3 and is intended as a preparatory course for the Digital courses in Terms 5 and 6. Approximately 50% of the class time is spent in the lab, verifying operation, design and testing of sub-systems.

ELE-E416 Manufacturing Techniques
The Manufacturing Techniques course is an introductory course in the design of electronic equipment. The course will provide the student with basic skills in soldering and desoldering of components used on double-sided printed circuit boards with plated-thru-holes, and the soldering and desoldering of surface mounted components. This course introduces the student to wire-wrapping techniques. The course introduces Printed Circuit Artwork Design and Layout.

ELE-E417 Electronic Devices
This course is a continuation of Term 3 Basic Electronics for students in the Electronic Engineering Technology discipline. The course consists of six hours of instruction per week, split between labs and lecture. The course discusses the frequency response and design of circuits using basic active devices, such as transistors and FETs. The course also discusses feedback theory in preamplifiers as well as the characteristics and applications of the operational amplifier.

ELE-E501 Electrical Circuits
This course begins by investigating how unbalanced loads affect three-phase systems and includes an introduction to the principle of "symmetrical components". The course examines transient states in R-L, R-C and R-L-C circuits, undergoing both step and AC excitation. Analysis involves using the "assumed solution" and the more rigorous Laplace approach.

ELE-E502 Electrical Measurements
This course consists of five hours of lectures and labs per week. Topics covered include the construction, operation, application, and testing of single phase, three phase and autotransformers. From test data transformer polarity is established, equivalent circuits are obtained, efficiency and voltage regulation calculations are performed, and harmonics are analyzed.

ELE-E505 Data Acquisition and Communication
Describes operations, specifications and applications of most commonly used DAC, ADC, and serial data communication standards. Topics: DAC operation and specifications; ADC, successive approximation and dual slope; ADC MUX operation, input protection, aliasing filter and sampling rate; serial data communication standards, RS-232, RS-422 and RS-485.
ELE-E506 Electrical Practices and Design
The Electrical Practices and Design course is intended to familiarize the student with the design and practices of electrical power systems within the regulations of the Canadian Standard Association, Canadian Electrical Code, Part 1. Topics include 1) motor circuits, 2) electrical distribution, 3) auxiliary systems, 4) hazardous locations. The lab sessions will be used to familiarize the students with programmable controllers.

ELE-E507 Power Electronics
Introduces thyristor devices for the purpose of describing the operation and application of AC power controllers. Topics: thyristor characteristics, control circuits, and protective circuits, AC power controllers, both phase controlled and zero crossing controlled; RFI; comparators and timers.

ELE-E508 Electrical Machines
This course is a continuation of the fourth term course Electrical Machines ELE-E408. The students are taught theory and practical labs with respect to AC generators and motors. Special attention is given to AC dynamo construction and operation, including parallel operation of alternators.

ELE-E511 High Frequency Circuits
High frequency circuits is a course on the theory and practical aspects of electronic communication fundamentals. Three hours per week are allotted for lecture and two hours for lab work.

ELE-E512 Circuits and Fields
Electronic Circuits and Fields provides a strong background to the technologist on the fundamentals of transmission lines and waveguides. Course time each week is divided between three hours of lecture and two hours of lab work.

ELE-E515 Microprocessors
This is an application-oriented course based on the Z-80 peripheral devices. Concepts and methods of controlling input and output devices are introduced. The student will write, test and debug software to interface Z-80 microprocessor systems to the P10, CTC, keyboard, ADC/DAC devices and the real-time clock.

ELE-E517 Electronic Devices
This course is a continuation of Term 4 Devices. The course consists of five hours of instruction per week, two hours lecture and three hours lab. The course investigates oscillator circuits and regulated power supplies. A wide assortment of integrated devices and applications are studied and applied in the lab.

ELE-E519 Linear Control Systems
This course introduces the fundamentals of closed-loop control (linear systems). Feedback system terminology, components, and block diagram algebra are discussed in the first half of the course. The second half of the course analyzes first and second-order systems (speed control and position control) and applies control system principles to robotic systems.

ELE-E602 Electrical Measurements
This course consists of five hours of lectures and labs per week and is designed to familiarize the student with the transmission of electric power over a system. Topics covered include establishing the circuit constants of an overhead transmission line, assembling power system components into a system for analysis, establishing power transmission limits and stability, and reading instruments for system monitoring.
ELE-E606 Switchgear and Protection
This course is used to inform the students about the types of equipment used by the electric utilities for power transmission and fault protection. Tours are made of existing installations and some laboratory demonstrations are employed to show the latest practices and possible operating conditions. Power system analysis is used to point out the various elements that are significant in the operation of the various systems. Symmetrical components and protective relaying are two of the topics included in course material.

ELE-E607 Power Electronics
Introduces three-phase rectifiers, converters, and variable frequency inverters for the purpose of describing the various types of DC and AC motor drives. Topics: three-phase bridge rectifier, both six pulse and twelve pulse, converters, both full control and half control, three-phase converter, both PWM output and six-step output, DC drives, one quadrant, two quadrant and four quadrant, AC drives, variable voltage, variable frequency slip power recovery, eddy current and cycloconverter.

ELE-E608 Electrical Machines
This course is a continuation of the Term 5 course ELE-E508 Electrical Machines. The students are taught theory and practical labs with respect to AC motors: three phase, single phase, and synchronous. Dynamo efficiency is also covered as a unified topic in electromechanical conversion.

ELE-E609 Linear Control Systems
Introduces general concepts of closed loop control for electromechanical systems with motor control for illustration. Systems are approximately described a) either first order or second order and b) performance rated on the basis of accuracy and transient response. Factors affecting accuracy and transient response are highlighted and simple control strategy(ies) developed to permit high accuracy and desired transient response.

ELE-E611 Data Communications
Data Communications focuses on advanced electronic communication techniques with an emphasis on modern digital communications systems. Three hours per week are used for lecture time and two hours for lab work.

ELE-E615 Digital Control Systems
This is a project-oriented course based on the Z-80 CPU and the Z-80 peripheral devices. Each project group must submit a proposal requesting department approval of labor hours and material cost that may be incurred during the development and construction of a Z-80 microprocessor-controlled project. The proposed project must be unique with respect to any currently approved projects, must include a peripheral requesting a vectored interrupt and must utilize some form of feedback. The class instructor will act as monitor and counsellor for each group, (maximum two students per group), and will conduct weekly progress meetings with each group to help keep the projects on schedule. A formal technical report, written in the Report Writing course, must be submitted on completion of the project.

ELE-E616 Manufacturing Techniques
The Manufacturing Techniques course is an introductory course in the design of electronic equipment. The student is introduced to a computerized printed circuit board design and layout program. A project is completed to develop a higher skill level in printed circuit artwork design and layout than was introduced in the fourth term.
ELE-E617  Electronic Devices
This course is a continuation of Term 5 Devices. The course consists of five hours of instruction per week, two hours lecture and three hours lab. The course investigates power devices, opto-electronic and trigger devices, theory and applications.

ELE-E618  Low Frequency Circuits
The Low Frequency Circuits course is a linear electronics course describing circuits and systems commonly used in industry for control, in computer interfacing, in audio, and in other low frequency analog systems. Included in the topics are transducer equalization, instrumentation amplifiers, non-linear circuits and power amplifiers.

ELE-I432  Process Practices and Devices
ELE-I435  Programmable Logic Controllers
Reviews the architecture of a basic single board computer along with programming concepts in Assembly language and BASIC for the purpose of counting, time delay, sequencing and the handling of interrupt inputs. Topics: computer hours; CPU registers and control lines; memory types, organization and decoding; parallel part registers; timer registers; stack operation and interrupt operation.

ELE-I436  Electrical Practices
This course is intended to give a broad overview of modern electrical power technology. It covers the basic principles of transformers and rotating machines, transmission and distribution systems associated with this field. Toward this end, the course matter has been divided into five distinct parts: 1) fundamentals, 2) electrical materials, 3) alternating current circuits, 4) transformers, 5) rotating machinery.

ELE-I437  Instrumentation Electronics
Linear integrated circuits course which introduces the operational amplifier and describes the rudimentary circuits used for the acquisition and conditioning of analog signals. Topics: op-amp characteristics, single ended and differential/input amplifiers, integrators, differentiators, analog switches and voltage regulators.

ELE-I438  Final Control Elements
Throttling devices, valves, regulators, variable speed pumping, valve family characteristics, liquid sizing, valve trim, installed versus inherent trim, trim selection for application, trim problems.

ELE-I439  Basic Process Control
Introduction to closed loop control, basic pneumatic elements, force balance and motion balance mechanisms, on-off, proportional plus bias, integral, derivative control mechanisms, commissioning control loops, basic training operations.

ELE-I532  Process Measurements
Force, motion transducers, applications, circuits, transmitter electronics, two wire, four wire, sensors types, scalers, current driver, loop power, drive limitation, practical measurement fundamentals, tubing fittings, bending, tapping into lines, impulse lines, freeze protection, seal fluids, process noise, chemical seals, remote seals, purging, chemical compatibility, vacuum measurement, mechanical gauges, manometers, thermal conductivity, ionization, level measurement, direct, inferential techniques, hydrostatic tank gauging.
ELE-1535 Data Acquisition and Communication
Describes operations, specifications and applications of most commonly used DAC, ADC, and serial data communication standards. Topics: DAC operation and specifications; ADC, successive approximation and dual slope; ADC MUX operation, input protection, aliasing filter and sampling rate; serial data communication standards: RS-232, RS-422 and RS-485.

ELE-1536 Electrical Practices
The Electrical Practices course is intended to familiarize the student with the current practices that are used in electrical power systems within the regulations of the Canadian Standards Association. The Instrumentation Engineering Technology students are taught how to circuit and control electrical machines. The theory and operation of AC and DC motors, on a practical level, is covered so that the student can understand why and how these devices are used.

ELE-1537 Power Electronics
Introduces thyristor devices for the purpose of describing the operation and application of AC power controllers. Topics: thyristor characteristics and control circuits and protective circuits; AC power controllers, both phase controlled and zero crossing controlled; RFI; comparators and timers.

ELE-1538 Fluid Mechanics
Properties of fluids, conversions, fluid statics, hydrostatic head to derive level. Density, interface, Archimedes' principle, applications for level and density, Bernouilli's principle, and significance to pressure and velocity, equation of continuity, Reynold's number, laminar flow, turbulent flow, frictional calculations, head flow measurement, types, characteristics, design, size calculations, flanges, tapping locations, impulse lines, manifolds, correct operation of manifolds, area flow meter wiers, fluxes, rotometers, applications, considerations, turbine flow meters, magnetic flowmeters, vortex flow meters, positive displacement meters, metering pumps.

ELE-1539 Linear Process Control
Tuning control loops via - Seat of Pants, Ziegler-Nichols, Cohen & Coon Pessen, Aikman using Ultimate Cycling and Process Reaction Curve Techniques, Importance of F(n), ratio control, cascade control, windup protection techniques, design criteria, start up procedures, selective control loops, high, mid, low types, applications, control only if necessary systems (regulatory), feed forward, design of feed forward level loop, design of heat exchanger loop, scaling, definition, rules of scaling, application, design examples, hardware mechanization.

ELE-1632 Process Measurements
Temperature scales, filled systems, Bimetal devices, Chemical indicators, RTDs, wire and film types, semi-conductors, Thermistor characteristics, thermocouples, thermocouple laws, reading and calibrating temperature instruments, pyrometry, optical and radiation theory, humidity, concept, psychrometric charts calculating RH, sensors, density and specific gravity concepts, velocity sensors, vibration, concept, combustible gas, combustion triangle, methods of sensing combustibles, nuclear radiation, nature, characteristics, ionization, proportional, G-M tube, semi-conductor, scintillation detector.

ELE-1637 Power Electronics
Introduces three phase rectifiers, converters, and variable frequency inverters for the purpose of describing the various types of DC and AC motor drives. Topics: three phase bridge rectifier, both six pulse and twelve pulse; converters, both full control and half control; three phase converter, both PWM output and six step output; DC drives, one quadrant, two quadrant and four quadrant; AC drives, variable voltage, variable frequency slip power recovery, eddy current and cycloconverter.
**ELE-1638 Industrial Control Application**

Part 1: Engineering Design: Symbology, ISA S5.1, S5.3, S5.4, SAMA functional logic (RC22-11)
NEMA (Electrical) process unit, instrument project control. Part 2: Programmable Controllers: history, description, introduction to relay ladder logic, rules of design, construction of a PC, input device construction, output device construction, image table and I/O address, scan time, programming functions, sensors used with PCs, master control relays, relays for safety. Part 3: Unit Operations: combustion loops, boiler controls, pulp and paper, sewage treatment, portable water treatment, mineral processing, petrochemical plants.

**ELE-1639 Computer Process Control**

History of computer control log and alarm, supervisory control of set point, direct digital control, distributed computer control, batch vs continuous processes, batch computer control basics, digital control of continuous processes, communication, command and control concepts, input protection, fusing, over voltage, intrinsic safety, hard filters, types, sample rate, aliasing, Shannon sampling theorem, noise pick-up, A/D conversion, control software, automatic drift compensation, analog signal filtering, scaling to engineering units, sensor compensation and linearization, validity test for variables, deviation algorithms, linear, squared, notchgain, positional control algorithms, velocity control algorithms, alarm functions, verification of output, control back-up, selective control redundancy.

**ELE-K531 Intro Chemical Instrumentation**

Atoms, molecules, periodic table, ions, ionic bonding, covalent bonding, valency, oxidation numbers, chemical equations, balancing, stoichiometry, solutions, solvent effects, concentrations, interaction between electromagnetic radiation and matter, particle properties of light, photoelectric effects, refractive index, Beer's law.

**ELE-K631 Chemical Instrumentation**

Ultraviolet and visible spectrophotometry, radiation sources, monochromaters, sample containers, optics, radiation detectors, electronics, nature of absorption, quantitative analysis, qualitative analysis, photometric titration, atomic absorption, radiation source, interference from impurities, accuracy of analysis, infrared analysis, molecular vibration, qualitative analysis, care of cells, fluorescence, nuclear magnetic resonance, theory and application, electro-chemistry, theory, half cells, pH meters, electrode conductivity, theory, application, gas chromatography principles, components, operation, interpretation, sample and column preparation.

**ELE-M102 Mathematics**

Pre-calculus "review": linear, quadratic, logarithmic, exponential and simultaneous (linear) equations. Some factoring, graphing, formula manipulation, functional notation, complex numbers. Right triangle, trig., radians, and problem solving. Emphasis is on doing and in the process of orderly developments. Fifty-six hours in class, plus testing.

**ELE-M202 Calculus**

Differential Calculus: Slope, straight line, parabolas, circle, translation of axes, trapezoid rule for areas. Derivatives of: polynomials, powers, products, quotients: implicit expressions, trig. and inverse trig., logarithms and exponentials. Tangents, normals, motion, rel. rates, max/min., small changes and "Newton's Roots". Fifty-four hours in class, plus testing.
ELE-M302 Calculus
Integral Calculus: Work with trig. identities and equations: reciprocal, Pythagorean, angle sum, double and half angle relations. Integrate algebraic, log, exponential, trigonometric quantities. Use substitution and "by part" techniques. Find areas, average and RMS values, and work with integrals with current, charge and voltage. Forty-six hours plus testing.

ELE-M402 Calculus
Applied Calculus for Electrical Engineering Technology: differential equations with emphasis on LaPlace transform methods. Applications include: transients in series circuits and simulation of natural and controlled systems using TUTSIM software.

ELE-M412 Calculus
Applied Calculus for Electronic Engineering Technology: MaLaurin and Taylor series: differential equations with emphasis on LaPlace transform methods. Applications include: computation of trigonometric and logarithmic functions by series, transients in series circuits and simulation of natural and controlled systems using TUTSIM software.

ELE-M422 Calculus
Applied Calculus for Computer Engineering Technology: Mclaurin and Taylor series: differential equations with emphasis on LaPlace transform methods. Applications include: computation of trigonometric and logarithmic functions by series, transients in series circuits and using TUTSIM software to simulate natural and controlled systems.

ELE-M432 Calculus
Applied Calculus for Instrumentation Engineering Technology: differential equations with emphasis on LaPlace transform methods. Applications include: transients in series circuits and uncontrolled first order systems and simulation of natural and controlled systems using TUTSIM software.

ELE-M442 Calculus
Differentiation/Integration by Tables: McLauren & Taylor series application: computation of trig. and log functions; Fourier series: integration, tables, spectral display; differential equations: setup, solution, application to series LR and RC circuits; LaPlace transform methods: setup, solution, application to LR, RC, and LRC circuits.

ELE-M502 Calculus
Applied Calculus for Electrical Engineering Technology: Fourier series and MathCAD software. Applications include harmonic analysis by integration and software, waveform filtering simulation by FFT on software, AC circuits by matrices on software.

ELE-M512 Calculus
Applied Calculus for Electronic Engineering Technology: Fourier series and MathCAD software. Applications include harmonic analysis by integration and software, waveform filtering simulation by FFT on software, AC circuits by matrices on software.

ELE-M513 Statistics and Quality Control
The course is an introduction to fundamental concepts of quality control. Sufficient theory is presented to ensure a sound understanding of the basic principles. Probability and statistical techniques are reduced to simple mathematics or presented in the form of tables and charts. The course duration is 11 weeks with three periods per week.
ELE-M522 Calculus
Applied Calculus for Computer Engineering Technology: Fourier series and MathCAD software. Applications include harmonic analysis by integration and software, waveform filtering simulation by FFT on software, AC circuits by matrices on software.

ELE-M532 Calculus
1) Use of dynamic system simulation software; TUTSIM for control systems (introduction): fluid tank level, single, cascaded, uncontrolled, controlled (proportional with bias, proportional-integral). 2) Use of MathCad mathematical software: Fourier series, Fourier transform (introduction).

ELE-M542 Calculus
Applying numerical software: MathCAD: iteration, FFT, complex numbers, matrices, Fourier series, and spectral display. TUTSIM: differential equations, system modeling, spring, LRC circuit, and feedback.

ELE-M543 Statistics and Quality Control
Data presentation, centrality, and dispersion; probability, sampling, prediction of random events, and confidence intervals; tests of significance, variance, regression, and correlation.

ELE-P109 Physics
An introductory course in engineering mechanics and electricity with emphasis on solving problems and dealing with such topics as the nature of physics, physical quantities, systems of measurements, significant figures, translational motion in one and two dimensions, Newton's laws of motion, free-body diagrams, work, power and energy, discreteness of electric charge, electrostatic force and field, Coulomb's law and Gauss' law, electrostatic potential and potential energy, capacitance and electron ballistics. A total of 50 hours of instructional time is divided into 30 hours of lectures and 20 hours of labs.

ELE-P209 Physics
An intermediate level course in engineering mechanics and electromagnetism with emphasis on solving problems and dealing with such topics as rotational kinematics and dynamics of rigid bodies, conservation of angular momentum, work power and energy in rotation, motion of simple, damped and driven oscillating mechanical systems and their electrical analogues, resonance and Q value, magnetic fields due to different current configurations, force on moving charge and current-carrying wire in a magnetic field, electromagnetic induction, self and mutual inductance and magnetic properties of materials. A total of 40 hours of instructional time split evenly between labs and lectures.

ELE-P309 Physics
The course deals with the transfer of energy by waves, mechanical as well as electromagnetic. The topics covered include definition of elastic and EM waves, longitudinal and transverse waves, speed of waves in different media, reflection, refraction, total internal reflection and fibre optics, diffraction, interference, standing waves and various modes of resonance. Doppler effect and its applications, intensity and loudness of sound, SIL, radiant and luminous intensity, response of the eye, illumination and luminous intensity, sources of light and photoelectric effect. A total of 40 hours of instructional time split evenly between labs and lectures.

ELE-R100 Report Writing
Streamlining the students' approach to writing; planning and writing technical business letters and memorandums; planning and writing short reports and medium length investigation reports; writing at a computer terminal.
ELE-R200 Report Writing
Presenting information orally: at technical briefings, meetings, and conferences; preparing job search documentation; attending employment interviews; planning and writing equipment descriptions and operating instructions.

ELE-R600 Report Writing
Review of report writing, oral presentations, and job search techniques; planning, writing and presenting a formal technical report.

ELE-R610 Report Writing
Review of report writing, oral presentations, and job search techniques; planning, writing and presenting a formal technical report.

ELE-R620 Report Writing
Review of report writing, oral presentations, and job search techniques; planning, writing and presenting a formal technical report.

ELE-R630 Report Writing
Review of report writing, oral presentations, and job search techniques; planning, writing and presenting a formal technical report.

ELE-R640 Report Writing
Oral presentation techniques, informal reports, small group dynamics, and job search techniques, proposal, technical report, and oral presentation.

ELE-T441 Communication Circuits
Resonant circuits, coupling circuits, AM transmission, matching circuits, AM reception.

ELE-T443 Digital Communications
Character codes, data rates, RS-232, DTE, DCE, null modem, sync/asynchronous and data terminals connection standards: 232, 422, 485 pin functions, electrical characteristics rates, applications, etc. Telephony: specs, DDD, leased lines, conditioning, noise, and short haul modem. Error control: detection, correction, parity, checksum, CRC, and Hamming digital transmission: PCM, CODECS, T1 carriers, TDM, SONET, and ISDN.

ELE-T444 Computer Systems
DOS operating system disk theory: structure, partition tables, boot records. User created files for MS-DOS: memory, peripherals. System performance utilities: terminate and stay resident programs.

ELE-T445 "C" Language Programming
C programming language on the PC: arrays, addresses, pointers, strings, and structures. File operations, bit manipulation, and miscellaneous C capabilities: managing multifile projects, Assembler and C.

ELE-T447 Instrumentation Electronics
Operational amplifiers: measurement amps: inverting, non-inverting, difference, offset/drift and input bias currents. Analog switch: FET, CMOS quad and applications. Integration/differentiation, active filters, DC voltage regulators, and heat dissipation.
ELE-T541 High Frequency Circuits
Noise (signal to noise and noise figure); communications receiver techniques: superhet, up/down conversion, squelch, noise limiter, and metering; SSB communications; receiver noise, sensitivity and dynamic range; frequency synthesis (phase locked loop technology); frequency modulation (FM, PM) transmission and reception; FM systems (FM stereo and cellular radio).

ELE-T543 Digital Communications
Channel capacity and max. data rates; data compression: advantages and techniques; data link protocols: character oriented, bit oriented, SDLC and HDLC; the PC serial port and UART programming and testing; low speed modems: FSK, Bell 103, and Hayes command set; medium speed modems/systems: PSK, QPSK, 212A, and FAX; serial communication software: Procomm, y-modem, Kermit, BBSs, and up/downloading; PC parallel port programming, testing, communication and printer sharing techniques.

ELE-T545 Digital Electronics
Static awareness; logic families and PLD devices; digital circuits: programmable counters, shift registers, ALU, mux, de-mux, and memory device; 80 x 86 architecture and instruction types; 80 x 86 hardware specs: pins, clocks, bus buffering, and machine states; bus interfacing and memory mapping; I/O interfacing; address decoding, parallel and serial I/O devices and interrupts.

ELE-T547 Introduction to PLC
Principles, h/w components, number systems, codes, and logic fundamentals; PLC programming basics, wiring diagrams, and ladder diagrams; timer and counter programming; computer s/w installation, analog I/O, data, math, and sequence instructions.

ELE-T564 Manufacturing Technology
Bill of materials and component specs; soldering/desoldering: irons, SMT, and plated-thru; wirewrapping and PCB layout.

ELE-T641 Circuits and Fields
Characteristics of standard transmission lines; the Smith chart; impedance measurements and impedance matching; waveguides; radio wave propagation and antenna fundamentals; digital radio and space communications (terrestrial microwave and satellite).

ELE-T643 Computer Networks
LAN concepts, functions, types, and market leaders; topologies: media, mechanical, electrical and logical; cables: connectors, conversions and TDR; protocols: Ethernet, token ring, token bus, FDDI, LAN cards and packet-radio; operating systems: survey and comparison; servers: dedicated/non-dedicated, reliability, and location; LAN applications: standalone, LAN-aware and LAN-intrinsic; security: vulnerability, password management and ID strategies; WANs: interconnection methods, bridges, packet versus circuit switching networks, X.25, ISDN and Internet.

ELE-T645 Technical Project
Design, develop, and report on a communications-related project.
ELE-T647 Industrial Communications Applications
Analog to digital conversion: ideal, ADC types, input ranges, output coding, and specs; analog input module: muxed ADC, data acqu. system, signal wire, protection, filtering, muxes, and amps; sample rate: vs amplitude resolution errors versus aliasing error; serial data communication review; MODBUS: protocol, functions, on Gould Micro 84 IEEE-488: description I/F cards, commands and programming; UNITELWAY network: installation, services and principles; data acquisition using power measurement equipment: hardware/software, SCADA.

F01-B007 Physical Education

F01-C003 Activity for Life
The course is designed to acquaint the nurse-in-training with fitness and activity as they apply to the nurse and the patient. Students will develop a personal fitness program. They will also participate in one or two chosen activities during the term. Written and practical tests will be used in evaluating the students' understanding and ability.

F01-D001 Activity for Life 1
Activities such as archery, badminton, curling, fitness, golf, swimming and tennis will be taught in various combinations with both practical and theoretical considerations. In addition, students will learn the psychological and physiological reasons for exercise for themselves and young children. Each student will practice body mechanics as well as participate in fitness testing from which a personal fitness goal may be developed.

H03-L101 Anatomical Structure and Function
The course entails the basic knowledge of human anatomy and physiology; beginning with the cell, its structure, function and division. The primary tissues are examined as to structure and location leading to an in-depth study of the body systems. In the study of systems, gross and micro anatomical structures and the basic physiology and pathology are examined. The following systems are included: skeletal, muscular, cardiovascular, digestive, excretory, endocrine, respiratory and reproductive.

H03-L107 Introductory Chemistry
The first half of this course has a strong emphasis on organic chemistry. Individuals learn the major organic compounds with their chemical reactions. One of the many challenges of this course will be to write and name molecular structures. The second half of the course emphasizes selected topics in basic biochemistry: carbohydrates, proteins, lipids and nucleic acids. Some principles of inorganic and physical chemistry applicable to the disciplines of medical laboratory technology are also introduced. Seminar sessions supplement the theory and give individuals an opportunity to do assignments and review.

H03-L109 Microscopy
This course provides knowledge of lecture, function, and application of brightfield microscope. Included is the operation and application of specialized microscopes.

H03-L113 Anatomy and Physiology 1
This course is designed to provide accurate information about the structure and function of the human body while at the same time presenting the core material in such a way that the student can understand it and put it to use. Emphasis is on material required for entry into more advanced courses, completion of professional licensing examinations, and application of information in a practical work-related environment.
H03-L116 General Knowledge and Safety
In General Knowledge, the student will learn the principles and practice of the safe techniques used to deal with clinical specimens. The student will also learn safe and correct procedures in the operation and maintenance of routine laboratory equipment common to all areas of medical laboratory technology. Laboratory safety practices are stressed.

H03-L117 Spectrophotometry
Spectrophotometry is designed to introduce individuals to the nature of light and some basic electronics. Theory is put into practice as individuals learn to work with spectrophotometers in the performance of clinical laboratory determinations. This is a fundamental course with direct applications to the major disciplines of medical laboratory technology.

H03-L119 Applied Laboratory Mathematics
The application of mathematics to the solving of practical problems in the medical laboratories is stressed. The preparation of reagent solutions, the dilution of fluid specimens, the quantitative analysis and the reporting of laboratory data is included. A brief introduction to statistical methods relative to the reporting and the interpretation of laboratory data is given.

H03-L120 Computers
This course is designed to provide the student with an introduction to computer awareness. Each student shall have her/his own IBM-PC on which to learn basic word processing, database, and the use of spreadsheets.

H03-L201 Anatomical Structure and Function
This course is a continuation of H03-L101 Anatomical Structure and Function.

H03-L202 Clinical Microbiology
Principles and practice of isolation, identification, and antimicrobial susceptibility testing of common human pathogenic and normal flora microorganisms (with the emphasis on bacteria) from various body sites are taught. Basic immunological/serological principles in relation to microbiological diseases are included. Consideration is given to the preparations of stains, media, and reagents. Laboratory safety in all aspects of the course is stressed. The student is responsible for the material presented in Term 1 which applied to clinical microbiology.

H03-L203 Clinical Chemistry
Clinical chemistry is the study of physiological and biochemical changes that occur in the body in disease states. The main topics covered are routine urinalysis, renal function, products of protein and carbohydrate metabolism, liver function tests, electrolytes, acid-base physiology, enzymes, lipids, introduction to quality control and automation. The theoretical section outlines metabolism and catabolism, identifies the blood and urine components under test, and correlates abnormal values with various disease conditions.

H03-L204 Hematology
Hematology is a branch of medicine that deals with the study of blood. This course deals with origin, development, and nomenclature of blood and marrow cells, and the manner in which these cells are affected by disease, such as in anemias and leukemias. Prevention of spontaneous bleeding and control of traumatic hemorrhage are studies under hemostasis.
H03-L205 Histotechnology
An introduction to the principles and practices of preparing tissues for histological examination including fixation, decolorization, processing, blocking, microtomy, and an in-depth look at the chemistry of staining procedures.

H03-L206 Immunohematology
A course in transfusion science in terms of basic immunology, inheritance, and synthesis of blood group systems and the activity of the associated antibodies, principles, practices, and quality assurance measures utilized in the safe preparation of blood and blood products. Applicable national standards and regulations will be cited. (Transfusion medicine)

H03-L213 Anatomy and Physiology 2
The themes of complementarity of normal structure and function and homeostasis are still emphasized. The student continues the study of various body systems that was begun during Term 1. Topics to be examined include the respiratory system, circulatory system, cardiovascular system, digestive system, urinary system, nervous system, endocrine system, and male and female reproductive systems. Upon completion of Term 2, the student will have knowledge of normal human anatomy and basic physiology of the body systems. Prerequisite: H03-L113 Anatomy and Physiology 1.

H03-L220 Computers
This course is designed to provide the student with an introduction to computer awareness. Each student shall have her/his own IBM-PC on which to learn basic word processing, database, and the use of spreadsheets.

H03-L222 Clinical Microbiology Laboratory 202
This course is the laboratory training for H03-L202 Clinical Microbiology.

H03-L223 Clinical Chemistry Laboratory 203
This course is the laboratory training for H03-L203 Clinical Chemistry.

H03-L224 Hematology Laboratory 204
This course is the laboratory training for H03-L204 Hematology.

H03-L225 Histotechnology Laboratory 205
This course is the laboratory training for H03-L205 Histotechnology. Credit is reflected in Term 3.

H03-L226 Immunohematology Laboratory 206
This course is the laboratory training for H03-L206 Immunohematology.

H03-L230 Immunology
A basic course in Immunology which is a prerequisite for Immunohematology. Mechanism of the immune response, physiology, and function of the T & B lymphocytes and the interaction for an immune response are described. The structure and function of the immunoglobulins and the principles of antigen-antibody detection are covered. Reference is also made to the mechanisms of tissue damage as a result of an immune response, immune deficiencies, and hypersensitivity reactions.

H03-L302 Clinical Microbiology
This is a continuation of H03-L202 Clinical Microbiology.

H03-L303 Clinical Chemistry
This is a continuation of H03-L303 Clinical Chemistry.
H03-L304 Hematology
This is a continuation of H03-L204 Hematology.

H03-L305 Histotechnology
This is a continuation of H03-L205 Histotechnology.

H03-L306 Immunohematology
This is a continuation of H03-L206 Immunohematology. (Transfusion medicine).

H03-L313 Anatomy and Physiology 3
Human Anatomy and Physiology Term 3 focuses upon the pathology and pathophysiology of the body systems. The students will apply their knowledge of normal structure and function of the human body to the study of the disease process. A variety of diseases from each of the body systems will be discussed. Emphasis will be placed upon the disease process itself, as well as the known causes, symptoms, and possible risk factors. The specialists involved in, as well as the methods of diagnosis and treatment of the disease, will also be considered. Prerequisite: H03-L213 Anatomy and Physiology 2.

H03-L322 Clinical Microbiology Laboratory 302
This course is laboratory training for H03-L302 Clinical Microbiology.

H03-L323 Clinical Chemistry Laboratory 303
This course is laboratory training for H03-L303 Clinical Chemistry.

H03-L324 Hematology Laboratory 304
This course is laboratory training for H03-L304 Hematology.

H03-L325 Histotechnology Laboratory 305
This course is laboratory training for H03-L305 Histotechnology.

H03-L326 Immunohematology Laboratory 306
This course is laboratory training for H03-L306 Immunohematology.

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-A105 Electrocardiography
Discussion of the electrophysiology of the heart and its relationship to ECG, the use of the ECG instrument, ECG artifacts.

H04-A106 Radiologic Science
This course is designed to provide the essential theoretical background required of an x-ray assistant to function effectively and safely in an x-ray department. Basic principles of physics, description of x-ray equipment, basics of radiation protection, fundamentals of image recording and introduction to patient care would be covered. Several laboratory exercises are included to assist in the understanding of the concepts.
H04-A107 Anatomy and Physiology
This course emphasizes the functional aspects of human anatomy and physiology that BMETs must understand. The course is an introduction to the function of the body in health, and the effects of common diseases or defects. The course also gives attention to body processes that are measured, controlled, or aided in diagnosis or treatment. Concepts in anatomy and physiology are reinforced by laboratory exercises that provide the basis for later studies of medical equipment.

H04-A201 Patient Care and Procedures
This course provides an introduction to medical and nursing terminology and description and understanding of common procedures used in patient diagnosis, treatment, and care. The course will provide the student with an understanding of the purposes and methods used, and how she or he should assist others in caring for the patient. Patient and staff safety, and aseptic technique will be stressed as well as respect for and comfort of the patient.

H04-A202 Medical Biophysics and Biochemistry
This course provides an introduction to modes of interaction of physical and chemical phenomena with body processes and the effects which are produced. Building on the course on physiology, it reviews the physical and chemical processes of the body. The interaction of energy: heat, light, electromagnetic fields, with the body is examined. The course explains the physical and chemical basis of medical care and treatment methods.

H04-A203 Hazards and Safety Regulations and Standards
This course describes the types of hazards found in BMET work and the methods used to achieve safety. Building on the course of physiology, patient care, and applied biophysics, it encompasses the principles of biological hazards and their containment, aseptic procedures, electric shock and its prevention, fire, radiation, lasers, etc. It emphasizes the knowledge that the BMET should have, to be able to provide informed advice, and for her or his own protection.

H04-A204 Sensors, Measurement and Treatments
This course provides an overview of measurement principles and measurements that are used in medical diagnosis, care, and treatment. Statistical analysis of data is introduced for understanding measurement accuracy and precision, and for use in statistical process control. The principles of physical and chemical measurements and treatments are presented, and how these methods are used in medicine. The principles are described with emphasis on actual equipment, and the factors important in their application.

H04-A301 Operation and Care of Biomedical Equipment – A
This course, in three parts, provides theoretical and practical understanding of how to operate, check, and service common medical equipment, from x-ray to pacemakers, from care of rechargeable batteries to complex medical instrumentation. It applies the information of the previous course on sensors.

H04-A302 BMET Practice
This course is made up of the following modules pertinent to the practice of biomedical engineering technology: BMET roles and relationships, identifying and solving problems, essential interpersonal skills, structure and function of organization, performance assurance of medical equipment, and the BMET department.
H04-A401 Operation and Care of Biomedical Equipment – B
This portion of the course discusses the principles of operation, methods of operation, checking, and service procedures of medical equipment. Equipment is discussed in detail. The learning process is a combination of theory and hands-on experience. Typical topics are battery characteristics and care, electromagnetic interference and its prevention, different types of equipment: respirators, pacemakers, monitors, stimulators for pain control, prosthetic and orthotic apparatus, etc. In this section of the course, the operating principles and important characteristics of the different kinds of equipment are emphasized.

H04-A402 Operation and Care of Biomedical Equipment – C
This portion of the course covers specific current equipment in detail. Examples of modern equipment will be examined, used, and serviced. The learning process will be primarily hands-on with explanatory lectures. Instruction will be provided by the manufacturer's representative or other qualified individuals. The objective of this portion of the course is to provide the student with exposure to state-of-the-art equipment, and to allow them to become proficient in its use and care.

H04-A501 Practicum
This course will consist of supervised field experience in collaborating hospitals. The student will work in the hospital setting under overall supervision of an instructor, but under the day-to-day direction of the responsible hospital staff. If time permits, the student will be exposed to more than one hospital. The student will perform actual work as a BMET to gain initial experience in an actual clinical setting.

H04-A502 Review and Preparation for BMET Certification Exam
This course will review the total course material to prepare the qualified student for writing the International Certification Commission examination for BMET certification. Since some material will have been studied a long time previous, this course will provide a review of all of the course material. It is expected that the students will also do their own detailed review of topics to supplement the course material.

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 is 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 characteristics of x-ray film, geometry of the radiographic image, stereoscopy, magnification radiography, subtraction technique and coping radiographs.

H04-T114 Radiation Protection for Therapy
This course will introduce the student to the basic concepts of radiation protection. The student will gain an appreciation of the philosophy underlying protection practices and regulations.

H04-T115 Patient Care and Interpersonal Skills for Therapy
This course will deal with the techniques of patient care in the radiotherapy department. Students will be given interpersonal skills to help them deal with the patients in radiotherapy.

H04-T116 Radiation Therapy
Introduction to malignant disease: pathology, diagnosis, modalities of treatment (with particular emphasis on treatment with ionizing radiation), the role of Radiation Oncology in the health care field.
H04-T117 Treatment Planning
An introduction to: 1) the various methods by which radiation treatment can be given, 2) beam directional devices and insurance of their accuracy, 3) the use of standard data/information to plan treatments most beneficial to the patient.

H04-T118 Radiation Physics and Apparatus
To extend the knowledge of concepts in radiation, physics as they relate to radiotherapy (oncology). To understand the characteristics and utilization of equipment used in the treatment of the patient.

H04-T119 Apparatus and Imaging for Radiotherapy
The apparatus section will deal with some of the basic equipment used in Radiotherapy while the imaging section will deal with the film and processing methods used to produce an image.

H04-X102 Radiographic Positioning Term 1
Radiographic Positioning will involve review of anatomical structures and topographical landmarks. This introduction phase will incorporate interrelationship with staff and patients of all ages, importance of ethical code, patient's history, handling of septic cases and fractures and organization of material necessary for radiographic procedures. Detailed description of radiographic procedure will be given to upper and lower extremities and thorax. Practicum will be performed as 1) laboratory exercise and 2) mastery testing.

H04-X105 Apparatus and Accessory Equipment
This course will familiarize the student with some of the basic equipment required and used in radiography. The student will learn through theory and practice how to operate such equipment safely and competently.

H04-X107 Patient Care and Interpersonal Skills

H04-X108 Radiation Protection
This course will introduce the student to the basic concepts of radiation protection. The student will gain an appreciation of the philosophy underlying protection practices and regulations.

H04-X109 Principles of Radiographic Exposure and Imaging

H04-X110 Introduction to Health Physics
This course is designed to introduce students and practitioners in the field of health and applied sciences to the concepts of physics. An overview of atomic structure as it relates to the origin of ionizing radiation will be presented. Scientific methods of data collection and presentation will be introduced. Basic principles of electricity and magnetism with their application in everyday living and health fields will be discussed. Production and nature of x-rays will be discussed in detail.
H04-X216 Radiographic Positioning – Term 2
Review of anatomical structures and topographical landmarks of the skull. Detailed description of radiographic positioning of skull: a) cranium, b) facial. This is the most complicated section of this course and requires intensive detailing. Special procedures will be outlined and described. As in Term 1, practicum will be performed as: 1) laboratory exercise – skeletal radiography, 2) mastery testing by student roleplay and peer analysis.

H04-X217 Apparatus and Accessory Equipment
This course will be a follow-up to Term 1. It will include specialized equipment and accessories used. Topics covered will be fluoroscopy, special x-ray tubes, computed tomography, automatic film changers, injector ultrasound, digital radiography, and nuclear magnetic resonance. Also covered will be quality assurance of equipment.

H04-X218 Principles of Radiographic Exposure and Imaging

H04-X220 Human Anatomy and Physiology
This course is designed as a sequel to H11-N120 Human Anatomy and Physiology. A working knowledge of introductory anatomy and physiology is assumed. The details of anatomy and physiology are organized around unifying concepts such as interrelationships of body organ systems, homeostasis. Presentation of the material reflects hierarchical levels of complexity that contribute to the students' understanding of the body as a whole. Laboratory exercises are essential in aiding the student to apply theoretical concepts of anatomy and physiology. Clinical application is stressed throughout the course. This course is taken by students enrolled in several health-related disciplines. Pre-requisite: H11-N120 Human Anatomy and Physiology.

H04-X221 Radiation Physics
This course is designed to meet the needs of students and practitioners working with x-rays and gamma rays. After a review of atomic structure, the nature and characteristics of electromagnetic radiation will be described. Mechanisms of photon interaction with matter and their significance in radiology and other radiation fields will be discussed. Finally principles of detection and measurement of radiation will be presented.

H04-X222 Patient Care and Pathology
This course is subdivided into two sections. Patient care section deals with the following topics: legal and ethical issues in health care; care of an unconscious patient; introduction to intravenous and oxygen therapy; emergency drugs and contrast agents used in radiology. Pathology section deals with the diseases of the respiratory, digestive, urinary, cardiovascular, nervous, and reproductive systems.

H04-X223 Radiobiology and Protection
This course provides the radiobiological principles underlying the rationale for radiation protection programs. The student will develop an understanding of the effects of radiation so that minimum exposure to patients, personnel, and the general public can be realized. Starting with radiation interactions and the effects at the physical and chemical level, the course proceeds to the biological level, from cellular responses through tissue and organ responses, to total body responses. Both somatic and genetic effects are described, distinguishing between acute and delayed effects and a special unit covers the effects of in-utero irradiation. The course concludes with an assessment of risks to all human populations and coverage of advanced radiation protection practices.
H06-C104 Personal Development
This course assists students to develop skills and attitudes applicable to college life and personal growth. It stresses the importance of physical activity for a healthy lifestyle.

H06-C122 Integration Seminar 1
This seminar provides the student with information on what to expect and how to conduct themselves in the children's centres of Practicum 1. Using various group process strategies, the student integrates the theory which they have learned to date with their own experiences in a children's centre.

H06-C123 Practicum 1
This practicum provides the student with the opportunity to visit a variety of children's centres in Winnipeg, in order to become familiar with the many types of child care available. The student integrates theory and practice by applying the principles of child development and guidance of children to actual procedures according to the philosophy of the centres visited.

H06-C221 Integration Seminar 2
This seminar assists students to integrate the theory which they have learned to date with their own experiences in a preschool centre. Various group process strategies such as roleplays, presentations, simulations and group discussions are used to encourage critical thinking, analysis and interaction.

H06-C224 Practicum 2
During this practicum the student spends one-half day per week at the same preschool children's centre. The student integrates theory and practical by applying the principles of child development, guidance of children and activity planning to actual procedures according to the philosophy of the centre.

H06-C320 Practicum 3
This practicum is a three-week block placement at one preschool children's centre. The student is expected to assume more responsibility for integrating theory and practice by applying the principles of child development, guidance of children and activity planning in the development of competent child care skills.

H06-C322 Integration Seminar 3
This seminar assists students to integrate the theory which they have learned to date with their own experiences in a preschool centre. Various group process strategies such as roleplays, simulations and discussions are used to encourage critical thinking, analysis and class interaction.

H06-C433 Practicum 4
This practicum provides three weeks of daily involvement with the same group of children at an assigned preschool centre. The student integrates theory and practice by applying the principles of child development, planning for activities and facilitating play to actual interactions with children.

H06-C434 Integration Seminar 4
This seminar assists students to integrate theory learned to date with their own practicum experience. The effectiveness of guidance and behavior-management techniques, activity planning, facilitation of play and communication skills are compared and evaluated using various group process strategies.

H06-C531 Integration Seminar 5
This seminar assists students to integrate theory learned to date with their own practicum experience. A major focus of the seminar is the unique needs of infants, schoolage and special needs children, and how to plan for these needs within a children's centre.
**H06-C533 Practicum 5**
During this practicum, the student spends one and one-half days per week, for a period of 10 weeks, at two different types of children's centres. The student selects the centres from a choice of infant, schoolage or preschool daycare with special-needs children. The student integrates theory and practice by applying the principles of child development, guidance of children, planning for activities and facilitating play to actual procedures according to the type of centre and its philosophy.

**H06-C631 Integration Seminar 6**
This seminar assists students to synthesize theory learned to date with their final practicum experience. The effectiveness of guidance and behavior-management techniques, activity planning, facilitation of play and communication skills are compared and evaluated using various group process strategies. In addition, professional behaviors, communication techniques for interactions with parents and colleagues and self-evaluation of child care competencies are focused on.

**H06-C634 Practicum 6**
This final practicum provides four weeks of daily involvement at a children's centre selected according to the student's needs and interests. The student prepares for graduation by integrating theory and practice by applying the principles of child development, guidance of children, activity planning, parent interactions and professionalism to their final practicum experience.

**H06-D106 Writing Skills 1**
This course begins with a thorough review of basic grammar: subjects and verbs, phrases and clauses, coordination and subordination, sentence types: sentence, fragment, and run-on, subject - verb agreement, verb tenses, shifts in number, person and tense pronoun reference. Sentence writing is gradually introduced and is taught in conjunction with the above topics.

**H06-D107 Speaking Skills 1**
This course is a practical program which aims to develop the speaking skills needed by child care workers. The student will learn how to participate in a discussion, how to listen and how to present materials and ideas orally.

**H06-D108 Reading and Study Skills 1**
This course is designed to improve reading comprehension along with developing study, test writing, note taking and critical thinking skills.

**H06-D206 Writing Skills 2**
This course continues the review of basic grammar begun in Term 1: comma, colon, semi-colon, apostrophe, capitalization. Paragraph writing is introduced and is taught in conjunction with the above topics.

**H06-D208 Reading and Study Skills 2**
This course is a continuation of H06-D108 Reading and Study Skills.

**H06-D306 Writing Skills 3**
This course concludes the review of basic grammar begun in Term 1 (modification, parallel structure) and the paragraph writing begun in Term 2. It also deals with proofreading and the avoidance of certain errors in writing.
H06-0A34 Foster Development of the Preschool Child
This competency focuses on the development of children from ages four to six years. It stresses the new and unique developmental changes as well as the skills they continue to practice.

H06-0A36 Analyze Theories of Development
This competency focuses on the relationship between research, theory and practice in child development. Emphasis is placed on the analysis of contemporary theories and research and how these may be applied to child care service.

H06-0B31 Respect Children's Culture
This competency focuses on the importance of culture as part of a child's identity. It stresses the need for child care workers to respect and recognize each child's culture in all aspects of the children's centre.

H06-0B32 Report Suspected Cases of Abuse
This competency focuses on the physical and behavioral indicators of physical, sexual and emotional abuse of children as well as child neglect. It stresses the need for objective documentation and the legal responsibility of child care workers to report abuse.

H06-0B33 Support the Abused Child
This competency focuses on the dynamics that contribute to child abuse. It stresses the skills needed to support the child and the family in coping with the physical and psychological trauma of abuse.

H06-0B34 Support Children's Special Needs
This competency focuses on an introduction to working with children with special needs. Emphasis is placed on the importance of specialized knowledge, skills and attitudes requisite for this area. It stresses the child care worker's role to encourage an "inclusive" attitude and environment.

H06-0C31 Use Basic Writing Skills
This competency focuses on sharpening the student's basic writing skills. It stresses the importance of developing and maintaining these skills in all areas of the student's work.

H06-0C32 Write Observation Reports
This competency focuses on observing and recording children's behavior and activities. Emphasis is on the student learning to write clear, concise reports, summaries and analysis, differentiating between objective and subjective modes and writing effective dialogue and action descriptions.

H06-0C33 Interpersonal Skills and Self-Understanding
Given a basic model of communication with which to work, students improve their interpersonal communication skills, learn to know themselves and their patterns of behavior more fully, and work closely with a supportive group to discover their own personal resources.

H06-0C34 Use Job-Related Writing Skills
This competency focuses on effective "on-the-job" writing skills. It stresses the importance of written communication with staff members, centre boards, parents, potential employers, the media, and with the child care community.

H06-0C35 Analyze Personal Behavior
This advanced competency is an analysis of personal behavior. Working with a supportive group, students learn ways to incorporate increased self-awareness and interpersonal skills into daily life.
H06-0D31 Provide Nurturing Care
This competency looks at the importance of nurturing young children. It focuses on how the child care worker can appropriately nurture children in a children's centre.

H06-0D32 Act as a Role Model
This competency identifies the fact that children model their behavior after the behavior of adults in their environment. It stresses the importance of acting as an appropriate role model for children.

H06-0D33 Communicate with Children
This competency focuses on the importance of positive communication skills for child care workers. It stresses the use of positive direction speaking with young children.

H06-0D34 Provide Guidance and Discipline
This competency focuses on direct and indirect guidance techniques for use in a children's centre. Methods child care workers can use to teach young children acceptable ways of controlling their own feelings and actions are stressed.

H06-0D35 Guide Routines and Transitions
This competency focuses on the skills necessary to guide children in the routines and transitions common to most children's centres.

H06-0D36 Foster Social Interaction and Growth
This competency focuses on the importance of guiding social interaction and growth of children in the children's centre. It stresses the use of problem solving techniques.

H06-0D37 Guide a Variety of Children's Behavior
This competency identifies strategies a child care worker could use to guide positive and/or negative behavior of young children. The process of developing long-term guidance goals is recognized.

H06-0D38 Apply Behavior Management Approaches
This competency focuses on the importance of establishing long-term team approaches to guiding children's behavior. It stresses individualizing behavior management approaches.

H06-0D39 Evaluate Personal Interaction with Children
This competency focuses on the culmination of requisite skills for appropriate interaction with children. It stresses the importance of the child care worker's analysis of the competence and quality of their interactions with children.

H06-0E32 Respond to Emergencies
This competency focuses on emergency procedures for a children's centre. It stresses the importance of the child care worker's role in the planning and carrying out of emergency procedures.

H06-0F31 Follow Health Regulations
This competency focuses on regulations and procedures that promote children's health. It is based on the standards and requirements as set out by the Manitoba child day care licensing manual.

H06-0F32 Identify Childhood Diseases and Illness
This competency focuses on the identification and treatment procedures of common childhood diseases and illnesses. It stresses the child care worker's role in providing care to mildly ill children.
H06-0F35 Consider Children's Dietary Needs
This competency focuses on the specific dietary needs of children in a children's centre. It stresses the importance of knowledge and skills in promoting prescribed menus for children with specific dietary needs.

H06-0G31 Identify Activity Areas and their Components
This competency introduces the student to activity areas commonly found both inside and outside of a children's centre. It also focuses on the components of the activity areas.

H06-0G34 Design an Outdoor Playspace
This competency focuses on the fundamentals of playground design. Emphasis is placed on safety, equipment selection and arrangements of space as related to the developmental needs of children.

H06-0G35 Provide Activities for Infants
This competency focuses on adapting and planning activities that would be developmentally appropriate when working specifically with infants.

H06-0G36 Provide Activities for Schoolage Children
This competency focuses on adapting and planning activities that would be developmentally appropriate when working specifically with schoolage children aged six to twelve years.

H06-0H34 Adapt a Program Philosophy
This competency focuses on program philosophy as the critical determinant of the development process for children's programs. It stresses the child care worker's assessment of the balance between their person child care philosophy and adaptability to program philosophy.

H06-0H35 Develop a Daily Schedule
This competency focuses on the importance of the structure of a child's day in a children's centre. Emphasis is placed on techniques for daily scheduling which compliment the developmental needs of young children.

H06-0J31 Guide Play Indoors and Outdoors
This competency focuses on the value of both indoor and outdoor play for children. It also provides an overview of the child care worker's role in children's play.

H06-0J32 Facilitate Play
This competency takes a closer look at the role of the child care worker in facilitating children's play and the importance of integrating play into all aspects of the child's day.

H06-0J33 Analyze Play
This competency focuses on the theoretical aspects of play. It stresses the importance of observing children's play and the role of play in the child's development.

H06-0K31 Set Out Steps in Planning a Curriculum
This competency focuses on the importance of planning curriculum for children. It stresses the importance of philosophy, play and the interests and needs of children as the basis for this planning.

H06-0K32 Set Goals and Objectives
This competency focuses on how to write general goals and specific objectives when planning activities for children.

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H06-0K33 Plan Activities
This competency focuses on how to plan activities to be implemented with children. It reviews the expectations required on the activity planning form and provides students with actual hands-on experience in writing an activity plan.

H06-0K34 Develop a Weekly Plan
This competency focuses on the process of organizing resources, materials and curriculum activities for children based on weekly main ideas. Emphasis is placed on the thematic approach to weekly planning and on incorporating children's needs and interests.

H06-0K35 Develop a Long-Range Plan
This competency focuses on developing a cumulative long-range plan for a children's centre. Emphasis is placed on building continuity and inter-relating main ideas or topics over an extended period of time.

H06-0L35 Provide Drama Activities
This competency looks at how drama and "play pretending" are natural activities for children. It stresses the need for the child care worker to provide a wide variety of props and drama-related activities.

H06-0L36 Provide Science-Related Activities
This competency focuses on the importance of providing a variety of science and nature activities for children. It stresses the need to base these activities on appropriate understandable concepts that children can experience hands-on.

H06-0L39 Provide Movement Activities
This competency focuses on the need and desire of children for movement. It stresses the importance of a child care worker understanding this need and providing movement activities that foster children's development.

H06-0M31 Use Materials and Equipment
This competency focuses on using materials and equipment to accompany curriculum activities. It deals with constructing equipment from materials which are readily available and lend themselves to creative uses.

H06-0M32 Utilize Resources
This competency focuses on the utilizing of resources for curriculum areas in the children's centre. It stresses the compiling, examining, storing and managing of various resources for the children's centre.

H06-0N31 Relate to Individual Family Situations
This competency provides an overview of family theory and focuses on the many facets of family life. Emphasis is placed on the child care worker's role in relating to and supporting individual families in the children's centre.

H06-0N34 Promote Parent Involvement
This competency focuses on the collaborative partnership between parents and the children's centre. Emphasis is placed on exploring a variety of methods for parent involvement.

H06-0N35 Communicate with Parents
This competency focuses on basic skills required to initiate and maintain comfortable parent—centre partnerships. It stresses a variety of effective approaches for parent communications.
H06-0N36 Support the Family Unit
This competency focuses on the child care worker's role in support of the family unit. Emphasis is placed on the formulation of appropriate methods of supporting families in special circumstances.

H06-0P31 Network with Support Agencies
This competency focuses on the inter-relatedness between the children's centre and the community. It stresses the importance of utilizing strategies which provide support to children and families.

H06-0Q33 Identify Operational Structure of the Centre
This competency focuses on the operational structure of a children's centre. It examines the roles that government, centre boards, and staff members play in the operation of a children's centre.

H06-0Q36 Identify Current Professional Issues
This competency focuses on current professional issues in child care. It examines the ethics, practices and implications of various current issues as they relate to child care workers.

H06-1A31 Explain Continuum of Human Development
This competency provides an overview of the ongoing process of human development from conception to death. Emphasis is placed on the child's developmental task and needs as part of a complex, life-long process.

H06-1A32 Foster Development of the Infant
This competency involves a study of the basic processes of prenatal and infant development. Emphasis is placed on the important role of prenatal development and the physical, cognitive, social, and emotional factors which influence the development of the infant.

H06-1A33 Foster Development of the Toddler
This competency focuses on the development of children from ages one to three years. It emphasizes the developmental process and the rapid growth in physical, social, emotional, and intellectual development.

H06-1A35 Foster Development of the Schoolage Child
This competency focuses on the development of children from ages six to twelve. Emphasis is placed on the developmental processes and challenges of middle childhood, as well as the expanding range of factors which influence children during this stage of the developmental continuum.

H06-1B35 Support Children in Stressful Situations
This competency focuses on supporting the needs of individual children in stressful situations. Emphasis is placed on approaches child care workers may use to assist the child in a variety of specific life circumstances which are stressful.

H06-1B36 Advocate for Children
This competency focuses on the importance of meeting the needs of children by maintaining the rights of children. It is stressed that the child care worker's first commitment is to the child. An introduction to child advocacy strategies are explored.

H06-1D36 Guide Children's Expression of Emotion
This competency focuses on the importance of guiding children in the development of appropriate emotional expression. It recognizes age differences in the way children define and express emotions.
H06-1E31 Prevent Accidents
This competency focuses on accident prevention in a children's centre. It stresses the knowledge, attitudes and behavior which can reduce the potential for accidents.

H06-1F33 Administer Medications
This competency focuses on the various procedures for administering prescribed medications to children in a children's centre. It stresses the importance of safety, accuracy, and centre procedures in the administration of medications.

H06-1F34 Implement a Nutritious Food Program
This competency focuses on the nutritional needs of children. It stresses the importance of menu planning and the preparation and serving of snacks and meals to preschool children.

H06-1F36 Respond to Physical and Medical Needs
This competency focuses on the identification and management of the physical and medical needs of children in a children's centre.

H06-1G32 Select Equipment and Play Materials
This competency identifies necessary indoor and outdoor equipment and play materials and the criteria for the selection of such equipment and play materials. The suitability of hand-made play materials is also analyzed.

H06-1G33 Design a Floor Plan for a Children's Centre
This competency focuses on arranging indoor play spaces for a children's centre. Emphasis is placed on managing the physical environment to meet the needs of children and adults.

H06-1H31 Explain the Program Development Process
This competency introduces the process of developing a children's program. It stresses the distinct, yet common, components of program design and the significance of a philosophy as the basis of all program models for child care services.

H06-1H32 Assess Program as Related to Children's Needs
This competency focuses on different program models that meet the needs of children. Emphasis is placed on the context of a variety of auspicious, theoretical, and philosophical perspectives which directly influence the design of a children's program.

H06-1H33 Assess Factors that Influence Programs
This competency focuses on factors which influence children's programs. These factors may determine program design, implementation, and quality.

H06-1H36 Design Program Evaluation Procedures
This competency focuses on an introduction to evaluation as a critical component of the program process. It stresses the importance of general evaluation methods and considerations for the development of informal, on-going evaluation tools.

H06-1J34 Plan for Play
This competency closely examines the role of the child care worker in children's play. It focuses on the child care worker's ability to provide structured and spontaneous play opportunities for children.
H06-1L31 Provide Art Experiences
This competency focuses on the importance of creativity in children's art experiences. It stresses the need for child care workers to plan appropriate process-oriented art activities in order for children to create according to their developmental stage.

H06-1L32 Provide Literature Activities
This competency focuses on the importance of providing enjoyable appropriate literature activities for children. It stresses the need to plan and implement a variety of experiences from telling stories to reading books.

H06-1L33 Provide Group Time Activities
This competency focuses on the importance of a child care worker planning for more directed learning during group time. It stresses the need for appropriate group time activities that focus on the experiences, interests, and developmental level of children.

H06-1L34 Provide Music Activities
This competency focuses on the importance of music as part of the curriculum for children. It stresses the pattern of development for music appreciation and the planning of activities in order to promote this development.

H06-1L37 Provide Outdoor Activities
This competency focuses on the importance of using the outdoor environment effectively when guiding and providing experiences for children while outdoors.

H06-1L38 Provide Social Studies Activities
This competency focuses on the need for children to learn about themselves and their relationship to the people and world around them. It stresses the importance of child care workers focusing on appropriate social studies concepts and providing related activities.

H06-1L41 Provide Nutrition Activities
This competency focuses on the planning of activities involving nutrition and simple cooking skills. It stresses the need for child care workers to provide information and hands-on experiences in the area of food and nutrition.

H06-1N32 Integrate Cultural Factors
This competency focuses on the importance of considering cultural factors when interacting with children and families. It focuses on working with Aboriginal, immigrant, and refugee families.

H06-1N33 Respect Parents' Rights and Opinions
This competency reinforces the philosophical context that the primary relationship in the children's world is that of the parent-child. Emphasis is placed on the child care worker's development of attitudes and skills which demonstrate and support the value of parents' rights and opinions.

H06-1P32 Communicate with School Personnel
This competency focuses on the mutual respect and collaboration between the children's centre and the school that is needed to meet the needs of children. It emphasizes the importance of appropriate communication methods with school personnel.

H06-1Q31 Explain the Child Care Profession
This competency identifies career options and educational requirements for child care workers. It also focuses on the types of child care available in Manitoba as well as the evolution of the present child care system.
H06-1Q32 Demonstrate Employable Skills
This competency focuses on employability skills as they relate to child care workers. It stresses the importance of appropriate work habits and behavior for students on practicum in a children's centre.

H06-1Q34 Display Professional Behavior
This competency focuses on the professional behavior of child care workers. It stresses the importance of acting autonomously, rationally, and ethically in the application of skills and knowledge.

H06-1Q35 Identify the Need for Professional Growth
This competency focuses on areas which are essential to child care workers as they work toward the enhancement of professionalism. It focuses on the importance of defining and supporting quality child care practices.

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, growth and development. The general concepts consider specific examples in the oral and dental environment.

H07-C106 Dental Practice Management
This course prepares the student to function in the communications and organizational aspects of dental practice. The course contains three parts: Communications, Accounting (Financial Record-keeping), and Dental Practice Management. Topics include letter writing, resume preparation, interview skill, basic accounting procedures, appointment and inventory control and dental office records, among others.

H07-C112 Preventive Dentistry
Students will study causes and prevention of dental diseases.

H07-C118 Operative Dentistry — Practical
Students will learn mixing procedures for materials used in various restorative procedures.

H07-C119 Rubber Dam Theory
Students will study the purpose and technique of rubber dam application.

H07-C122 Diagnosis — Theory
Students will learn various methods/techniques used in diagnosing oral conditions.

H07-C123 Diagnosis — Practical
Students will learn mixing procedures of materials used in diagnosis.

H07-C124 Radiology — Theory
Students will study the purpose and techniques of obtaining intra-oral radiographs.

H07-C127 Microbiology and Infection Control — Theory
Students will study basic microbial life and methods used to destroy the microorganisms.

H07-C128 Microbiology and Infection Control — Practical
Students will operate various sterilizers and learn various disinfecting techniques.

H07-C130 Prosthodontics — Practical
Students will mix materials used in preparation for prostheses.
H07-C133  Oral Surgery – Theory
Students will learn various surgical procedures performed in dentistry.

H07-C134  Periodontics – Theory
Students will learn causes and treatments of periodontal disease.

H07-C137  Dental Practice Management
This course prepares the student to function in the communications and organizational aspects of dental practice. The course contains three parts: Communications, Accounting (Financial Record-keeping), and Dental Practice Management. Topics include letter writing, résumé preparation, interview skills, basic accounting procedures, appointment and inventory control, and dental office records among others.

H07-C138  Interpersonal Relations
Students will study and practice communication skills for various situations which are common in a dental office.

H07-C139  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-C140  Operative Dentistry – Theory
Students will study various restorative dental procedures. Students will also study instrumentation used for each procedure.

H07-C141  Prosthodontics – Theory
Students will learn of various prostheses used in dentistry.

H07-C142  Endodontics – Theory
Students will learn causes and treatment of pulpal injuries.

H07-C143  Endodontics – Practical
Students will learn basic skills for assisting with root canal therapy.

H07-C144  Orthodontics
Students will learn causes and treatment of ortho which involves the straightening of teeth.

H07-C145  Pediatric Dentistry
Students will learn similarities and differences between treating adults and children.

H07-C146  Rubber Dam – Practical
Students will practice the placement and removal of rubber dam on manikins and once competent will practice on classmates under the supervision of a dentist.

H07-C147  Radiology – Practical
Students will practice placing intra-oral films on classmates and once competent will expose radiographs on DXTRR.

H07-C148  Oral Surgery – Practical
Students will practice assisting skills with a variety of surgical procedures.
H07-C149  Periodontics — Practical
Students will practice assisting skills with a variety of periodontal procedures.

H07-C151  Workplace Hazardous Materials Information System
Students will learn what WHMIS is and its application to dentistry.

H07-C152  Medical Emergencies — Theory
H07-C153  Medical Emergencies — Practical

H07-C154  Pediatric Dentistry — Practical
Students will be identifying instruments used in Pediatric Dentistry.

H07-C155  Orthodontics — Practical
Students will learn to identify instruments used in Orthodontic Dentistry.

H07-E213  Impressions — Theory
Students will study the purpose and techniques of obtaining impressions for study models.

H07-E215  Polish — Preclinical
Students practice polishing of teeth on a manikin to develop necessary skills.

H07-E216  Impressions — Preclinical
Students take impressions on classmates.

H07-E219  Sealants — Preclinical
Students practice placement of sealants on manikins to develop necessary skills.

H07-E220  Polish — Clinical
Students polish patients' teeth.

H07-E222  Sealants — Clinical
Students apply sealants on approved patients.

H07-E224  Oral Health — Theory
Students will study and understand the importance of proper personal oral hygiene procedures as well as be able to identify unhealthy oral soft structures.

H07-E226  Impressions — Clinical
Students will take impressions on classmates under the supervision of a licensed dentist.

H07-E227  Nutrition

H07-E228  Dental Public Health Education
Students will study and apply concepts of dental health education to different population groups.

H07-E229  Polishing and Fluoride — Theory
Students will study the purpose and technique of rubber cup polishing and application of topical fluoride.

H07-E230  Sealant — Theory
Students will study the purpose and techniques of applying pit and fissure sealants.
H07-S201 Social Sciences 2

H09-A102 General Chemistry 1
General Chemistry is an introductory level course focused upon the structure, properties, and activities of the more common atoms and their compounds. It includes basic principles of chemistry which are used to explain and understand properties of matter. An integral part of the course is the ability to perform routine laboratory calculations such as concentration, solutions, titrations, pH, moles, conversions, chemical reactions, equilibrium, and gas laws.

H09-A103 Lab Safety
Lab Safety is a course designed to acquaint the student with the skills and knowledge to work safely in a student lab, diagnostic lab or veterinary lab. The student will demonstrate the skills and attitude to work safely in a lab and be knowledgeable in WHMIS, first aid, and fire prevention.

H09-A106 Parasitology
This course provides an introduction to parasitism and the common parasites of domesticated animals. The diagnosis and control of parasites found in animals of veterinary concern will be included.

H09-A107 Introduction to Animal Management
This course is designed to provide the student with the knowledge and skills to function in the veterinary and agricultural sectors. The student will become acquainted with the breeds, behavior, housing, handling systems and health management of the common domestic species. With this knowledge, the student will be able to handle animals with skill and communicate more effectively with clients. The course material will be delivered by lecture and audiovisual format with guest speakers and field trips to expose the student to all aspects of the agricultural industry and veterinary medicine.

H09-A110 Biology/Zoology
Biology/Zoology will deal with the general biological principles involving cells. An overview of the five kingdoms of living organisms will be included. Emphasis will be placed on the animal kingdom. The course deals with the basic anatomy and physiology of both the invertebrates and vertebrates and is a foundation for more advanced studies in animal science.

H09-A115 Computer Awareness
This course deals with an introduction to microcomputers, using the IBM-PC DOS operating system. The student will gain familiarity with DOS to create and delete directories, copy and delete files, format diskettes, and other operating system commands. The majority of the emphasis in this course will be in gaining proficiency in word processing, spreadsheet, and database software. The current software in use is WordPerfect, dBASE III+, and Lotus 1-2-3.

H09-A116 Technical Mathematics
Technical Mathematics is an applied mathematical course designed to provide the Animal Health Technology student with the mathematical skills necessary for working in the animal hospital and laboratory. Emphasis is placed on calculations for making solutions and dosages as well as basic statistics. This course also includes some physics necessary for the Animal Health Technology student.

H09-A118 Communications
The objective of this course is to assist students to communicate effectively in a variety of situations. The course provides instruction in business letter format and style, short reports, and scientific reports. Emphasis is also placed on library research as the student will prepare a paper for written and oral submission.
H09-A202 Medical Nursing Practical Laboratory 1
This course is designed to give students the practical skills necessary for handling and nursing animal patients as well as the theoretical knowledge regarding the methodology and application of these skills. The course consists totally of laboratory situations, with live animal patients and animal models in which students can learn and practice their skills.

H09-A203 Medical Nursing 1
This course will introduce the student to the concept of disease and its effect on body systems in domestic animals. Recognition of the diseased state and nursing the diseased patient will be emphasized.

H09-A204 Organic Chemistry
In this course, the student will learn the theory of chemical bonding pertaining to atoms that form organic molecules. The student will apply the rules of nomenclature to the homologous series of compound alkanes, alkenes, alkynes, arenes, alcohols, ethers, carbonyls, and carboxylic acids.

H09-A214 Genetics
An introduction to the science of genetics as it relates to advancements in medicine, agriculture, and animal breeding. It includes an introduction to the study of cell division, chromosomes, population genetics, gene mutations, cloning and manipulations relating to these activities.

H09-A218 General Microbiology
An introductory course in microbiology which includes a survey of the microbial world as well as basic techniques used in microbiology. The student will develop an understanding of the basis for some of the applied aspects of microbiology.

H09-A219 Anatomy and Physiology 1
This is an applied course focusing on the anatomy and physiology of areas and structures of domestic animals important to the Animal Health Technologist. Special emphasis will be placed on clinically relevant anatomy and physiology of all the common domestic species. The lectures in this course will concentrate on the physiology of the different body systems. The laboratory sessions, through dissections and demonstrations, will concentrate on the anatomy of the body systems.

H09-A302 Medical Nursing Practical Laboratory 2
This course is a continuation of Medical Nursing Practical Laboratory 1 and is designed to give students the practical skills necessary for handling and nursing animal patients as well as the theoretical knowledge regarding the methodology and application of these skills. The course consists totally of laboratory situations, with live animal patients and animal models, in which students can learn and practice their skills.

H09-A303 Medical Nursing 2
This course is a continuation of Medical Nursing 1.

H09-A308 Nutrition
Nutrition is a course designed to acquaint the student with the principles of nutrition. The student will become familiar with the normal role of nutrients in the body and the diseases that are caused by imbalances of these nutrients. The student will also become acquainted with various feedstuffs fed to domestic animals, and good feeding practices.

H09-A309 Biochemistry
This course is designed to give the student a general knowledge of biochemistry and the role that biomolecules play in cellular metabolism and nutrition.
H09-A311 Anatomy and Physiology 2
This course is a continuation of Anatomy and Physiology 1.

H09-A318 Applied Microbiology
This course deals with the practical aspects of the isolation and recognition of microorganisms commonly encountered in veterinary medicine. The student will learn the microscopic and cultural characteristic of these organisms as well as antibiotic sensitivity testing.

H09-A326 Hematology 1
Hematology 1 will focus on the normal hematology of domestic animals. The student will become proficient in the recognition, evaluation, and counting of the various blood cell types. The laboratory sessions will allow the student to practice the concepts of complete blood cell counting and cell evaluation.

H09-A408 Radiology
This course will deal with the basics of x-ray equipment, radiation physics, image recording, radiation protection, and radiation biology to enable the Animal Health Technologist to aid the veterinarian in diagnosis and treatment, with safety and economy in mind.

H09-A409 Reproduction
In this course, the student will learn the normal reproductive events in the common domestic species. The student will study the normal anatomy and physiology of the male and female of each of these species including normal reproductive behavior. On completing this course, the student will be able to ascertain the normal reproductive events and behavior in an animal as well as the abnormal or problematic and what steps may have to be taken by a veterinarian or owner to correct a problem.

H09-A410 Clinical Pathology
In this course, the Animal Health Technology student will become acquainted with the techniques and tests used in the clinical chemistry laboratory. Lectures reinforce the physiology and chemistry necessary to understand why tests are performed. The laboratory sessions allow the student to practice the techniques of the tests. Quality control in the clinical pathology laboratory is stressed at all times.

H09-A411 Surgical Nursing 1
This course will prepare the student of Animal Health Technology to be able to understand the principles of aseptic technique, survey suite, and pack preparation and surgical assistance in all species. The student will apply this knowledge in laboratories of actual surgery performed by the veterinary staff.

H09-A412 Anesthesia 1
The student will become knowledgeable with the common anesthetic agents in veterinary practice. They will learn how to monitor animals under anesthesia and practice rendering and monitoring anesthesia to patients in the laboratory surgical rotations.

H09-A417 Hematology 2
Hematology 2 is a continuation of Hematology 1 with an emphasis on the abnormal complete blood cell count and the identification of pathological cells. The student will be introduced to cytology and cytological sampling in this course.

H09-A511 Surgical Nursing 2
Surgical Nursing 2 is a continuation of H09-A411 Surgical Nursing 1.
H09-A512 Anesthesia 2
Anesthesia 2 is a continuation of H09-A412 Anesthesia 1.

H09-A513 Pharmacology
In this course, the student of Animal Health Technology will become aware of the properties of the common pharmacological agents used in veterinary medicine. Emphasis is placed on the use of these drugs and their side effects when nursing the veterinary patient.

H09-A516 Avians and Exotic Animal Medicine
This course is designed to familiarize the student with the anatomy, physiology, husbandry, diseases, and nursing care of pet avians as well as poultry. The student will also study the anatomy, physiology, husbandry, diseases, and nursing care of some of the exotic animal species now being seen at veterinary clinics. The course will be delivered through lectures, self-study modules, and tours of facilities.

H09-A517 Zoonosis and Public Health Medicine
In this course, the student will be introduced to the diseases of zoonotic and public health importance in veterinary medicine. The course material will be enhanced with lectures by guest speakers working in this area.

H09-A519 Lab Animal/Small Fur-Bearing Animal Management
This course is designed to familiarize the student with the anatomy, physiology, husbandry, diseases, and nursing care of small fur-bearing animals found either in research laboratories or as private pets. The course will be delivered through lectures, self-study modules, and tours of facilities.

H09-A525 Office and Accounting
This course presents an introduction to basic office accounting procedures, including the accounting cycle, accounts payable, accounts receivable, etc. The student will learn the course by performing accounting procedures.

H09-A610 Projects
The student will select a topic of interest and produce an original paper on this topic which will be presented both orally and in a written form.

H09-A611 Large Animal Clinical Practicum
The student will spend three weeks of practical training in a large animal practice at the beginning of the term. During this busy time of year for large animal practitioners the student will have an opportunity to practice all the skills learned in the program to date. The student is evaluated by the practicum clinic on a predetermined set of skills.

H09-A612 Practice Management and Client Management
In this course, the student will learn how to manage a veterinary practice including managing inventory, setting up fee schedules, marketing, and managing personnel. The student will also study how to handle relations with clients with the emphasis on handling difficult clients.

H09-A614 Small Animal Clinical Practicum
The student will spend three weeks of practical training in a small animal practice at the end of the term. The student will have the opportunity to improve on the skills learned during the program. The practicum clinic will evaluate the student on the skills prerequisite to passing the program.
H09-A615  Applied Nutrition
Applied Nutrition is a continuation of H09-A312 Nutrition. With a series of guest speakers as well as staff, this course will train the student in the nutritional care of ill patients. The student will also learn to formulate rations for increased productivity in food and performance animals.

H09-A616  Advanced Animal Health Techniques
This course is designed to introduce the student to the more advanced and newer skills in the animal health and veterinary technology field such as ultrasound diagnostics, histotechniques, artificial insemination, and advanced radiographic techniques. The course is presented in a practical laboratory setting.

H09-A626  Communications
This second Communications course is designed to increase the effectiveness of the student’s interpersonal communications skills. This course will also help the student in preparing the oral and written parts of the project H09-A610.

H10-G031  Job Search
The student will learn to write personal résumés, as well as fill out mock applications.

H11-N108  Introduction to Nursing
This course is designed to introduce concepts of health and nursing as they relate to the fulfillment of human needs and thereby maintain physiologic, psychic, and social integrity. The concept of adaptation is used as a basis for determining a client’s health status. The course focuses on adult clients who require basic nursing skills to assist them to adapt and cope with activities of daily living. The knowledge and skills presented provide a basis for nursing interventions based on the nursing process.

H11-N109  Nursing Practice
This course provides the student with the opportunity to apply and become proficient in implementing the knowledge and skills obtained in H11-N108 Introduction to Nursing. The student will practice in medical, surgical, or long-term care settings. Prerequisites or co-requisites: H11-N120 Human Anatomy and Physiology, H11-S101 Social Science, and B13-S106 Interpersonal Relations. Co-requisite: H11-N108 Introduction to Nursing.

H11-N120  Human Anatomy and Physiology
This course is designed to provide an introductory study of the structure and pertinent aspects of the function of the principal organ systems. The importance of learning and using correct terminology is stressed. A unit on basic nutrition provides information which emphasizes nutritional principles students can apply to their lives. Laboratory exercises are provided to support and enrich the theoretical content. Active learning is required to perform dissections and complete the lab reports. This course is taken by students enrolled in several health-related disciplines.

H11-N208  Nursing
This course focuses on promoting the adaptation of adult and elderly clients who are experiencing commonly occurring health problems. The nursing process is used as a systematic method of organizing and providing care to clients and their significant others. The rights and concerns of clients are emphasized as being central to the care for which the nurse is responsible. Prerequisites: H11-N108 Introduction to Nursing, and H11-N109 Nursing Practice. Prerequisites or co-requisites: H11-N220 Human Anatomy and Physiology, H11-S201 Social Science, and H11-S301 Social Science. Co-requisite: H11-N209 Nursing.
H11-N209 Nursing Practice
This course provides the student with the opportunity to apply and become proficient in implementing the knowledge and skills obtained in Nursing H11-N208. The student will practice in medical, surgical, and gerontological settings. Prerequisites: H11-N108 Introduction to Nursing, and H11-N109 Nursing Practice. Prerequisites or co-requisites: H11-N220 Human Anatomy and Physiology, H11-N201 Social Science, and H11-S301 Social Science. Co-requisite: H11-N208 Nursing.

H11-N220 Human Anatomy and Physiology
This course is designed as a sequel to H11-N120 Human Anatomy and Physiology. A working knowledge of introductory anatomy and physiology is assumed. The details of anatomy and physiology are organized around unifying concepts such as interrelationships of body organ systems, homeostasis. Presentation of the material reflects hierarchical levels of complexity that contribute to the student's understanding of the body as a whole. Laboratory exercises are essential in aiding the student to apply theoretical concepts of anatomy and physiology. Clinical application is stressed throughout the course. This course is taken by students enrolled in several health-related disciplines. Prerequisite: H11-N120 Human Anatomy and Physiology.

H11-N308 Nursing
This course focuses on promoting the adaptation of clients of all ages who are experiencing commonly occurring, but more complex, health problems. Increasing proficiency in the use of the nursing process as a systematic method of organizing and providing care to clients and their significant others is emphasized. Advocacy for clients is promoted as central to the care for which the nurse is responsible. Prerequisites: H11-N208 Nursing, and H11-N209 Nursing Practice. Prerequisites or co-requisites: B13-S201 Introduction to Sociology, and H11-N311 Microbiology. Co-requisite: H11-N309 Nursing Practice.

H11-N309 Nursing Practice
This course provides the student with the opportunity to apply and become proficient in implementing the knowledge and skills obtained in Nursing H11-N308. The student will practice in medical, surgical, psychiatric, obstetric, or pediatric settings. Prerequisites: H11-N208 Nursing and H11-N209 Nursing Practice. Prerequisites or co-requisites: B13-S201 Introduction to Sociology, and H11-N311 Microbiology. Co-requisite: H11-N309 Nursing Practice.

H11-N311 Nursing Microbiology
The course deals with the infectious disease process and its relationship to patient care. Basic concepts in immunity, immunology, and epidemiology are considered initially. Microorganisms are studied in terms of general classification, taxonomy, isolation, growth requirements and identification. Infectious disease is studied through a systems approach with emphasis placed on normal flora, route of entry, potential pathogens and specimen collection. The control of infectious disease is discussed in regards to disinfection, sterilization, antimicrobial drugs, immunization and hospital control programs. The aim of the course is to enhance performance of patient care, increase communication with medical professionals and provide a significant contribution to the prevention of infectious disease.

H11-N405 Trends in Health Care
This course 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 professional. The historical development of nursing will be considered in relation to current issues and trends in the delivery of health care. Prerequisites: H11-N302 and H11-N303.
H11-N406 Community Health
This course is designed to assist the student in understanding the organization and delivery of health care in the community. It will emphasize the importance to continuity of care. The student will assess the needs of clients in their homes and communities, and may initiate activities to facilitate an optimum level of adaptation.

H11-N408 Nursing
This course focuses on promoting the adaptation of clients of all ages who are experiencing complex long-term health problems or health problems resulting in crisis. Students are encouraged to exercise critical thinking and problem solving skills in their approach to client care. The moral, ethical, and legal responsibilities of the graduate nurse are emphasized. Prerequisites: H11-N308 Nursing, and H11-N309 Nursing Practice. Co-requisite: H11-N408 Nursing Practice.

H11-N409 Nursing Practice
This course provides the student with the opportunity to apply knowledge and skills obtained in all previous and concurrent courses. The student will be expected to show evidence of increasing ability to use critical thinking as a basis for making nursing judgements. The student will practice in medical, surgical, psychiatric, obstetrical, or pediatric settings. Prerequisites: H11-N308 Nursing, and H11-N309 Nursing Practice. Co-requisite: H11-N408 Nursing.

H11-S101 Social Science
This course is an introductory study of general 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, development tasks, key concepts of personality, motivation, relevant aspects of emotions and methods of coping or adapting.

H11-S201 Social Science 2
This second part of the course 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: H11-S101

H11-S301 Social Science 3
This is a continuation of the format utilized in part two but the section of the life span to be explored is shifted to adolescence and beyond. Adolescence, early adulthood, middle age and old age are considered in developmental terms from both physical and psychosocial perspectives.

H16-D100 Social and Historical Perspectives
This course is designed to provide the student with an understanding of how society's historical perceptions of individuals with a mental handicap have affected present-day services. Students will examine their own values and attitudes towards labeled individuals in an effort to guard against future prejudice and discrimination.

H16-D101 Health and Safety
This course is designed to give the student a general overview of a healthy physical state. As well, students are made aware of the various causes, prevention strategies, and classification methods related to individuals who have a mental handicap.
H16-D102 Professional Development
This course serves as an introduction to the professional competencies necessary for a developmental service worker. Students will learn to recognize and demonstrate appropriate work behaviors as well as gain an understanding of the variety of services available for individuals who have a mental handicap.

H16-D103 Interpersonal Communications
This course is designed to give the student an introduction to interpersonal communications. Course content includes an overview of communications, self-concept, our perceptions, emotions, language, non-verbal communication, listening, and an understanding of how interpersonal relationships work.

H16-D104 Practicum 1
The student will be involved in a full-time work experience in one of a variety of possible residential or daytime situations. This initial experience will allow the student to observe and become acquainted with the role of a developmental services worker in the agency. As well, the student will begin to practice the theoretical skills learned in Term 1 course work. Either Practicum 1 or 2 must be a residential placement.

H16-D105 Practicum 2
The student will work in one agency to practice the theoretical skills learned in Year 1. Specific assignments will be given to ensure that the student develops the skills and fulfills the expectations of Year 1 course work. Either Practicum 1 or 2 must be a residential placement.

H16-D106 Residential Services
This course will focus on the range of residential options currently available and how to assist people to develop their own ideas of what they want their home to be. The course will also cover home management, nutrition, and menu planning.

H16-D107 Personal Care
This course provides the student with theoretical and practical training in personal care techniques such as bathing, dressing, body mechanics, lifting, and transferring. An emphasis will be placed on providing such assistance with respect to privacy, safety, and individual needs and abilities.

H16-D200 Family Dynamics
This course is an introduction to family dynamics with the emphasis being placed on families which include a member who has a mental handicap. It stresses the importance of respect for families and the need to encourage their involvement in the lives of the person who is disabled.

H16-D201 Advocacy
This course introduces the need for strong advocacy on behalf of and by people who have a mental handicap. The course includes an overview of rights, how to be a good advocate, and how to encourage the family and the individual to advocate for themselves.

H16-D202 Communication and Counselling
This course is a continuation of the first-year course Interpersonal Communications. The emphasis is on being effective communicators and counsellors, and includes the ability to recognize and respond to an individual's life situation, communicating with family, and responding safely to crisis situations.

H16-D203 Principles of Management
This course is an introduction to management. It includes leadership, management, and supervision techniques, how to manage time and maintain records, dealing with stress, developing volunteers, and promoting good public relations.
H16-D204 Sexuality
This course is designed to help developmental service workers facilitate healthy sexuality attitudes in people who have a mental handicap. It includes being comfortable with our own sexuality, role playing, and teaching techniques for use with people who have a mental handicap, and the prevention of sexual abuse and disease.

H16-D205 Practicum 3
This practicum can be one of either a residential, employment—occupation, or an educational placement. The student will be expected to specifically demonstrate Year 2, Term 1 competencies but will also be responsible for maintaining Year 1 skills. This practicum will involve a greater degree of responsibility and initiative than previously expected.

H16-D206 Practicum 4
The final practicum will allow the student to demonstrate competency in all program courses. A high degree of responsibility, initiative, and motivation will be expected as students attain mastery in planning, assistance, and overall problem solving.

H16-D207 Medications Training
In this course students will learn to responsibly and sensitively assist people with mental handicaps in understanding the purposes and administration of various medications.

H16-D208 Response to Physical Illness
This course deals with alterations from normal physical health. It will also focus on the kinds of conditions that have typically been associated with mental retardation.

H16-D209 Planning
This course introduces a wholistic method of planning for persons who have a developmental disability. It will consider various planning tools currently in use such as MAPS, Path, I.P.P., and so on. It focuses on the concepts of inclusion, empowerment, individualization, and comprehensiveness.

H16-D210 Education 3
This portion of the education module focuses on developing an understanding of behavioral issues and behavior management. Gentle teaching and cognitive counselling theories will form the major content areas.

H16-D211 Education 2
This course focuses on a variety of teaching techniques and strategies. It looks at goal setting, task analysis, planning and evaluation. It considers the “when” and “how” of providing assistance to others.

H16-D212 Education 1
This course serves as an introduction to educational services for individuals who have a mental handicap. It will examine the evolution of special education services, the range of existing educational opportunities, mainstreaming, work experience, and transition issues. A significant portion of the course will look at the role of teaching assistant in the educational context.

H16-D213 Augmentative Communication
The course is intended to provide a theoretical overview as well as opportunity to experience a range of strategies for enhancing a person's existing communication system. Areas covered include sign language, symbol systems, computer assisted technology, and facilitated communication.
H16-D214 Introduction to Mental Health
This course will provide students with an overview of the mental health field. The course will cover the issues of dual diagnosis, major mental health problems, and the mental health system.

H16-D215 Development Seminar
This course is an expansion of Professional Development. Its classroom component includes an overview of the social service system. The course also includes an in-depth study of the roles and responsibilities of a human service professional.

H16-D216 Integration and Community Living
The course is designed to provide the student with the competencies to facilitate and support meaningful integration of individuals with developmental disabilities in the community. The student will examine the concepts of integration and community, and learn a variety of strategies to facilitate integration for individuals.

H16-D217 Vocational Options
This course considers the range of vocational options currently available to people with developmental disabilities. Supported employment will be a major focus of the course as it currently presents the most optimistic response to the under-employment and unemployment that is the norm for the majority of people with developmental disabilities.

H16-D218 Aging
This course examines the effects of aging on persons with developmental disabilities. It also looks at the suitability of the present service systems as a means of addressing the needs of aging individuals.

L96-D100 Writing Skills
This course examines sentence and paragraph construction, usage and mechanics. The following topics comprise this course: L96-D101, L96-D102, L96-D103, L96-D104, L96-D105, L96-D106. Standing is achieved in this course by passing a comprehensive test on all these topics.

L96-D101 Sentence Structure A
The study of the sentence begins with finding verbs and their course, identifying sentences and fragments, and identifying principal and subordinate clauses.

L96-D102 Sentence Structure B
The study of the sentence continues with identifying sentences, fragments, and run-ons, using correct co-ordination and subordination to join ideas, and identifying different sentence types (compound, complex, and simple).

L96-D103 Usage
Three main areas are covered: having the verb agree with the course, using the correct form of various irregular verbs, and distinguishing between pairs of commonly confused verbs.

L96-D104 Punctuation and Capitalization
Punctuation topics include the correct use of the period, question mark, comma, and apostrophe. Capitalization rules include proper nouns, organizations, brand names, and titles. Situations in which capitals are to be avoided, such as family relationships and occupations, are also studied.

L96-D105 Sentence Writing
This section deals with sentence construction. Notes or ideas for sentences are supplied. These ideas must be combined in such a way that the sentences constructed correctly express the relationship among the ideas or notes.
**L96-D106 Paragraph Writing**
Paragraphs are constructed using a set of supplied notes or ideas. The ideas must be joined in such a way that they show the correct relationship among the ideas.

**L96-D200 Grammar – Supplement**
Additional topics in grammar and usage are covered. These include identification of parts of speech (nouns, verbs, etc.) and sentence patterns. This course is required for entry into secretarial and business programs and all Adult 11 programs.

**L96-D210 Reading**
This course is designed to improve reading comprehension, vocabulary, and reading rate. A variety of materials are used, including texts from other courses.

**L96-D220 Study Skills**
A variety of study skills topics are covered. These include time management, textbook reading, preparing for tests and taking them, memory improvement techniques, listening and note taking, and critical thinking.

**L96-D230 Spelling – Core**
The core spelling course consists of basic spelling words. Long and short vowels, other letter combinations, and blends are used in teaching the basic word list. Some rules are also introduced.

**L96-D231 Spelling – Supplement**
This course is designed for entry into the secretarial and business programs. It is required for entry into the Adult 11 programs. It consists of more advanced words and deals with prefixes and suffixes.

**L96-D240 Computer Awareness Training – Core**
This course introduces students to computers. No previous experience is required. The course covers the keyboard, some DOS functions, and basic computer operations.

**L96-D241 Computer Awareness Training – Keyboarding**
This course teaches the keyboard and touch typing. Some WordPerfect 5.1 is also included.

**L96-D300 Mathematics – Core**
This course consists of the following: L96-D301, L96-D302, L96-D303, L96-D304, L96-D305, and L96-D306. To achieve a standing in this course, a comprehensive test covering all these topics must be passed.

**L96-D301 Whole Numbers**
This course deals with reading, writing, and rounding off whole numbers. Whole numbers are used in addition, subtraction, multiplication and division, order of operations, and word problems.

**L96-D302 Fractions**
This course begins with the concept of fractions, and reading and writing them. Fractions are used in addition, subtraction, multiplication and division, order of operations, and word problems.

**L96-D303 Decimals**
The concept of decimals is introduced. Reading, writing, and rounding off decimals are studied. Decimals are used in addition, subtraction, multiplication and division, order of operations, and word problems.
L96-D304 Ratio and Proportion
This course involves the concepts of ratios and proportions and uses them to solve word problems.

L96-D305 Percent
This course involves identifying percents, changing decimals and fractions to equivalent percents, converting percents to equivalent decimals and fractions, and solving word problems using percent, including simple interest problems.

L96-D306 Measurement
This course involves both metric and imperial liquid, weight, time, and distance measurements.

L96-D400 Mathematics — Supplement
This course consists of the following options: L96-D401, L96-D402, L96-D403, L96-D404, L96-D405, and L96-D406. The number of options required for standing depends on the program for which the student is preparing. For entry into all Adult 11 programs, standing is achieved by passing a comprehensive test.

L96-D401 Algebra
This course deals with basic algebra concepts such as integers, including calculations with positive and negative numbers; basic terminology; exponents, powers, and bases; calculations with polynomials; and solving equations with one unknown.

L96-D402 Graphs
This course involves construction and interpretation of linear, bar, broken-line, and circle graphs. Linear equation graphs and tables of values are also involved.

L96-D403 Square Root and Hypotenuse Rule
This course involves determining the square root of any number and for unknowns in selected equations. The concept of hypotenuse rule is introduced and applied in solving word problems.

L96-D404 Geometry 1
This course involves geometric terminology; angle and line construction; circle construction and analysis; and construction and analysis of triangles and polygons.

L96-D405 Geometry 2
The prerequisite for this course is L96-D404 Geometry 1. This course deals with determining the perimeter, area, volume, and surface area of various geometric shapes including triangles, squares, circles, spheres, cones, etc.

L96-D406 Algebra Problems
The prerequisite for this course is L96-D401 Algebra. This course involves using algebra to solve word problems dealing with numbers, ages, rectangles, digits, mixtures, ratios, and money.

L96-D500 Science
This course consists of the following options: L96-D501, L96-D502, L96-D503, L96-D504, L96-D505, L96-D506, L96-D507, L96-D508, and L96-D509. The options selected are determined by the program for which the student is preparing. For entry into Adult 11A/C, standing is obtained after passing a comprehensive test.
L96-D501 Measurement
This course introduces the metric system (SI) of measurement and encourages the usage of common units such as those of distance: metres, kilometres, etc.; mass: grams, kilograms, etc.; volume: litres, kilolitres, millilitres, etc.; temperature: Celsius, degrees. It develops concepts of size in the metric system through laboratory experiments and exercises. It also develops a simple and convenient method of conversion within the metric system.

L96-D502 Matter and Energy
This course develops an understanding of the composition and structure of matter; the periodic table; the states, properties, and changes of matter; the nature and sources of energy; and the types and forms of energy.

L96-D503 Heat AB
The course develops an understanding of the nature of heat energy and its sources; the methods of heat transmission; and the conversion of heat energy, including a treatment of the advantages and disadvantages of different types of house insulation, their “R” values, and some methods of preventing heat loss.

L96-D504 Heat C
This course introduces concepts and definitions necessary for solving problems, including temperature conversions from Fahrenheit to Celsius degrees and vice versa, quantity of heat gained or lost by a material, conversion of heat energy to mechanical energy and vice versa, and linear and volume expansion of solids and liquids.

L96-D505 Electrical Energy
This course introduces concepts of static electricity through a study of the nature of charges and some of their effects. It develops an understanding of electric current, electrical circuits, and related terminology. This includes a treatment of Ohm’s Law and its application to simple series and parallel circuits, electrical power and cost of electrical energy. It develops the basic concepts of magnets, magnetic fields, and electromagnets. The principles of electromagnetic theory are used to illustrate how the following devices operate: electric bell, telephone, transmitter, broadcasting antenna and receiving antenna, simple AC generator, and step-up and step-down transformers.

L96-D506 Mechanical Energy
This course develops concepts of work, energy, power mechanical advantage, efficiency, and related terminology. It develops methods of solving problems based on work, power, law of machines, efficiency, and mechanical advantage. It applies concepts of work, power, efficiency, mechanical advantage, and problem solving techniques to each of the following types of simple machines: lever, incline plane, wheel and axle, pulleys, wedge, and screws.

L96-D507 Life Science A
This course develops basic concepts of cell structure and chemical activity with a “typical” cell. It describes the structure, method of infection, and ways of reducing or preventing damage caused by each of the following: viruses, bacteria, fungi, and bugs and worms.

L96-D508 Chemistry C
This course introduces valence, writing, and naming of compounds, shows how to balance equations, discusses acids, bases, and buffers, and defines pH and introduces the pH scale.
L96-D509  Life Science B C B
This course describes the structure and functions of each of the following: nervous, skeletal, muscular, circulatory, digestive, respiratory, endocrine, and reproductive systems.

C. This course covers electricity. It explains the difference between conductors and insulators, discusses static and current electricity, and explains the operation of the voltaic cell; light: discusses the electromagnetic spectrum, lenses, and the human eye; heat: discusses the difference between heat and temperature, discusses conditions which alter freezing and boiling points; pressure: discusses standard, negative, and positive pressure, and osmosis; machines: explains simple machines; solutions: explains and shows how to solve problems involving molarity and weight.

MET-1001  Math
The material covered in this course is mostly a review of the Grade 12 mathematics program along with some additional topics required for other courses in the Mechanical Engineering Technology program. Emphasis is placed on applying the various mathematical concepts to problems from related courses.

MET-1003 Communications
The overall goal of this course is to help develop written communication skills, particularly those required of technologists, who will be employed in a scientific, engineering, or industrial environment.

MET-1004 Manufacturing Processes 1
This course serves as a general introduction to manufacturing principles, methods, and costs. Emphasis is concentrated on the theory of basic machine tool operations and associated calculations.

MET-1005 Industrial Materials
This course introduces the student to the materials used in mechanical design practice, their characteristics, capabilities, and applications. The knowledge of metals, organics, and composites forms a base for later courses such as Stress Analysis, Metallurgy, and Advanced Manufacturing.

MET-1006 Mechanical Drafting
This course introduces the first-year student to one of the most important methods of transmitting technical information: the drawing. Successful completion of this course will require each student to conform to the conventions of mechanical drawing so the work will be clear to all who must use it.

MET-1007 Math/Applied Statistics
This course provides an introduction to the basic concepts of statistical methods. Some of the topics covered will be: frequency distributions, measures of central tendency and dispersion, probability, normal distribution, sampling, analysis of variance, correlation analysis, and regression analysis.

MET-1008 Mechanics (Statistics)
This course will present basic theory in force and vector analysis of objects in static equilibrium. Emphasis will be placed upon thinking logically toward a solution and presenting it at a professional level standard of technical documentation. This theory will be used in later courses such as Dynamics, Stress Analysis, and Fluid Mechanics.

MET-1009 Report Writing
This course helps the student polish the communication skills gained in Term 1. Emphasis is on producing the written reports and giving the oral briefings common in a scientific, engineering or industrial environment.
MET-1010 Engineering Economics
This course introduces the student to general management philosophy and principles, Canadian business structure, and engineering economics. The principal intent of this course is to prepare the student to make management decisions based on the engineering and economic objectives. It will also provide the student with some insight into the difficulties and problems faced by managers today.

MET-1011 Project Management
Technologists are often called upon to manage a project, a coordinated effort with a definite end. Many of the techniques used to run a one-off project are different from those used to run ongoing efforts in routine company management. This course will prepare Mechanical Engineering Technology graduates to organize and run the types of projects they may encounter early in their careers.

MET-1012 Manufacturing Processes 2
This course serves to reinforce the concepts presented in theory in Manufacturing Processes 1. Practical skills will be developed through applied assignments to be prepared on the available basic machine tools.

MET-1013 Electronics (Passive Circuits)
This course introduces direct current electricity and magnetism by analyzing electrical and magnetic circuits. The student will be introduced to the practical side of electricity and safety requirements by setting up circuits in the lab to verify work covered in the classroom.

MET-1014 Canadian Business Fundamentals
This course will have the students operating as companies, competing with each other using the BSIM (Business Simulation program). The fundamental principles relating to law, industrial property rights, and business administration in Canada will be presented as essential background for successful operation of a business in Canada.

MET-1015 Mechanics (Dynamics)
This course will build upon the force analysis of statics. The pure kinematics of rectilinear and angular motion will lead to consideration of the forces of dynamic equilibrium with respect to plane motion.

MET-1016 Structured Computer Programming
This course will consist largely of lab time used for writing programs which incorporate knowledge of constants and variables, arrays, expressions and operators, subroutines, functions, files, graphics, event trapping, and assembly language interface.

MET-1017 Calculus
This course introduces the student to differential and integral calculus. Applications from Mechanical Engineering Technology, for example: kinematics, areas, volumes of revolution, and centroids are stressed throughout the course.

MET-1018 Electronics (Linear and Digital Circuits)
Linear electronics (solid state) deals with semiconductor devices and their use in rectification, voltage, regulation, amplification, and optoelectronics circuits. Digital electronics introduces the student to number systems, binary codes, gating, and logic circuits. An introduction to microprocessors, automation, and robotics concludes the course.
MET-1019 Fluid Mechanics
This course provides the basic principles of fluid statics and dynamics as applies to mechanical engineering situations, especially pipe flow. It also lays the foundation for future courses in Fluid Power, Automation, and Thermodynamics.

MET-102 Numerical Methods
Mathematical problems are formulated and solved with arithmetic operations. Analytical solutions of ordinary and partial differential equations are introduced and then solved using a numerical computation approach. Applications involving numerical integration are included. Emphasis is on solutions of applied problems that relate to the mechanical discipline.

MET-1021 Stress Analysis 1
This course covers the basics of normal stress and strain, shear stress, beams, combined stress, pressure vessels, columns, and energy methods. Finite element analysis will be used as a concluding portion.

MET-1022 Quality Control
An introductory course to the concepts and techniques used by management to achieve an effective quality assurance/control organization within a manufacturing setting. Through hands-on surface table work, emphasis will be placed upon how and why inspections are done. The different areas of inspection in control of manufacturing are explored, with emphasis on statistical process control.

MET-1023 Computer-Assisted Design
This basic introduction to Computer-Assisted Design provides the fundamental concepts and basic skills necessary to produce a mechanical design on a CAD system. Two-dimensional and three-dimensional models with associated details will be produced.

MET-1024 Fluid Power (Hydraulics)
This course provides the student with the fundamental concepts and basic skills necessary to understand and design a variety of fluid power (hydraulic) circuits. The student will apply these concepts through problem solving, schematic development, and component specification in order to develop a greater understanding of the practical applications of fluid power.

MET-1025 Commercial Mechanical Components
This course introduces the student to standard mechanical components that are commonly used in industry. This is not a design course but is intended to make the student aware of standard catalog components, how they are selected, local sources for these components, and the application information available to them.

MET-1027 Stress Analysis 2
This course will be a continuation of basic stress analysis related to weldments, impact loading, bolted connections, fatigue, and fracture mechanics.

MET-1028 Fluid Power (Pneumatics)
This course provides the fundamental concepts and basic skills necessary to understand and design a variety of fluid power (pneumatic) circuits. The student will apply these concepts through problem solving, schematic development, and component specification in order to develop a greater understanding of the practical applications of fluid power (pneumatics).
MET-1029 Fundamentals of Component Design
This course will introduce some of the basic concepts involved in machine design. Since a machine is a combination of machine elements or parts, which (when dismantled) is a collection of simple parts such as bolts, gears, cams, springs, and shafts, the building blocks of all machines, one must have an understanding of these basic components. This course will examine these basic building blocks of machine design to give the student the necessary foundation for machine design.

MET-1030 Metallurgy
This course will cover metallurgical equipment overview, sample preparation, constituent identification, and theoretical physical metallurgy.

MET-1031 Advanced Manufacturing 1
Analysis of mathematical and practical considerations in manufacturing processes. The related tool and die requirements for a variety of processes will also be covered (i.e., gauges, cutting tools, fixtures, press dies, injection moulding dies and foundry patterns).

MET-1032 Industrial Engineering 1
The course presents the basic principles for the successful application of motion and time study. It is designed to instruct the student in the systematic approach for improving and standardizing the work method, and the techniques for measuring or estimating the standard work content or standard time.

MET-1033 Tooling Technology and Design
This subject will cover theory and practical design considerations encountered in a variety of “special tooling” areas. Theory includes recognition and confinement of “degrees of freedom”, fixture requirements and design, blanking and piercing, and multistage tooling. Labs will concentrate on the design elements of tooling.

MET-1034 Technical Report
The technical report written for this course is the culmination of the Mechanical Engineering Technology education program. Its purpose is to demonstrate the student's ability to apply the skills and knowledge acquired. Class time is for research, analysis, report writing and instructor consultation.

MET-1035 Automation
This course advances the principals of fluid power into the continually expanding field of low cost automation. The major area examined is the use of hydraulics and pneumatics as the prime motive force in an automated device, with special emphasis on the control aspects of fluid power systems.

MET-1037 Industrial Engineering 2
This course builds on the Industrial Engineering 1 course specifically in the areas of systematic planning and managing of industrial facilities, including systematic material handling analysis.

MET-1038 Advanced Manufacturing 2
A continuation of AMP I, where concentration will be placed on plastics processes, including mold design and production. The lab environment will be mainly tutorial in nature, and small group projects will encourage involvement in a variety of processes. Computer numerical control machine programming and part production will predominate the labs.
MET-1039 Production Planning and Control
After an introduction, covering the intent and function of production planning and control, topics including types of production, production control procedures, make or buy, scheduling and loading, and capacity planning will be covered. Current areas such as MRP, CIM, and JIT will be presented in theory and applied labs. Computer programming will be used in the lab environment to reinforce the theory concepts.

MET-1040 Thermodynamics
This course covers the theory of properties of thermodynamics, types of energy, steam and gas tables, laws of thermodynamics, the ideal gas, engine cycles, and solar radiation.

MET-1041 Instrumentation 1
This course introduces the student to the concepts of automatic control and the elements/components used to implement these systems. Emphasis is placed upon the methods and devices used for data/signal gathering and control of the various mechanical parameters.

MET-1042 Air Conditioning
This course will present the basic theory of air psychrometry and heat flow which are necessary to assure the various properties and quantities of air for human comfort. It will provide the groundwork for future work in areas such as selection and control of air conditioning systems, and energy management.

MET-1043 Electrical Systems
The material presented introduces the concepts involved in the characterization, design, testing and troubleshooting of electrical systems used in heating, ventilating, air conditioning, hydraulic and pneumatic systems. This discussion would include electrical/electronic actuators, controllers in conjunction with appropriate sensors and I/O devices.

MET-1045 Instrumentation 2
Logic circuitry is introduced to explain how process controllers and programmable logic controllers facilitate the control of entire processes. There is an introduction to the theory of measurements including such topics as measurement goals and concepts, range, span, frequency response and standards, and calibration methods. The methods by which analog signals are converted to digital form, processed and then converted back to the analog control signal lead to a final discussion of operator interface, data gathering methods and process control digital computers.

MET-1046 Air Conditioning Systems
This course will present the basic thermodynamics of the refrigeration cycle and describe various refrigeration systems and components. It will build upon previous psychometric chart analysis, cover the calculations of air distribution and conclude by studying the attributes of various air conditioning systems.

MET-1047 Energy Management
The need for energy conservation and energy management concepts are introduced. Identifications of the methods used to conduct energy management programs are presented along with definitions of energy efficiency and the engineering aspects of energy management such as basic thermodynamics, heat transfer and fluid mechanics. The course concludes with the programming and monitoring of a supervisory system employed to implement an energy management and monitoring system.
MET-1048 Noise, Vibration and Balancing
The basic theory of sound and vibration will be introduced to show the effects of this form of energy on people and the environment. Problems will be solved using general principles of sound and vibration control. The balancing of rotating parts will be covered with emphasis on problem solving.

MET-1049 Engineering Design
This course will help the student develop a reliable process for producing a real design by applying analytical skills and technical knowledge from all previous courses. Class time will be used for selecting a project, performing the design and consulting with instructors. The final product of the course will be the finished design for a product, system, device or object that could actually be built from the documentation provided.

MET-1050 Supervisory Management
Students will learn how to organize and delegate work, make sound decisions, improve communication skills, hire and motivate employees, appraise employee performance, handle conflicts, discipline problems and grievances, counsel employees, provide leadership to the work group, and deal with organizational ethics and politics.

MET-1051 Advanced CAD
Students will extend their solids-modeling skills from the earlier CAD course to include constructing complex multi-part assemblies and bills of materials. Solids-models will be used for other engineering purposes such as finite element analysis (stress, vibration, and thermal analysis) and CNC toolpath generation. Instruction will be on Intergraph and Mazak systems.

MET-1052 Technical Report Planning
Students will determine the purpose, scope, and detailed schedule for their individual Term 6 technical report project. Final output will be a written and oral project definition.

R01-B001 Study Skills
This course assists students to develop effective methods of studying, reading a textbook, taking notes, preparing for examinations and managing their time so as to be successful in the College.

R01-B002 Communications 1 – ACCESS Program
This course identifies and provides remediation for reading and writing problems. Exercises are provided to in-crease reading speed, comprehension and vocabulary. Time is spent on logical reasoning and in the reading lab.

R01-B003 Professional Development 1
Students learn self-assessment and develop professional behaviors. Topics include goal setting, stress and time management, communications, confidence building, problem solving, values awareness and group development. Participation is essential.

R01-B004 Supplementary Instruction
A process designed to broaden the students' knowledge base and enhance their learning in the College credit courses. Provides review, discussion, clarification, small group work and testing for ACCESS, Inner City Nursing Program and Northern Nursing Program students.

R01-D017 Communications 2
Designed with two components: first is continued remediation in reading and writing; second is learning to research issues and write formal papers with footnotes and a bibliography.
R01-N009 Professional Development 2
This course is designed to take the concepts learned in Professional Development 1 and apply them in a group setting. Topics examined include conflict resolution, assertiveness, feedback, communication, leadership and group development. Participation is essential.

R01-N011 Supplementary Instruction 2
A process designed to broaden the students' knowledge base and enhance their learning in the College credit courses. Provides review, discussion, clarification, small group work and testing for ACCESS, Inner City Nursing Program and Northern Nursing Program students.

R01-N014 Supplementary Instruction 3
A process designed to broaden the students' knowledge base and enhance their learning in the College credit courses. Provides review, discussion, clarification, small group work and testing for ACCESS, Inner City Nursing Program and Northern Nursing Program students.

R01-N016 Supplementary Instruction 4

R01-N017 Supplementary Instruction 5
A process designed to broaden the students' knowledge base and enhance their learning in the College credit courses. Provides review, discussion, clarification, small group work and testing for ACCESS, Inner City Nursing Program and Northern Nursing Program students.

R01-N018 Supplementary Instruction 6
A process designed to broaden the students' knowledge base and enhance their learning in the College credit courses. Provides review, discussion, clarification, small group work and testing for ACCESS, Inner City Nursing Program and Northern Nursing Program students.

R01-N019 Professional Development 3
This course is designed to teach the assertiveness skills necessary to function effectively in the workplace with co-workers, management, consumers, and clients. Students will be required to demonstrate their ability to apply specific assertiveness skills and techniques in a variety of situations.

S01-B102 Culture and Ethnology 1
This course looks at the origins of culture and the development of some early cultural groups. The progress from early to modern cultures is charted with discussion of such aspects of culture as language, values, and norms, traditions, and organizations. There is some emphasis on the effects of urbanization in modern North American culture. As well, mosaic and melting pot models within the North American context will be examined. Topics included here are cultural plurality, majority and minority cultures, cultures in conflict, and cultures in transition. Note: This course is a prerequisite for Culture and Ethnology 2.

S01-B108 Deaf Culture
This course is designed to introduce the student to the cultures of Deaf people in North America. Several prominent models of culture are discussed with application to the Deaf community. Aspects of Deaf culture such as language, values, rules of behavior and cultural identity are investigated through lectures, handouts, recommended reading, videotapes, and student research and presentations.

S01-B113 Cross Cultural Interaction
This course assists students in identifying and articulating issues in cross-cultural interaction. Students explore common problems that occur and potential resolutions.
S01-B114 English 1
This course is designed for students to increase their syntactic, semantic and pragmatic proficiency of the English language through lectures and assignments on prescribed topics. Elements of English writing style will also be covered.

S01-B118 Literature Review 1
This is the first of two literature review courses that allow students to read publications related to the field of interpretation over and above those used as textbooks or discussed in various course courses.

S01-B121 Interpretation Settings
This course is an overview of the variety of settings where interpreting may be required, such as medical, legal, employment, conference, mental health, recreational and religious situations. As well, consumer/interpreter dynamics are discussed including pre-assignment preparation, small and large group meetings, interviews, panel discussions and team interpreting.

S01-B123 ASL 5
This is the fifth and final course in the series of American Sign Language (ASL) courses for Interpreter Training Program (ITP) students. Further practice is given in discourse, along with in-depth individual evaluations of students' ASL usage. The focus in this course is on preparing students for the practicum experience in Term 6.

S01-B124 English 2
This course focuses on models of language acquisition and cognitive development in the hearing individual. These models are compared and contrasted with those of Deaf individuals. Current research in these areas is discussed.

S01-B126 Interpretation Lab 5 – General Practice Lab
This is a general practice lab in which students participate in ASL/English interpretation situations. These may take the form of live role play, videotaped scenarios brought in by the instructor and prepared materials brought in by each student.

S01-B127 Interpretation Lab 6 – Mock Situations
In this lab, students interpret in mock situations by preparing for, interpreting in, and conducting appropriate post-interpretation follow-up. Students are graded on this ability to preplan, to team with other student interpreters and to debrief with consumers and their fellow team members.

S01-B130 Special Projects – Independent Study
In this course, students research a topic of their choice as it relates to a discipline of interpretation. Students choose a topic, investigate it as thoroughly as possible, present a summary of their findings to the class and hand in a written paper and list of resources.

S01-B132 Practicum 3
This is the final practicum for the two-year ITP in which students are given a variety of supervised practicum experiences, with weekly seminars for discussion of issues and special topics.

S01-B133 Literature Review 2
This second literature review allows students to read publications related to the field of interpretation over and above those discussed in various program courses.
SO1-B134 ASL 1
This is the first of five courses in ASL for ITP students, and is the introductory course for teaching students at the interpreter level. Students are introduced to the classroom structure and teaching methodologies, and study appropriate ways of communicating in ASL (discourse), along with facets of the Deaf community such as cultural aspects, minority/majority group dynamics, and oppression. A variety of topics pertinent to training interpreters is used as a basis for building vocabulary and sentence structure, with direct application to communicating within a group.

SO1-B135 ASL 2
This is the second of five courses in ASL for ITP students. This course continues with and expands upon the material introduced in ASL 1.

SO1-B136 Introduction to the Interpreting Field
This course is designed to introduce the student to historical and contemporary perspectives of the interpretation field. Topics included are the history of spoken and sign language interpretation, related terminology, models of interpretation, and discussion of the communication and interpretation process.

SO1-B137 Building Translation Skills – English
This is the first of three courses that give practice in prerequisite skills for both consecutive and simultaneous interpretation. This first course deals exclusively with English. The second course will focus on ASL and the third course will incorporate both English and ASL. Skills are built through practice in various translation exercises. This course focuses on listening/reading for meaning, phonemic and phrase shadowing, abstracting, closure and shifting from register to register.

SO1-B138 Culture and Ethnology 2
This course focuses on case studies of cultural/ethnic groups. Students complete individual projects consisting of a written paper and an in-class presentation on either a particular cultural group or comparing aspects of two cultural groups.

SO1-B139 Building Translation Skills – ASL
This is the second of three courses that give practice in prerequisite skills for both consecutive and simultaneous interpretation. Whereas the first course dealt only with English, this second course is concerned with practice in manipulating ASL. The third course will consist of exercises that incorporate both English and ASL. Skills are built through practice in various translation exercises. This course focuses on comprehension of signed material, phonemic and phrase shadowing, abstracting, paraphrasing, closure and shifting from register to register.

SO1-B140 Ethics 1
This is the first of two courses in ethics for interpretation students. This first course introduces students to several theories of moral development and how they apply to the need for ethical standards and practices in the field of interpretation. A historical perspective is also studied, along with comparison of current thought in this area.

SO1-B141 ASL 3
This is the third of five courses in ASL for ITP students. This course continues with and expands upon the material presented in ASL 2, and introduces more complex principles of language usage in ASL.
**S01-B142 Building Translation Skills – English/ASL**
This is the third of three courses that give practice in prerequisite skills for both consecutive and simultaneous interpretation. Whereas the first course dealt only with English and the second with ASL, this third course consists of exercises that incorporate the manipulation of both English and ASL. Skills are built through practice in various translation abstracting, closure, and shifting from register to register cross-language.

**S01-B143 Interpretation Lab 1 – Consecutive Interpretation**
This is the first interpretation lab for students in the ITP. In this lab, students work on consecutive interpretation exercises in small groups.

**S01-B144 Practicum 1 – Observation Practicum**
This is the first of three practicum experiences in the two-year ITP. Students are able to observe interpreters working in the field once a week. In addition, students meet together once weekly to discuss their observation experiences.

**S01-B145 ASL 4**
This is the fourth course in the series of five courses for ITP students. Along with further expansion of principles previously taught and practiced, students are given coursework to give them practice in lengthier discourse both with other members of a group and with individual presentations.

**S01-B146 Ethics 2**
This is the second in a series of two courses in ethics for students in the ITP. Students discuss ethical issues and problem solving based on case studies presented in class.

**S01-B147 Interpretation Lab 2 – Consecutive English to ASL**
In this interpretation lab students continue their practice of consecutive interpretation by interpreting students’ prepared presentations. Students are paired to allow practice of some team interpreting techniques. Students are videotaped and participate in class critiques.

**S01-B148 Interpretation Lab 3 – General Practice**
This is a general practice lab in which students participate in English/ASL interpretation situations. These may take the form of role plays, videotaped, audiotaped or written scenarios brought in by the instructor, or prepared materials brought in by each student.

**S01-B149 Interpretation Lab 4 – Consecutive Interpretation**
This course allows students to continue practicing their developing skills in Consecutive Interpretation in English to ASL, ASL to English, and in interactive situations.

**S01-B150 Interpretation Lab 7: Simultaneous English to ASL**
This is an interpretation lab that allows students practice in simultaneous interpretation with a live presenter, working from English to ASL. Emphasis is on working as a team member, preplanning for interpretation, and simultaneous interpretation.

**S01-B151 Practicum 2**
This is the second of three practicum experiences in the two-year ITP. Students attend some interpreting assignments to observe other interpreters’ work, team with professional interpreters in the field, or team with other ITP students under certain circumstances.
S01-B152 Deaf History
This course introduces students to the history of the Deaf community. Topics are covered through lectures and discussion of various Deaf organizations. Students will be required to do research on Deaf organizations and present their research in class.

S01-B153 Seminar in Psychology
Various topics related to psychology and the interpreter are discussed by guest speakers.

S02-C116 Reading and Study Skills (Part-time)
This course concentrates on the following: 1. Increasing reading comprehension and vocabulary, 2. Developing time management skills, 3. Developing techniques for reading textbooks, 4. Developing note taking skills, 5. Preparing for exams.

S02-D100 Writing Skills
This course examines sentence and paragraph construction, usage and mechanics. The following topics comprise this course: S02-D101, S02-D102, S02-D103, S02-D104, S02-D105, S02-D106. Standing is achieved in this course by passing a comprehensive test on all these topics.

S02-D101 Sentence Structure A
The study of the sentence begins with finding verbs and their courses, identifying sentences and fragments, and identifying principal and subordinate clauses.

S02-D102 Sentence Structure B
The study of the sentence continues with identifying sentences, fragments, and run-ons, using correct coordination and subordination to join ideas, and identifying different sentence types (compound, complex, and simple).

S02-D103 Usage
Three main areas are covered: having the verb agree with the course, using the correct form of various irregular verbs, and distinguishing between pairs of commonly confused verbs.

S02-D104 Punctuation and Capitalization
Punctuation topics include the correct use of the period, question mark, comma, and apostrophe. Capitalization rules include proper nouns, organizations, brand names, and titles. Situations in which capitals are to be avoided, such as family relationships and occupations, are also studied.

S02-D105 Sentence Writing
This section deals with sentence construction. Notes or ideas for sentences are supplied. These ideas must be combined in such a way that the sentences constructed correctly express the relationship among the ideas or notes.

S02-D106 Paragraph Writing
Paragraphs are constructed using a set of supplied notes or ideas. The ideas must be joined in such a way that they show the correct relationship among the ideas.

S02-D200 Grammar Supplement
Additional topics in grammar and usage are covered. These include identification of parts of speech (nouns, verbs, etc.) and sentence patterns. This course is required for entry into secretarial and business programs and all Adult 11 programs.
S02-D210 Reading
This course is designed to improve reading comprehension, vocabulary, and reading rate. A variety of materials are used, including texts from other courses.

S02-D220 Study Skills
A variety of study skills topics are covered. These include time management, textbook reading, preparing for tests and taking them, memory improvement techniques, listening and note taking, and critical thinking.

S02-D230 Spelling Core
The core spelling course consists of basic spelling words. Long and short vowels, other letter combinations, and blends are used in teaching the basic word list. Some rules are also introduced.

S02-D231 Spelling Supplement
This course is designed for entry into the secretarial and business programs. It is required for entry into the Adult 11 programs. It consists of more advanced words and deals with prefixes and suffixes.

S02-D240 Computer Awareness Training – Core
This course introduces students to computers. No previous experience is required. The course covers the keyboard, some DOS functions, and basic computer operations.

S02-D241 Computer Awareness Training – Keyboard
This course teaches the keyboard and touch typing. Some WordPerfect 5.1 is also included.

S02-D300 Mathematics Core
This course consists of the following: S02-D301, S02-D302, S02-D303, S02-D304, S02-D305, and S02-D306. To achieve a standing in this course, a comprehensive test covering all these topics must be passed.

S02-D301 Whole Numbers
This course deals with reading, writing, and rounding off whole numbers. Whole numbers are used in addition, subtraction, multiplication and division, order of operations, and word problems.

S02-D302 Fractions
This course begins with the concept of fractions, and reading and writing them. Fractions are used in addition, subtraction, multiplication and division, order of operations, and word problems.

S02-D303 Decimals
The concept of decimals is introduced. Reading, writing, and rounding off decimals are studied. Decimals are used in addition, subtraction, multiplication, and division, order of operations, and word problems.

S02-D304 Ratio and Proportion
This course involves the concepts of ratios and proportions and uses them to solve word problems.

S02-D305 Percent
This course involves identifying percents, changing decimals and fractions to equivalent percents, converting percents to equivalent decimals and fractions, and solving word problems using percent, including simple interest problems.
S02-D306 Measurement
This course involves both metric and English liquid, weight, time, and distance measurements.

S02-D400 Mathematics Supplement
This course consists of the following options: S02-D401, S02-D402, S02-D403, S02-D404, S02-D405, and S02-D406. The number of options required for standing depends on the program for which the student is preparing. For entry into all Adult 11 programs, standing is achieved by passing a comprehensive test.

S02-D401 Algebra
This course deals with basic algebra concepts such as integers, including calculations with positive and negative numbers; basic terminology; exponents, powers and bases; calculations with polynomials; and solving equations with one unknown.

S02-D402 Graphs
This course involves construction and interpretation of linear, bar, broken-line, and circle graphs. Linear equation graphs and tables of values are also involved.

S02-D403 Square Root and Hypotenuse Rule
This course involves determining the square root of any number and for unknowns in selected equations. The concept of hypotenuse rule is introduced and applied in solving word problems.

S02-D404 Geometry 1
This course involves geometric terminology; angle and line construction; circle construction and analysis; and construction and analysis of triangles and polygons.

S02-D405 Geometry 2
The prerequisite for this course is S02-D404 Geometry 1. This course deals with determining the perimeter, area, volume, and surface area of various geometric shapes including triangles, squares, circles, spheres, cones, etc.

S02-D406 Algebra Problems
The prerequisite for this course is S02-D401 Algebra. This course involves using algebra to solve word problems dealing with numbers, ages, rectangles, digits, mixtures, ratios, and money.

S02-D500 Science
This course consists of the following options: S02-D501, S02-D502, S02-D503, S02-D504, S02-D505, S02-D506, S02-D507, S02-D508, and S02-D509. The options selected are determined by the program for which the student is preparing. For entry into Adult 11A/C, standing is obtained after passing a comprehensive test.

S02-D501 Measurement
This course introduces the metric system (SI) of measurement and encourages the usage of common units such as those of distance: metres, kilometres, etc.; mass: grams, kilograms, etc.; volume: litres, kilolitres, millilitres, etc.; temperature: Celsius degrees. It develops concepts of size in the metric system through laboratory experiments and exercises. It also develops a simple and convenient method of conversions within the metric system.

S02-D502 Matter and Energy
This course develops an understanding of the composition and structure of matter; the periodic table; the states, properties, and changes of matter; the nature and sources of energy; and the types and forms of energy.
S02-D503 Heat A B
The course develops an understanding of the nature of heat energy and its sources; the methods of
heat transmission; and the conversion of heat energy, including a treatment of the advantages and dis-
advantages of different types of house insulation, their “R” values, and some methods of preventing
heat loss.

S02-D504 Heat C
This course introduces concepts and definitions necessary for solving problems including temperature
conversions from Fahrenheit to Celsius degrees and vice versa, quantity of heat gained or lost by a
material, conversion of heat energy to mechanical energy and vice versa, and linear and volume
expansion of solids and liquids.

S02-D505 Electrical Energy
This course introduces concepts of static electricity through a study of the nature of charges and some
of their effects. It develops an understanding of electric current, electrical circuits, and related termin-
ology. This includes a treatment of Ohm's Law and its application to simple series and parallel cir-
cuits, electrical power and cost of electrical energy. It develops the basic concepts of magnets, mag-
netic fields, and electromagnets. The principles of electromagnetic theory are used to illustrate how
the following devices operate: electric bell, telephone, transmitter, broadcasting antenna and receiving
antenna, simple AC generator, and step-up and step-down transformers.

S02-D506 Mechanical Energy
This course develops concepts of work, energy, power mechanical advantage, efficiency, and related
terminology. It develops methods of solving problems based on work, power, law of machines, effi-
ciency, and mechanical advantage. It applies concepts of work, power, efficiency, mechanical advan-
tage, and problem solving techniques to each of the following types of simple machines: lever, incline
plane, wheel and axle, pulleys, wedge, and screws.

S02-D507 Life Science A
This course develops basic concepts of cell structure and chemical activity with a “typical” cell. It
describes the structure, method of infection, and ways of reducing or preventing damage caused by
each of the following: viruses, bacteria, fungi, and bugs and worms.

S02-D508 Chemistry C
This course introduces valence, writing, and naming of compounds; shows how to balance equations;
discusses acids, bases, and buffers; and defines pH and introduces the pH scale.

S02-D509 Life Science B C B.
This course describes the structure and functions of each of the following: nervous, skeletal, muscular,
circulatory, digestive, respiratory, endocrine, and reproductive systems.
C. This course covers electricity: explains the difference between conductors and insulators, discusses
static and current electricity, and explains the operation of the Voltaic cell; light: discusses the electro-
magnetic spectrum, lenses, and the human eye; heat: discusses the difference between heat and tem-
perature, discusses conditions which alter freezing and boiling points; pressure: discusses standard,
negative, and positive pressure, and osmosis; machines: explains simple machines; solutions: explains
and shows how to solve problems involving molarity and weight.

S02-D999 Grading System
C=80, B=85, A=90, A+=95. Grading system for Adult 10 program.
S03-K001 Communications
These topics are studied: subject-verb agreement, punctuation, sentence faults, and sentence and paragraph construction.

S03-L001 Mathematics
The course has these topics: fundamental concepts in algebra, first degree equations, products and factoring, algebraic fractions, exponents and radicals, quadratic and simultaneous equations, mensurational and analytical geometry, ratio and proportion, trigonometry, sine waves and radians, and logarithms.

S03-L004 Science (Chemistry)
The topics covered include the physical and chemical characteristics and states of matter; elements, compounds, and mixtures; atomic structure and the periodic table; and valence, formula writing, and molecular calculations.

S03-M001 Science (Physics)
This course examines matter and energy, force measurement, motion, atomic structure, energy and machines, etc.

S03-M003 Science (Biology)
Biology

S03-N001 Business Communications
This course deals with a variety of grammar and punctuation topics including subject-verb agreement, phrases and clauses, sentence faults, pronoun usage, verbs, modifiers, and parallel structure; writing paragraphs using cause and effect, comparison and contrast, definition, example and illustration, and persuasion is studied. A written business report and oral presentations are also included.

S03-N003 College Study Skills
This course is designed to develop reading flexibility, improve reading efficiency, teach skimming and scanning techniques, increase general and technical vocabulary, develop comprehension skills, teach the SQ3R study system, develop time management, improve the ability to concentrate and to remember facts, take useful notes from lectures, get involved in class discussions, and prepare for examinations.

S03-N005 Basic WordPerfect
Designed to introduce students to the WordPerfect word processing program. It concentrates on familiarizing students with the basic WordPerfect functions.

S03-N006 Computer Keyboarding
Designed to prepare students to use touch typing techniques on a typewriter keyboard. It concentrates on familiarizing students with letters, symbols and numbers of the typewriter keyboard.

S03-0001 Business Mathematics
The topics covered in this course include basic calculations using a financial calculator, graphs, payroll calculations, basic algebra, ratio, proportion, and percent business applications such as pricing and simple interest, compound interest including present and future value, annuities and amortization, simple accounting procedures, inventory calculations, and depreciation.
**S03-P001 Business and Consumer Fund**
This course covers a wide variety of topics: government revenue including personal income tax preparation; the structure of Canadian government; such law topics as civil, torts, contracts, and consumer issues; forms of business organization: sole proprietorship, partnership, and corporations; and stocks and bonds.

**S03-Q001 Communications**
Grammar: usage, sentence structure, mechanics, paragraph and essay writing.

**S03-R001 Mathematics 301**
These topics are included in the course: fundamental concepts, first degree equations, products and factoring, formulae, functions and factorials, algebraic fractions, exponents and radicals, quadratic equations, simultaneous equations, mensurational and analytical geometry, ratio and proportion, trigonometry, the laws of sines and cosines, trigonometric identities, sine waves and radians, and logarithms.

**S03-R002 Mathematics 300**
These topics are included in the course: fundamental concepts, first degree equations, products and factoring, formulae, functions and factorials, algebraic fractions, exponents and radicals, quadratic equations, simultaneous equations, sequences and series, graphing equations, analytic geometry, ratio and proportion, trigonometry, the laws of sines and cosines, trigonometric identities, sine waves and radians, and logarithms.

**S03-S001 Science (Physics) 300**
This course covers these topics: matter and energy, measurement, force, magnetism, motion, energy, and machines, direct current, atomic structure, kinetic theory, heat, electrostatics, vectors, and electromagnetic induction.

**S03-S002 Science (Chemistry) 300**
These topics are included: matter, elements, compounds and mixtures, atomic structure and the periodic table, valence and molecular calculations, chemical reactions, acids, bases, and salts, solutions, and organic compounds and hydrocarbons.

**S03-U101 Communications**
Writing development, spelling development, review of grammar and English usage, sentence construction, writing of paragraphs. Reading development, speed and comprehension, vocabulary development.

**S05-A012 Integration Skills**
The students will receive instruction, examine, and discuss information which will assist them with their integration into life in Canada. Topics to be explored include personal information, social interaction, health, education systems and opportunities, services, shopping/buying, transportation, weather, agency contacts, government, and leisure activities.

**S05-A013 Reading**
This course focuses on the development of reading methods to improve the student's reading efficiency. Emphasis is on reading comprehension, vocabulary development, reading rate, listening comprehension, and study skills. Materials and exercises used will be at an intermediate level.
S05-A014 Grammar/Writing Skills
The student's knowledge of English grammar and usage at an intermediate level will be developed in conjunction with the development of writing skills. Emphasis is on correct grammar and usage, identification and functions of parts of speech, sentence writing with the ability to communicate ideas by means of grammatically correct sentences, employing elements of coordination, subordination, and punctuation.

S05-A015 Oral/Aural Language Development
The listening and speaking skills of the students will be expanded. Emphasis is on comprehending and reproducing information, determining and reproducing information, making conclusions based on information heard, following directions, improving pronunciation, discussion of opinions, comprehension, and use of idioms.

S05-A016 Spelling
This course presents lessons 1 through 14 of the basic spelling program. Emphasis is on correct spelling of commonly used English words, pronunciation of these words, common spelling rules, definitions of words, study of word forms.

S05-A017 Volunteer Placement
Students will identify areas of career interest and explore volunteer placement opportunities. Students will complete 40 hours of volunteer work during the course in an area of interest in order to explore the job duties of a specific career and to join some experience in a work setting in Canada.

S05-A018 Job Market Preparation
An exploration of occupational areas as they relate to the student's career choice. Emphasis is on career exploration and research, job search techniques, employment-related information, and job maintenance skill development.

S05-A020 Speaking Skills
Development of the student's speaking ability in both formal and informal situations. Emphasis is on pronunciation, general conversation, discussion of opinions, comprehension and use of idioms in conversation, and development of a theme in weekly oral presentations.

S05-A021 Spelling
The required lessons (1-22) from the basic and supplementary spelling program will be studied (according to the student's college goal). Emphasis is on correct spelling of commonly used English words, pronunciation of these words, common spelling rules, definitions of words, and study of word forms.

S05-A023 Reading
Development of reading methods to improve the student's reading efficiency. Emphasis is on reading, comprehension, vocabulary development, reading rate, listening comprehension, and study skills.

S05-A024 Writing
The student's writing ability will be developed. Emphasis is on sentence types, sentence combining, and sentence writing with the ability to communicate ideas by means of grammatically correct sentences, employing elements of coordination, subordination, and punctuation.

S05-A025 Grammar
Development of knowledge of English grammar and usage with emphasis on correct grammatical usage, identification and functions of parts of speech, concepts and usage of coordination and subordination, and adaptation of formal grammar skills to communication and writing situations.
S05-A026 Mathematics
The students will complete the required elements of the 5-10 Mathematics program according to their college course goal.

S05-A027 Science
The students will complete the required elements of the 5-10 Science program according to their college course goal.

S05-A028 Listening
The listening skills of the student will be expanded to improve the aural comprehension of students. Emphasis is on comprehending and reproducing information, determining and reproducing information, making conclusions based on information heard, and following aural directions.

S05-A107 Speaking
The students will participate in class discussions, make oral presentations to the class, paraphrase short lectures or visual presentations, interview someone in their field or a student studying in their field and report to the class, make impromptu short speeches on relevant topics, and study and discuss common English idioms.

S05-A108 Listening
The students will practice discriminating specific sounds and word boundaries, listen to short lectures, guest speakers, video and audio cassettes and answer questions based on the information, discuss the topic and paraphrase and summarize information.

S05-A109 Reading
The students will read scientific-based material and examine the structure, style, terminology, vocabulary, and content; answer comprehension questions, discuss the content and do vocabulary development exercises; practice a variety of reading strategies such as finding main ideas, inferring, and drawing conclusions; and study the derivations of vocabulary commonly used in the field of science and technology.

S05-A110 Grammar
The students will study verb tenses, conditions, active/passive voice, modals and parts of speech, practice recognizing and using the grammatical forms in grammar exercises, oral presentations, journal writing, and listening exercises.

S05-A111 Writing
The students will practice writing grammatically correct sentences and study a variety of sentence types, study how to develop individual sentences into cohesive paragraphs, write short reports and journals, and study styles and functions of scientific writing.

S05-A112 Spelling
The students will study commonly used English words, examine common English spelling patterns, take dictation, and write spelling tests.

S05-E422 Writing Skills
The student will develop the writing skills necessary to write a simple sentence, to complete a variety of forms, and to develop a basic résumé.

S05-E42 Reading Skills
The student will develop a basic vocabulary and will be able to perform practical reading tasks which include reading want ads, street signs, simple directions, and consumer information.
S05-E424 Grammar Skills
The student will develop an understanding of the basic structures of the English language and will be able to form basic questions and answers using the appropriate verb tense.

S05-E425 Speaking and Listening Skills
The student will be able to participate in a conversation where minimal language skills are required which fall within the framework of the following topics: 1) personal information, 2) orientation of living in Canada, 3) language learning in the classroom, 4) health, 5) social interaction and leisure activities, 6) services, 7) shopping/buying food, clothing, other items, 8) work, 9) transportation/weather.

S05-E434 Listening and Note Taking
The students will listen to passages and take notes on the passages. The students will answer questions based on the passages and/or paraphrase the passages. These passages will vary in type and length from short radio news reports to lectures.

S05-E435 Reading
The students' reading comprehension and vocabulary are developed by: studying words in context; reading passages and answering questions on detail; conclusion-drawing, facts, generalizations and evaluation; determining synonyms and antonyms; reading and completing closed passages; and reading longer passages and analyzing ideas and interpreting the meaning of the passages.

S05-E436 Spelling
The students will write down (with a minimum of errors) a short passage that has been dictated. The passages will be taken from articles studied during the course.

S05-E437 Conversation and Oral Presentation
Students will demonstrate their conversational ability by listening to passages or lectures and then explaining in their own words what they have heard. Students will also make oral presentations to their class on topics of their own choice.

S05-E438 Grammar
The students will study a wide variety of aspects of English grammar and demonstrate their ability by filling in blanks, writing grammatically correct sentences, and by writing short essays.

S05-E439 Writing
The students' writing skills will be developed. The students will demonstrate their ability by writing grammatically correct sentences, logically ordered expository paragraphs, and short essays.

S05-E440 Preparation for TOEFL
The students will prepare to write the Test of English as a Foreign Language. Preparation will include error identification and correction, listening, structure and written expression, vocabulary and reading comprehension development, and grammar practice.

S07-W101 Advanced Welding
Basic principles in theory and practical as required in production welding.

T01-A025 Safety
Students will be taught personal, shop, and environmental safety, as well as safety procedures in the handling of hazardous materials and the use of tools.
**TO1-A026 Welding**
Students will learn safe working procedures with different welding techniques. Also, students will learn practical application of gas and MIG welding systems and gas and plasma cutting techniques.

**TO1-A027 Hand Tools, Power Tools and Hydraulics**
Students will be able to identify, select, use, and maintain hand, power, and hydraulic tools required for the repair of motor vehicles.

**TO1-A028 Basic Metal Working**
In this section, the student exercises theoretical knowledge of metal straightening on various damaged projects which also provide the opportunity to develop practical skills in metal straightening, shrinking, filling, and proper use of tools.

**TO1-A029 Refinishing**
Students will be instructed in basic paint preparation systems, products, equipment, and application procedures.

**TO1-A030 Vehicle Construction – Panel Replacement**
Students will be able to remove and replace major structural, functional, and non-functional parts. Also, students will become familiar with the different types of body and frame design and construction.

**TO1-A031 Advanced Metal Working and Rust Repair**
Students will be repairing more severe and complicated sheet metal damage and develop metal shaping skills in forming and installing rust repair patches.

**TO1-A032 Frame Repair and Estimating**
Students will be instructed in the use of frame measuring equipment to identify different frame damages and how they relate to poor body fits. Also, students will be able to interpret a repair estimate as to time allowed and cost of repair.

**TO1-A033 Major Body Alignment, Weld-on Panel Replacement**
Students will be instructed in identifying different types of body opening, and/or body panel misalignments and methods of adjusting to obtain proper alignment.

**TO1-A034 Hardware, Glass and Trim**
This segment involves instruction in replacement of all automobile glass as well as procedures of removing and replacing door components and interior trim.

**TO1-C026 Automotive Service Fundamentals – Theory**
The student will become knowledgeable in all aspects of personal and shop safety including WHMIS. Also taught are introductions to vehicle systems such as engine, drivetrain, chassis, and electrical.

**TO1-C027 Automotive Service Fundamentals – Practice**
The student will apply all safety measures as outlined in TO1-C026. Practical training will include work on automobile training components and lab work.

**TO1-C028 Work Experience 1**
Work experience will consist of vehicle pre-delivery inspections and/or light maintenance work under supervision of experienced industry personnel.
T01-C029 Engines and Related Systems – Theory
The student will receive classroom instruction in engine construction and operation, fuel systems operation and diagnosis, fundamentals of electricity and electronics, and ignition systems and emission controls.

T01-C030 Engines and Related Systems – Practical
Practical application of T01-C029 on automobile training components and lab work.

T01-C031 Work Experience 2
Work experience consists of diagnosis and repair of engine and related systems under the supervision of experienced industry personnel.

T01-C032 Drivetrain – Theory
The student will receive classroom instruction on the construction, operation, and diagnosis of standard and automatic transmissions/transaxles as well as clutches, drivelines, and differentials.

T01-C033 Drivetrain – Practical
Practical application of T01-C032 on automobile training components and lab work.

T01-C034 Chassis: Suspension, Steering, Brakes – Theory
The student will receive classroom instruction in the construction, operation, and diagnosis of suspension, steering, and brake systems.

T01-C035 Chassis: Shop, Service, Diagnoses – Practical
Practical application of T01-C034 on automobile training components and lab work.

T01-C036 Electrical – Theory
The student will receive classroom instruction in electrical circuiting as applied to the automotive trade, including starting and charging systems.

T01-C037 Electrical – Practical
Practical application of T01-C036 on automobile training components and lab work.

T01-C038 Work Experience 3
Work experience will consist of diagnosis and repair of drivetrain and chassis components under supervision of experienced personnel.

T01-D011 Introductory Mechanics – Theory
Demonstrate the ability to identify and use correctly the hand tools utilized in the HD mechanics trade.

T01-D012 Introductory Mechanics – Practical
Student will learn first-hand the involvement of on-the-job working conditions required in a live repair shop.

T01-D013 Standard Transmissions – Theory
Construction, principle of operation, synchronizers, splitters and air shift, variable speed diesels, four-wheel drive transfer case, farm tractor transmission, reversing transmissions, transmission overhaul.

T01-D014 Standard Transmissions Overhaul – Practical
Inspection, repair and overhaul of: synchronizers, splitters and air shift, variable speed diesels, four-wheel drive transfer case, farm tractor transmission, reversing transmissions.
T01-D015 Rear Axles – Theory
Types and principle of operation, single speed HD Eaton rear axles, traction equalizers, power dividers, electric and air shift systems.

T01-D016 Rear Axles – Practical
Overhaul of single-speed HD Eaton rear axles, traction equalizers, power dividers, electric and air shift systems.

T01-D017 Brake Systems – Theory
Theory of operation, repair and adjustment of hydraulic, manual and power brakes, air brake repairs, adjustments and maintenance, lubrication of diesel-powered equipment.

T01-D018 Brake Systems – Practical
Operation, repair and adjustments of hydraulic, manual and power brakes; air brake repairs. Adjustments and maintenance, lubrication of diesel-powered equipment.

T01-D019 Automatic Transmission – Theory
The theory of operation of repair and overhaul of automatic and powershift transmissions.

T01-D020 Automatic Transmission – Practical
The repair and overhaul of automatic and powershift transmissions.

T01-D023 Gas Engine Overhaul – Theory
Theory of gas engine cycles, types, components, lubrication and cooling systems.

T01-D024 Gas Engine Overhaul – Practical
Repair of gas engine cycles, types, components, lubrication and cooling systems.

T01-D025 Diesel Engine Overhaul – Theory
Theory of servicing diesel cylinder block assembly, cylinder head and valvetrain.

T01-D026 Diesel Engine Overhaul – Practical
Repair and servicing of diesel cylinder block assembly, cylinder head and valvetrain.

T01-D029 Hydraulic Components – Theory
Theory of operation and repair of the more common mobile hydraulic systems.

T01-D030 Hydraulic Components – Practical
Operation and repair of the more common mobile hydraulic systems.

T01-D031 Electrical Systems – Theory
Fundamentals of: storage, testing, charging and care of batteries, DC and AC generators and regulators, ignition systems, transistor units.

T01-D032 Electrical Systems – Practical
Storage, testing, charging and care of batteries, DC and AC generators and regulators, ignition systems, transistor units.

T01-D033 Fuel Systems – Theory
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 Systems — Practical
Carburetion, types and methods of supercharging, principles of compression ignition engine, and inspection and complete servicing of pumps and nozzles.

T01-D036  Industrial Training — Practical
Students are placed in an industrial repair shop to receive first hand, practical demands that are required to be successful in this trade.

T01-D135  Steering Systems — Theory
Classroom theory would consist of basic steering geometry, component materials, caster, camber, understanding terminology, and troubleshooting front end problems such as pulling, shimming and hopping.

T01-D136  Steering Systems — Practical
The student will remove and overhaul steering boxes, do front end alignments, toe-in, etc.

T01-D137  Suspension and Components — Theory
Theory of the different types of suspension and problems that can occur including rear end alignment, wheel cupping, air ride components and walking beam bushing on the Hendricks suspension.

T01-D138  Suspension Components — Practical
The student will be able to differentiate between the many styles of suspensions and be able to diagnose and repair. The styles range from Hendricks to Neway airride suspensions.

T01-T011  Shop Safety and Handtools — Theory
Theory of: use of hand tools, measuring instruments, use of special equipment: hoist, jacks and stands, safety, chassis lubrication and servicing, uses of special lubrication, light servicing, tire repair.

T01-T012  Shop Safety and Handtools — Practical
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-T015  Electrical Systems — Theory
Wiring diagrams and circuits, generators, regulators, cranking motors, solenoids and switches, gauges, ignition systems, etc.

T01-T016  Electrical Systems — Practical
Disassembly, testing, repairing, and reassembly of electrical components, attaching and use of testing meters and electrical diagnostic equipment.

T01-T017  Fuel Systems — Theory
Carburetors, fuel pumps, filters, gas lines, fuel tank ventilation, exhaust emission controls and air cleaners.

T01-T018  Fuel Systems — Practical
Disassembly, cleaning, assembly and calibration of component units. Use of diagnostic test equipment and meters.

T01-T019  Tune-Up — Theory
Tune-up machines, compression and vacuum gauges, ignition circuits, carburetor adjustments, gas analysis, engine performance, testing and operation.
T01-T021 Standard Transmissions – Theory
Clutch and pressure plate assemblies, three-speed and four-speed synchronmesh transmissions, simple planetary gears and overdrive, construction, operating and service fundamentals.

T01-T022 Standard Transmissions – Practical
Disassembly, inspection of parts and reassembly of components to manufacturer’s specifications.

T01-T023 Rear Axles and Drivetrains – Theory
Gears and bearings, tooth patterns, universal joints, positraction and limited slip differentials, transaxles, axle shafts, etc.

T01-T025 Brakes – Hydraulics – Theory
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.

T01-T026 Brakes – Hydraulics – Practical
Disassembly, inspection, honing and machining, assembly and bleeding of hydraulic system. Testing and repairing of lower units and adjustment of cable brake systems.

T01-T027 Steering and Suspension – Theory
Springs, shocks, wheel balance, steering geometry, steering gears, steering alignment.

T01-T028 Steering and Suspension – Practical
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.

T01-T029 Automotive Transmissions – Theory
Fluid couplings and torque converters, compound planetary gears, clutches, bands, servos and hydraulic system, construction, operating and service fundamentals.

T01-T030 Automotive Transmissions – Practical
Disassembly, inspection, reassembly and adjusting assemblies, subassemblies and component units. Pressure testing with air and hydraulic fluid.

T01-T031 Engine Construction and Operation – Theory
Fundamental operating, construction and design features and characteristics of two-stroke and four-stroke cycle internal combustion engines. Fundamental services, maintenance and overhaul methods and procedures, precision measuring, diagnosis and correction of automotive engine problems.

T01-T056 Electrical Repairs and Service – Live Shop
Diagnosing wiring circuit problems, repairing and calibrating electrical components, such as instruments, starter motors, solenoids, relays, AC generators and regulators, etc.

T01-T058 Fuel Systems Repairs and Service – Live Shop
Repairs to fuel system components such as tank, filters, pumps and air cleaners. Diagnosis of carburetor circuits, analyzation of air-fuel ratios, repairs and calibration of carburetors.

T01-T060 Tune-Up – Live Shop
Diagnosing and testing of all engine, fuel, ignition and electrical systems. Calibrating to specifications necessary to produce maximum engine efficiency.

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T01-T062 Standard Transmission Overhaul – Live Shop
Proper procedures will be emphasized for the removal, disassembly, cleaning, inspection and repair of clutches and three-speed and four-speed synchromesh transmissions. Problem diagnosis and adjustment of these units will also be included. All work will be performed on units in daily use.

T01-T064 Rear Axles and Drivelines – Live Shop
This unit deals with the construction, operation and service procedures for the various types of rear axle assemblies and their related parts. This housing (integral, removable carrier, and independent), crown and pinion sets (spur level, spiral level, hypoid, hunting, non-hunting, partial non-hunting, straddle and overhung mounted), differential units (two- and four-pinion design, conventional and spec one traction, pos traction, equal lock, limited slip, non-spin, power lock, and sure-grip design), bearings (friction and antifriction loads), axle mountings (dead and live full-floating, three-quarters-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 and Disc Power – Live Shop
The concerns are the construction, operation and service features of the braking systems presently in use today: drum and disc. This includes the effects of weight, speed, heat, friction and hydraulic principles. The student also receives instruction and practice in matching drums and rotors, cam grinding, shoes, servicing the hydraulic units (master cylinder, wheel cylinder 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 – Live Shop
This course is intended to give the student an insight into the construction, operation, and service features of present suspension systems: mono-beam, twin-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 knowledge of suspension service, alignment of the front wheels and use of a wheel balance.

T01-T070 Automatic Transmission Repairs – Live Shop
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 transmissions as well as problem diagnosis and troubleshooting.

T02-C001 Hand Tools – Theory
Measuring tools, layout tools, testing tools, sawing tools, bench and special planes, edge cutting tools, boring tools, fasteners: nails and screws; smoothing tools.

T02-C002 Hand Tools – Practical
Practical use of all tools in a project such as woodworking joints, coping mouldings, quarter round, brackets, drawers. Sharpening hand saws, chisels and plane blades.

T02-C003 Woodworking Machines – Theory
General safety rules, operation and maintenance of the following: table saw, radial arm saw, bandsaw, jigsaw, jointer, planer, shaper, mortiser, tenoner, wood lathe, sanding machines, portable power tools, power-actuated tools.
T02-C004 Woodworking Machines – Practical
Sharpening circular saw blades; layout shop drawings; prepare bills of material; layout, machining and assembling check rail window, door frame; cut wedges, make mouldings, cabriole legs; practice with operation of stationary and portable machines.

T02-C005 Concrete Form Construction – Theory
Footing and foundation walls for single and multiple dwelling units, concrete slabs, sidewalk steps, piles, columns, beams, ceilings and the stripping of forms.

T02-C006 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.

T02-C007 General Framing – Theory
Basic principles of framing procedures: one-storey house, balloon framing, procedures for framing openings for doors, windows, stairs, etc.; basic principles involving wooden members in masonry buildings; insulation, building papers, vapor barriers.

T02-C008 General Framing – Practical
Models of single- and two-storey house, framing of cottage or garage: full-size complete with all partitions, blocking, backing, etc.

T02-C009 Equal Pitch Roofing – Theory
Types of roofs: flat roofs, gable roofs, equal pitch hip roof, equal pitch intersecting hip roofs.

T02-C010 Equal Pitch Roofing – Practical
Model roof framing: actual size project using all necessary rafters in the roof, both gable and hip roofs, complete with dormers, snub gables, soffits and fascia boards.

T02-C011 Stairs – Theory
Basic types of stairs, mathematical terms and calculations, building code requirements, simple straight stairs, mitered and housed stringers, handrails.

T02-C012 Stairs – Practical
Model of straight flight of basement stairs; flight with one housed and one mitered string, complete with handrail, balusters and newel posts; flight of winders; concrete stair forms.

T02-C013 Finishing – Theory
Siding, cornices, door and window trim, inside and outside doors, closets, baseboards, feature walls, tile ceilings, etc.

T02-C014 Finishing – Practical
Installation of interior and exterior doors, window pocket doors, bypass doors, bifold doors; application of siding and exterior trim; application of interior trim.

T02-C015 Cabinet Work – Theory
Shop layouts, billing of material, kitchen cabinets, book shelves, vanity sets, furniture, wood bending, veneering, wood finishing and history of furniture.

T02-C016 Cabinet Work – Practical
Kitchen cabinets and vanities, complete with hardware and laminate tops.
**T02-C019 Surveying — Theory**
Familiarization with the builder’s level and transit to check elevations and to lay out building lines.

**T02-C020 Surveying — Practical**
Practice with layout of buildings, both commercial and housing, shooting of elevations.

**T02-C021 Estimating — Theory**
Take-off quantities of material, cost of material and labor, subtrades, simple business procedures.

**T02-C022 Estimating — Practical**
Preparation of estimates for a garage and a small one-storey house.

**T02-C023 In-industry Work Experience**
The students will receive first-hand knowledge of their chosen occupation.

**T02-M001 Introduction, Materials and Tools Used in Masonry**
History of the trade, employment conditions and opportunities, objectives of the course, masonry materials, concrete, tools, scaffolds and modern power equipment.

**T02-M004 Practical Work**
Slaking lime, gauging materials, mixing mortar, adding additives, mortar boards, handling brick trowel and hand tools; slicing mortar, furrowing with hand and overhead, cross joints and buttering, flushing, making storey poles and gauge rods, laying out or chasing bond; squaring corners, leaving out for openings, bonding connecting walls and partitions, picking up and packing masonry units, cutting masonry units, checking levels, plumbing and leveling, ranging corners, toothing, racking, back, blocking, placing corner line blocks, line pins, stretching line, sighting line, setting trigs (twig), tingle brick, setting brick to line, perpends plumb, chases and indents, anchoring techniques, offsets, corbels, setting frames, striking joints, toothing joints, sills, coping, lintels, cleaning masonry, clean work habits taught.

**T02-M006 Masonry Bonds — Theory**
The student will be able to recognize and lay out corners and walls in American, Flemish, English, and Running Bond and have a knowledge of many lesser-known bonds.

**T02-M008 Definitions — Theory**
The student will become familiar with the common masonry trade terms and general terms used in the construction industry.

**T02-M010 Walls — Theory**
To recognize various wall types, understand their performance and limitations, and know the various materials of wall make-up.

**T02-M011 Estimating — Theory**
The student will learn to estimate the materials and labor needed and the cost to construct a single-story masonry building.

**T02-P501 Wood Finishing — Theory**
Hardwood open grain, hardwood close grain, soft woods, oil stains, spirit stains, water stains, chemical stains.

**T02-P502 Wood Finishing — Practical**
Stripping, repairing, and refinishing furniture.

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T03-A101  Fundamentals of Delineation
Practice in the use of architectural, engineering and metric scales, basic letter forms, linework techniques, material symbols, architectural conventions and techniques, orthographic and pictorial drawing.

T03-A103  Computer-Aided Drafting 1
Introduction of AutoCAD computer-aided drafting system. Including geometric entities, input modes, coordinate types, drawing creation, drawing editing and manipulation, block creation and use, layer concept and output to printer and plotter.

T03-A106  Applied Architectural Drafting 1
A study of common building practices and materials and the production of working drawings for a small industrial building and residential dwelling.

T03-A107  Computer Applications 1
This course will introduce students to computer software DOS 5.0 and WordPerfect 5.1. Students will be given an overview of common computer components, use basic DOS commands and prepare various documents using WordPerfect software.

T03-A204  Building Code Analysis

T03-A205  Work Experience
Students are placed in the drafting office of a firm that performs architectural drafting or related tasks for a two-week period in order to gain exposure and experience in drafting office procedures and environments.

T03-A206  Applied Architectural Drafting 2
A study of commercial building construction practices, light wood frame construction and stair design, and the production of working drawings for the same.

T03-A207  Computer-Aided Drafting 2
Instruction in advanced commands of AutoCAD drafting system, including moving and duplicating objects, array, modifying and maneuvering, notes and specifications, blocks, library creation, and attributes.

T03-A208  Specifications
Interpretation of tendering procedures, division of trades and responsibilities, writing a partial specification using a computer-based editing system for the architectural and structural divisions of a selected building project.

T03-A301  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.

T03-A305  Quantity Take-off
Development of a systematic approach used to establish quantity and cost of common building materials used in commercial and industrial building construction. Emphasis is placed on standard units of measurement used for pricing purposes.
T03-A306 Applied Architectural Drafting 3
A study of commercial building construction practices and the production of working drawings for the same. Produce presentation drawings and a coordinated model of a constructed project. A study of perspective drawings and preparation of one- and two-point perspectives.

T03-A307 Computer-Aided Drafting 3
Instruction in advanced AutoCAD release 12 computer-aided drafting system, 3D commands, and production of complex 3D drawings.

T03-D202 Fundamentals of Structural Steel Detailing Drafting
A study of the fundamentals of shop detailed fabrication drawings.

T03-D205 Applied Strength of Materials 1
Basic course in Strength of Materials including stress and deformation to analyze and design bolted and welded joints.

T03-D206 Computer-Aided Drafting 2
Instruction in advanced commands of AutoCAD release 12 computer-aided drafting system, including moving and duplicating objects, modifying and maneuvering, notes and specifications, blocks, library creation and attributes and production of complex drawings.

T03-D207 Applied Structural Engineering Drafting
A study of commercial reinforced concrete and structural steel buildings. Using standard structural drafting conventions and techniques, the student will produce a complete set of working structural engineering drawings.

T03-D302 Applied Structural Steel Detailing Drafting
A study of design and shop detailed fabrication drawings using standard structural steel detailing conventions and techniques. The student will produce a complete set of detailed shop drawings for a commercial steel building, which will include beams, columns, bracing and trusses.

T03-D304 Applied Strength of Materials 2
Basic course in strength of materials including shear and moments in beams and the application of these concepts in the selection of steel and timber beams.

T03-D305 Work Experience
Students are placed in the drafting office of a firm that performs structural drafting or related tasks for a two-week period in order to gain exposure and experience in the production of working drawings, other related drafting duties, and drafting office procedures.

T03-D306 Computer-Aided Drafting 3
Instruction in advanced AutoCAD release 12 computer-aided drafting system, 3D commands and production of complex 3D drawings.

T03-D307 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.

T03-M102 Applied Machine Drafting 1
Production of working drawings of machines, with emphasis on the detailing of castings and machined components, and the techniques of assembly drawings and parts lists. Advanced dimensioning and tolerancing. First and second auxiliaries.
T03-M103  Computer-aided Drafting 1
Introduction of AutoCAD computer-aided drafting system. Topics included are geometric entities, input modes, coordinate types, drawing creation, drawing editing and manipulation, block creation and use, layer concept and output to printer and plotter.

T03-M104  Computer Applications 1
This course will introduce students to computer hardware, DOS 5.0 and WordPerfect 5.1. Students will be given an overview of common computer components, use basic DOS commands and prepare various documents using WordPerfect software.

T03-M105  Fundamentals of Delineation
Practice in the use of engineering, architectural and metric scales, basic letter form, material symbols, sectioning, axonometrics, orthographic drawing, and dimensioning.

T03-M201  Strength of Materials
Consists of instruction in and solution of problems in strength of materials as it applies to the field of machine drafting. Includes stress-strain relationship, bolted and welded joints and shear and moments in beams.

T03-M204  Work Experience
Students are placed in the drafting office of a firm that performs machine drafting or related tasks for a two-week period in order to gain exposure and experience in the production of working drawings, other related drafting duties, and drafting office procedures.

T03-M205  Applied Machine Drafting 2
Production of advanced working drawings of machine components, mechanical assemblies, gears, and cams.

T03-M206  Computer-Aided Drafting 2
Instruction in advanced commands of the AutoCAD release 12 computer-aided drafting system including moving, duplicating objects, array, modifying and maneuvering, notes and specifications, blocks, library creation and attributes.

T03-M301  Mechanics
Consists of instruction and solution of problems in torque, work, and power as they apply to the field of drafting.

T03-M304  Applied Machine Drafting 3
Production of advanced working drawings in the areas of welding, metal fabrication, structural steel detailing, industrial piping systems and sheet/plate metal fabrication. Students also produce presentation drawings and models.

T03-M305  Computer-Aided Drafting 3
Use of AutoCAD release 12 to produce advanced working drawings using 3D commands.

T03-R011  Blueprint Reading and Sketching for Carpentry PE
Drawing interpretation and preparation as applied to the carpentry trade.

T03-R013  Blueprint Reading and Sketching for Plumbing PE
Drawing interpretation and preparation as applied to the plumbing trade.

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T03-R019 Blueprint Reading and Sketching for Masonry PE
Drawing interpretation as applied to the masonry trade.

T03-R033 Blueprint Reading and Sketching for Welding PE
Drawing interpretation as applied to the welding trade.

T03-S204 Fundamentals of Mechanical Systems Drafting
T03-S205 Mechanical Systems (Plumbing) Drafting 1
T03-S206 Mechanical Systems (HVAC) Drafting 1
T03-S207 Computer-Aided Drafting 2
Instruction in advanced commands of the AutoCAD release 12 computer-aided drafting system including moving and duplicating objects, array, modifying and maneuvering, notes and specifications, blocks, library creation and attributes.

T03-S304 Quantity Take-off
Development of fundamental concepts for a systematic approach to material take-off of mechanical components for commercial buildings.

T03-S305 Mechanical Systems (Plumbing) Drafting 2
T03-S306 Mechanical Systems (HVAC) Drafting 2
T03-S307 Computer-Aided Drafting 3
Instruction in advanced AutoCAD release 12 computer-aided drafting systems, 3D commands and production of complex 3D drawings.

T03-S308 Presentation Drawing and Modeling
T03-S309 Work Experience

T04-A011 Safety Precautions in Welding and Cutting
Lectures involving safety hazards and precautions encountered in general welding processes. General electrical apparatus hazards and precautions, grounding methods, machine use and adjusting. Precautions in welding various types of work, containers, cylinders, etc. Selection of line shades. Prevention of radiation burns, elimination of toxic fumes, proper ventilation of work area, selection of proper work clothing and equipment, safety in material and job handling.

T04-A021 General Principles of 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-A022 Fusion Welding
Arc welding practice in vertical up and vertical down, horizontal and overhead position on flat plate.

T04-A031 General Principles – Gas Metal Arc and Tungsten Inert
Theory of processes using shielding gas. Types of gases and control systems. Electrode materials and feeding system use and maintenance.

T04-A038 Gas Metal Arc Welding – Semi-Automatic
Maintenance and use of equipment, flow gauges, wire feeders, hand guns, etc. Applications of various shielding gases: helium, argon, nitrogen, CO₂, etc. Machine control settings.
**T04-A039 Special Welding Applications**
Special process techniques and applications. Hard surfacing, metal spraying arc-air gouging. Preparation of materials, safety precautions, etc.

**T04-A041 Combined Review and Testing**
Final theory test. A comprehensive test (primarily short answer type) to determine degree of understanding of total course theory subjects. Test is administered following a complete review of theory topics.

**T04-A052 Tungsten Inert Gas Welding TIG.**

**T04-A053 Geometric Dimensioning and Tolerancing**
This course introduces the fundamental concepts of geometric dimensioning and tolerancing according to ANSI Y14.5M - 1982. This course will show how to properly apply the principles of Geometric Dimensioning and Tolerancing to the manufacturing and inspection processes.

**T04-A054 Quality Control**
Fundamentals of dimensional metrology and measuring and gauging of geometric tolerances. This course will instruct the student in the basic skills of using inspection tools and equipment: IE open set up, CMM. It will show how to apply the principles of geometric dimensioning and tolerancing to the inspection process, following the ANSI YI 4.5M-1982 Standard. The course will total 64 hours: approximately 40 hours of hands-on training and practice using the open set-up method; 24 hours of inspection training in the operation of a Mitutoyo coordinate measuring machine, model B-403B, using GEOPAK-2 version 6.41 software.

**T04-A055 Industrial Training**
By placing the students in an industrial setting they will be exposed to work volumes and production requirements expected of them. Their position will be equal to an employee of the company thereby they will be required to follow the safety and work rules.

**T04-A056 Machine Shop**
This course will supply the basic skill and knowledge of the machining trade needed to operate the various machine shop equipment: hand tools, layout tools, measuring tools, pedestal grinders, drill presses, lathes and milling machines. Upon successful completion of the course, the student will be certified to continue into the Machine Shop Practice - Advanced program or the Computer Numerical Control Machine Operator program.

**T04-A057 Interpreting Engineering Drawings**
This course provides the necessary range of topics to ensure that the student can interpret engineering drawings used in the manufacturing environment. The development of this skill is essential for successful employment in the manufacturing sector. The course begins with the basic concepts of orthographic projection, covers specific machining practices, and concludes with extensive practice in interpreting moderately complex drawings.

**T04-A058 Machine Shop**
This course will advance the skills and knowledge of the Machine Shop Practice - Basic program and equip the student to pursue machinist apprenticeship, tool and die apprenticeship, tools and equipment sales, and other related professions.
T04-G011 General Principles
Historical development, oxygen and acetylene, flame characteristics, equipment, set-up and operation of equipment, general precautions, identifying metals, preparation for welding, expansion and contraction.

T04-G013 Fusion (Gas) Welding, Brazing and Flame-cutting
Safety in setting up and using oxyacetylene equipment. Identifying and setting torch for carburizing, neutralizing, and oxidizing flame. Introduction to fusion welding, puddling, and bead-running on sheet metal. Welding butt joints, lap joints, fillet welds and corner welds on sheet steel in the flat horizontal, vertical, and overhead. Performing the same joints on sheet steel using bronze brazing rod. Safe operation of flame cutting equipment cutting various thickness of steel plate.

T04-G021 Principles of Flame Cutting and Miscellaneous Applications
Lecture and demonstration (hands-on experience by student if possible) in flame brazing of aluminum, fusion brazing of cast iron (pre-heating, flux application) white metal welding, silver brazing of steel, copper, brass and cast iron, and hard surface application.

T04-G510 Related Gas Welding
Safety in setting up and using oxyacetylene equipment. Identifying and setting torch for carburizing, neutralizing, and oxidizing flame. Introduction to fusion welding, puddling, and bead-running on sheet metal. Identification and selecting weld rods and fusing filler rod to base metal. Welding butt joints, lap joints, fillet welds and corner welds on sheet steel in the flat horizontal, vertical and overhead. Performing the same joints on sheet steel using bronze brazing rod. Safe operation of flame cutting equipment cutting various thickness of steel plate.

T04-G520 Related Gas Welding
The student is taught the basics of oxyacetylene welding by means of lectures in the classroom and practical demonstrations in the welding shop. The student then works with the torch to acquire the ability to handle the outfit in the proper manner. A theory and practical test is given for evaluation purposes. One week – oxyacetylene cutting and welding, brazing and silver brazing in flat position. One week – arc welding in flat position.

T04-M035 Milling Machine — Theory and Practice

T04-M036 Grinding Machine — Theory and Practice
Theory and practice pertaining to grinding machine operation, set-up, and care. Types and principles of grinding machines, surface, cylindrical, universal, tool and cutter, and centreless grinding machines. Principles of abrasive wheels, types of abrasives, wheel shapes, and their purposes. Wheel identification through standard marking system, manufacture of abrasive wheels. Safety in grinding machine operation.

T04-M037 Shaper, Planer and Slotter — Theory and Practice
Theory and practical shop work involving work set-up, operation, and care of shapers, planers, and slotters. Cutting tool geometry and application. Cutting speeds and feeds. Horizontal, vertical, and angular surface machinery.
T04-M510  Related Machine Shop
Basic metals, metal layout and measuring tools, metal working equipment and safety.
One week – 25 hours.

T04-W012  In-Plant Training
Student is assigned to an industrial (welding) workshop to observe and participate in work practices
under direction of shop supervision. A report as to student's attendance, work ability, general attitude,
and employment potential will be provided by the workplace supervisor upon completion of the
assignment.

T06-A311  Control Instrumentation
This course is an extension of the courses offered in fourth class and third class Power Engineering
programs. It is designed to aid in the understanding of automatic controls in power and process. It is
expected the student, after completion of this, will have an understanding of the construction, opera-
tion, and maintenance of automatic control systems in power plants.

T06-A314  ASME Codes
This course covers all aspects of the above ASME CSA  B15-B52 construction and design codes for
boiler and pressure vessel and piping in construction and operation.

T06-A321  Thermodynamics
This course, which follows T06-S221 Thermal Studies, explains the heat-related phenomena en-
countered in Power Engineering. It provides the background required to understand the specific de-
vices and systems studied in the more applied parts of the program. Instructions will be both descrip-
tive and mathematical. Students will demonstrate their mastery of the course matter by solving math-
ematical problems.

T06-A324  Water Treatment and Combustion
This course is a continuation of materials presented in the fourth and third class Power Engineering
program. It emphasizes fundamental chemistry with a view to application in a power plant. The
generic course chemistry falls into two papers of the Department of Labor syllabus, therefore, this
course will be in two parts. The two parts are Water Treatment and Fuels and Combustion.

T06-A331  Applied Mechanics
This course explores the relationships between physical quantities such as mass, force, statics, kine-
matics, strength of materials and hydraulics, and systems under the power engineer's responsibility.
The tenor of the course will be primarily quantitative, and to that end, there will be considerable
interplay between it and concurrent mathematics course.

T06-A334  Boilers, Pumps and Piping
This course continues the topics introduced in T06-S204 Steam Generation 2, but deals in more
depth with construction, design, maintenance, and operation of power boilers, pumps, piping, and
fuel handling equipment.

T06-B302  Mechanical Drawing
This course is designed to give the student a clear insight into the mechanics of drawing and reading
mechanical equipment drawings found in a power engineer's normal scope of work. It is designed as
a follow-up to studies in drafting and blueprint reading achieved at the fourth and third class level.
T06-B312 Electrotechnology
This course covers all electrical theory for a power engineer to operate electrical equipment in a modern power generating station at the second class level. Briefly, it covers direct current theory, AC theory, DC machines, AC machines (motors, generators, basic electronics, switchgear, transformers, power converters, relays, and related electrical controls).

T06-B313 Plant Administration and Maintenance
This course explains industrial legislation, fire prevention, safety, and plant administration as it applies to modern power plants. As well, it explains modern metallurgy, welding methods, and non-destructive test methods.

T06-B325 Turbines and Engineers
This course continues the topics introduced in third class T06-S225 Turbines and Engines, but deals in more depth with the principles and operating procedures of steam turbines, gas turbines, and internal combustion engines.

T06-B335 Refrigeration
This course continues the development of topics introduced in T06-S235 Refrigeration such as air compression and associated equipment, refrigeration cycle, and equipment and calculations relating to air conditioning and refrigeration.

T06-S102 Blueprint Reading
Lettering, description of lines and weights, orthographic and isometric views, tolerances, sectional views, interpretation, freehand sketching.

T06-S121 Thermal Studies
This is a basic course which covers temperature scales, heat transfer, steam generation, and laws for perfect gases.

T06-S123 Instrumentation and Controls
A fundamental course given to assist students to understand the principles involved for measuring and controlling variables found in power plants.

T06-S124 Fuels and Combustion
This is a basic course designed to introduce feedwater chemical technology, the breakdown and impurities in water boiler scale, etc.

T06-S125 Engines
This course provides an introduction to steam engines, steam turbines, internal combustion engines, lubrication, etc.

T06-S131 Mechanics
An introductory course on the study of statics and dynamics. This includes friction, types of motion, work, power, energy, and some power transmission (mechanical).

T06-S133 Electrical Fundamentals
This course involves the basic topics of magnetism, electricity, AC and DC current, AC and DC generators and motors.

T06-S134 Boilers
A basic course on types of boiler construction, regulations, fittings, operation, etc.
T06-S135 Refrigeration
A basic course dealing with refrigeration equipment used in commercial and industrial processes. Refrigerants, components, controls, construction, etc., are the main topics.

T06-S202 Mechanical Drafting
Drawing orthographic, isometric, and oblique views. Sketching of power plant systems. Types of screw threads, couplings, and drive keys.

T06-S221 Thermal Studies
This is an intermediate-type course which should have T06-S121 Thermal Studies as a prerequisite. It increases the depth of knowledge from that course and approaches the course from a more mathematical concept.

T06-S223 Instrumentation
This course follows the theory presented in T06-S123 Instrumentation and Controls. It introduces transmission, control theory, and expands on information presented in T06-S123.

T06-S224 Fuels and Water Treatment
This course follows T06-S124 Fuels and Combustion and introduces calculations from chemical formulas, investigation of liquid solution, ionization, acids, bases, water testing, etc.

T06-S225 Turbines and Engines
This course follows T06-S125 Engines with the larger and more complex systems being highlighted. This also introduces the various types and arrangements of industrial plants.

T06-S231 Mechanics
This course follows T06-S131 Mechanics by continuing the exploration of the relationships between mass, force, time, and motion as they apply to the power engineer at the third-class level.

T06-S233 Electrical
This course follows T06-S133 Electrical Fundamentals but with considerably more emphasis on electrical instruments, measuring applications, calculations, etc.

T06-S234 Boilers
This course follows T06-S134 Boilers but deals in more depth with safety practices, power boilers, heating boilers, and heating, ventilating and air conditioning systems.

T06-S235 Refrigeration
This course follows T06-S135 Refrigeration but deals also with air compressors.

T06-S322 Computers
This is an introductory course to computers including the microcomputer and some applications. This course assumes no prior knowledge of computers. Computers are more and more in every kind of workplace, not the least of which is the power plant, for purposes of equipment and/or process monitor and control.

T07-A103 Introductory Biology
This course deals with general biological principles. Characteristics of living cells including structure, metabolism, respiration, etc., are discussed. An overview of the five kingdoms of living organisms is also included with particular emphasis on plants.
T07-A104 Mathematics
This course includes algebra, trigonometry, linear equations, quadratics, exponents, and logarithms and forms the basis for laboratory calculations.

T07-A106 Instrumentation Principles
This course serves as a foundation for Instrumental Analysis. Includes basic principles of optics, electricity and magnetism, and nuclear physics.

T07-A110 Organic Chemistry 1
This course introduces first concepts in modern organic chemistry. Theoretical concepts underlying structure of hydrocarbon compounds, reactions of organic molecules and mechanisms of certain classes of reactions are treated. The accompanying laboratory is designed to familiarize students with common techniques used in separations, purifications, and preparations.

T07-A112 Microbiology 1
This course deals with fundamental aspects of microbiology. It includes the scope of microbiology, a taxonomic survey of microorganisms, basic techniques used in the observation, cultivation and identification of microorganisms and the structure of prokaryotic and eukaryotic cells.

T07-A113 Organic Chemistry 2
This second course in organic chemistry introduces aromatic character and cyclic structure of organic molecules. The general properties, preparations and common reactions of arenes, aldehydes, ketones, acids, amines, phenols, and aryl halides are treated. IUPAC and common names of each class of compound are stressed. The accompanying laboratory utilizes the techniques learned in the introductory course to prepare compounds of the classes referred to above.

T07-A115 Biochemistry 1
This is an introductory course designed to give students a general understanding of the chemistry of carbohydrates, lipids, proteins and nucleic acids.

T07-A116 Data Analysis 1
This course is an introduction to the handling of scientific data using the methods of parametric statistical analysis. It is also a prerequisite for further courses in advanced statistics and quality assurance.

T07-A117 Instrumentation 1
This course deals with the principles of ultraviolet, visible and infrared spectrophotometry, including instrumentation and application to a variety of different analytes. Students will learn to operate a number of spectrophotometers such as the Spectronic 20 and 21, Beckman 3600, Spectronic 601, Univa SP 1800, and Beckman Acculab 9.

T07-A119 Co-op Work Term

T07-A120 Instrumentation 2
This course deals with the instrumentation, operation, application, and optimization of parameters in gas chromatography, and high performance liquid chromatography.

T07-A140 General Chemistry
This is an introductory course designed to ensure that students have a fundamental understanding of the structure of the atom, bonding, stoichiometry, the Periodic Table, nomenclature, states of matter and preparation of solutions.
**T07-A141 Workplace Safety**
This course is designed to ensure all students are aware of and follow proper safe laboratory practice. It includes WHMIS, fire safety, basic first aid, AIDS information and appropriate emergency procedures. The emphasis is on the safe handling of laboratory chemicals in the workplace.

**T07-A142 Computer Applications**
This course deals with an introduction to computer systems with emphasis on microcomputers, the IBM-PC DOS commands, and selected software for database, spreadsheet, and word processing.

**T07-A143 Analytical Chemistry**
This course provides an introduction to qualitative and quantitative chemical analysis and will develop an understanding of titrimetric and gravimetric methods of analysis.

**T07-A201 Instrumentation 3**
This course provides instruction in the principles of atomic absorption spectrophotometry (including graphite furnace and colevapor methods), spectrofluorometry emission spectroscopy (including inductively coupled plasma) and mass spectrometry. Students will operate a Perkin Elmer 2380 AAS with MGA, Turner Fluorometer and spectrofluorometer and an EM600 mass spectrometer.

**T07-A202 Biochemistry 2**
Regulation of replication and transcription in prokaryotes and eukaryotes is the main focus. Other topics include protein biosynthesis, DNA structure and function, DNA mutations, and an introduction to recombinant DNA.

**T07-A203 Microbiology 2**
This course includes chemical and physical methods in microbial control, fundamental aspects of microbial metabolism, genetics, states of immunity, and methods used in the control of infectious diseases.

**T07-A204 Tissue Culture/Virology**
A practical treatment of basic techniques used in the invitro culture and manipulation of plant and animal tissues. In addition, a survey of the structure and function of viruses and subviral agents of disease, including selected methods of viral assay and identification.

**T07-A205 Organic Chemistry 3**
This course concentrates on techniques used to identify and isolate organic compounds.

**T07-A206 Data Analysis 2**
This course is designed to investigate aspects of experimental design and advanced statistical analysis topics such as analysis of variance and regression as applied to biological and chemical research. It will cover topics such as factorial and nested ANOVA, multiple range test, experimental designs, simple/multiple linear regression, curve fitting, and optimization. Students will also get hands-on experience with modern software available for sophisticated statistical analysis.

**T07-A207 Applied Microbiology**
A study of the characteristics, isolation, and identification of the more commonly encountered microorganisms in foods, water, soils, and air. The role of microorganisms used in the manufacture of major classes of products of industrial importance is included.
T07-A208 Biochemistry 3
This course is designed to give students an understanding of the interrelationships of carbohydrates, lipids, proteins, and nucleic acids in cellular metabolism. Another major focus is clinical chemistry and nutrition.

T07-A209 Quality Assurance
This course provides instruction in the principles of quality assurance and quality control as applied to a laboratory devoted to chemical analysis in today's demanding society. Current requirements for lab accreditation by the Standards Council of Canada will be discussed and students will work on their own quality assurance manual using the guidelines set forth by the Standards Council of Canada. Advanced statistical concepts such as smoothing, robustness, autocorrelation, filtering, and Box-Jenkins analysis will also be covered. Students will use software designed for quality assurance.

T07-A210 Molecular Biology
This course is designed to give the student both a strong theoretical and working knowledge of techniques in recombinant DNA technology including cloning, use of viral and plasmid vectors, gene transfer, gene mapping, and in particular, the role of recombinant DNA in medicine, agriculture, mining, pharmaceuticals, chemical and petroleum industries, energy, waste management, and the environment.

T07-A211 Immunology
This course is designed to give students a strong theoretical understanding of the immune system, diseases of the immune system, functioning of the immune system, and application of antibodies in analytical procedures.

T07-A212 Co-op Work Term

T07-A213 Anatomy/Physiology
This course provides students with a general understanding of physiology. It concentrates on the nervous, circulatory, respiratory, and urogenital systems and provides an overview of homeostasis and body fluid regulation.

T07-A214 Advanced Lab Techniques
New advances in analytical methods are dealt with, including such techniques as ICP emission spectroscopy, GC-MS scanning electron microscopy, surface analysis techniques, radiochemical methods, ion chromatography, x-spectrometry, and FTIR. The course also investigates the role of microprocessors and microcomputers in the modern laboratory.

T07-A215 Environmental Chemistry/Toxicology
This course develops the student's ability to see how chemicals interact in the environment. The environmental factors that play a role in air, water and land systems are considered.

T07-A216 Resource Management
A combination of lectures, labs, and field trips bring together and reconcile the many overlapping demands of society on the environment. Scientific and environmental concepts are applied to the study of the environment in terms of resource management, preservation of wildlife, population growth, pollution, etc.

T07-A217 Occupational Hygiene
This course is designed to familiarize the student with instruments and techniques that help make the workplace safe.
T07-A218 Professional Ethics/TQM
This course will examine principles and problems related to our responsibilities for the world in which we live. Ethical issues of urgent public concern in business will be examined. The principles and applications of Total Quality Management will also be included.

T07-A219 Sustainable Development Issues
The social, economic, and environmental aspects of major problems facing people today are examined. These include global warming, pollution, resource management, etc. A history of sustainable development is included. Students will be able to make more informed choices when facing environmental issues.

T07-A220 Microtechniques – Laboratory
The practical preparation of tissues for histological examination. It includes microscopy, basic procedures used in preparing plant and animal tissues for histological examination and photomicrography.

T10-A001 Mathematics
After successful completion of the course, the student will be able to demonstrate an understanding of: area, perimeter, volume, geometry and trigonometry as applied to machine shop practice and computer numerical control machine operation.

T10-A002 Science
At the completion of the course, the student will be able to demonstrate a basic understanding of the mechanical properties of metals and simple static forces as related to machine shop practice and computer numerical control machine operation. The following topics will be studied: stress/strain relationships, elasticity and allowable stresses, thermal stresses, levers, moments, and torque.

T10-A003 Mathematics
Upon completion of the following topics the student will be able to do the necessary calculations required to operate basic machine shop equipment and to solve basic problems. Topics are: whole numbers, fractions (common and decimal), percentages, shop formulas and simple equations, thread calculations, speed and feed calculations, simple taper calculations, ration and proportion.

T10-A004 Science
After successful completion of this course, the student will be able to demonstrate an understanding of basic metallurgy and simple machines. The student will become familiar with types, uses, characteristics, heat treatment, physical and chemical properties, and processing of metals. Work and horsepower, drives, belts and pulleys, gears and gear trains, sprockets and chains, bearings, seals and lubricants of machines will be studied.

T10-A361 Mathematics
This course will provide the practical and theoretical aspects of mathematics essential for problem-solving in the technical courses of 2nd Class Power Engineering. The sequence of material will be matched to the needs of other courses being studied concurrently.

T10-M161 Mathematics PE 4th
This is a skill development course in arithmetic, applied geometry and lower level algebra. Emphasis is also placed upon hand-held calculator skills, and realistic applications.

T10-M261 Mathematics PE 3rd
This course extends T10-M161 Mathematics PE 4th from algebra into logarithms, trigonometry and the practical mensuration of areas and volumes. Rather than simply involve skill development, this course begins to introduce the student to field applications.
T11-E001 Fundamentals of Electricity

T11-E003 DC Machines and Controls
Characteristics of DC motors and generators, types, applications and control methods used.

T11-E005 Electrical Laboratory
To connect electrical equipment to DC and AC sources to prove theories taught in T11-E001 Fundamentals of Electricity.

T11-E007 Residential Blueprint Reading
Blueprint reading and scaling. Application and use of code rules pertaining to residential wiring. Residential circuit calculations and services.

T11-E009 Residential Wiring
To practice the methods and techniques of residential wiring.

T11-E049 In-Industry Work Experience
1) To provide Electrical students with practical on-the-job experience. 2) To expose students to actual job conditions and industry requirements. 3) To help instill good work habits and a positive attitude in students. 4) To introduce electrical contractors to possible apprentice candidates. 5) To make electrical contractors aware of Red River Community College programs and students with a view to providing input.

T11-E051 Alternating Current Fundamentals
Voltage and current relations in series and parallel AC circuits containing resistance, inductance and/or capacitance.

T11-E053 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 tests. Special type transformer applications. Also DC and AC instruments.

T11-E057 Electrical Laboratory AC.
To connect electrical equipment to an AC source to determine their behaviors and characteristics.

T11-E059 Commercial Blueprint Reading
Blueprint reading and applied code in commercial-type occupancies. Electrical code calculations.

T11-E061 Commercial Wiring
To practice the methods and techniques as they apply to commercial buildings. Also wiring of motor control equipment.

T11-E062 Solid State
An introduction to electronics and solid state devices, half and full wave rectification, diode applications, transistors and power supplies. Solid state devices, i.e., dimmers, photo-tubes, timers, speed control. Also lab hours with introduction to test equipment and their uses.

T11-E063 Electric Motor Repair – Theory
Theory of operation of single-phase motors. Procedure for analyzing motor faults, stripping and rewinding motors.
T11-E065 Electric Motor Repair – Practical
Analyzing of motor faults, stripping, rewinding and bearing renewal (if necessary), testing.

T12-I001 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-I003 AC Fundamentals
Sine waves, frequency spectrum, reactance, impedance, calculations, resonance, phase relationships, practical considerations.

T12-I004 Electronic Fundamentals
Operation, characteristics, and handling techniques of diodes, bipolar transistors, UJTs, SCRs, control devices, amplifiers, power supplies, RC and LC oscillators.

T12-I016 Electronic Soldering and Desoldering
The student will learn the following: soldering and assembly of components on printed circuit boards (PCB), make touch-up and rework repairs to PCBs, make quality assurance tests on completed work, install and remove surface mount devices (SMD) on training boards, make repairs to laminated circuit boards.

T12-I017 Computer Basics and Keyboard Skills
Through hands-on experience, this course provides an introduction to the more common MS-DOS commands, typing skills, and word processing. The student will learn about files, file names and file listings. Use of common DOS commands: DIR, REN, DEL, B: MD, and CD. Move files between disks and directories. Word processing documents will be created, edited, and printed. Typing skills must be demonstrated through controlled tests at a minimum of 25 words per minute with at least 85% accuracy.

T12-I054 BJT Amplifier – Theory and Operation
A practical in-depth study of the bipolar junction transistor from basic biasing requirements to the development of a confident approach to the understanding of circuit configurations found in commercial design. Theory and experiments used extensively to develop a broad fundamental knowledge of the topic.

T12-I058 UJT Thyristor – Theory and Operation
The UJT as a control device. Thyristor family of PNPN device. Controlled rectification practices, Phase-shifting methods. Experimental procedures and analysis of circuits used in industry.

T12-I060 Number Systems and Digital Logic
Binary and hexadecimal number systems, sequential and combinational logic, encoders, displays and registers.

T12-I066 Control Devices and Applications
Industrial control circuits including photo-sensitive devices, relays, FETs, operational amplifiers and Zener diodes. Students are involved in theory, lab activity, and the final report stressing demonstrable understanding.

T12-I070 Microprocessors
Three-state devices, memories, number systems, 6800 microprocessor using Heathkit ET340 trainer, interfacing the MPU and writing basic programs.
T12-I073  Logic Controller Circuits
Theory, operation, testing, and troubleshooting TTL and CMOS logic circuits and working systems.

T12-I074  Microprocessor-Computer Interfacing
Assembler and machine language programming, introduction to microprocessor and computer architecture and operation. Interfacing microprocessors to RAM, switches, keyboards, D/A and A/D converters, stepper motors, RS 232-C, and other data transmission methods.

T12-T004  Semiconductor Devices
Conductors, semiconductors and insulators, P and N type semiconductors. Two-terminal devices, rectifiers, varactors, zeners, tunnel diodes, photo cells, thermistors and varistors, bipolar transistors, circuit configurations, characteristics, and applications. SCRS, DIACS, TRIACS, VJTS, testing diodes, transistors and thyristors.

T12-T006  Communications Transmitters and Receivers
Amplifiers AF, IF and RF oscillators, mixers, detectors and superhet principles. CW AM, SSB, DSB, FM and PM transmission and reception. Alignment maintenance and troubleshooting VHF land mobile transceivers.

T12-T008  Transmission Lines, Antennas, Intro Microwaves
Characteristics of transmission lines, standing waves, SWR impedance matching, dipole antennas, Marconi antennas, directive arrays, propagation of radio waves, microwaves, polarization, waveguide modes, microwave oscillators, cavities and amplifiers, directional couplers, circulators and isolators.

T12-T009  Multiplexing Techniques
Carrier fundamentals, analysis of Lenkurt 46A3 FDM carrier, fundamentals of frequency division multiplex, T1 PCM system parameters, introduction to data communications, machine codes and protocols.

T12-T012  Telephony and Telephone Switching Principles
Telephone exchanges, incoming signalling, signal processing, switching, outgoing signalling, clearing circuit reading, symbols for attached and detached drawings, schematic and wiring diagrams, cross referencing and interpretation of notes and circuit options, practical application using AEI rotary, ericsson code bar and mitel electronic common control pass.

T12-T014  Digital Techniques
Components used in digital circuits, operation of logic gates, use of Boolean algebra to minimize logic circuit design, design of both combinational and sequential logic circuits for a given application, concepts for the selection of integrated circuits, practical applications.

T12-T016  Microprocessors
Microcomputer basics, introduction to programming, the 6800 microprocessor interfacing. Experimental application using the 6800 microprocessor.

T13-M001  Related Maths
Solving percentage problems, computing discounts and mark-ups, ratio and proportion problems, along with basic mathematical operations, and how they apply to the trade.

T13-M122  Motor Vehicle Technician Mathematics 1
T13-M123  Motor Vehicle Technician Mathematics 2
T13-M124  Motor Vehicle Technician Mathematics 3
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. Masonry exercises #3, four percent calculations and estimating masonry unit quantities, arc lengths of semental arches, estimating costs. Three multiple choice tests.

T13-M504 Welding Math
Individual progress mathematics program utilizing diagnostic tests to identify remedial requirements for each student. Students are required to complete basic assignments on each of 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, Pythagorean 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-M508 Motor Vehicle Mechanic Technician Math
Individual progress mathematics program utilizing diagnostic tests to identify remedial requirements for each student. Students are required to complete basic assignments on each of following topics: four 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, square/square roots, Pythagorean theorem, perimeter/circumferences, areas, various figures, volume/capacity of commonly used shapes of containers.

T13-M510 Drafting Math 1
Solution of architectural and engineering-related problems using basic mathematical operations, ratio and proportion and scientific notation.

T13-M511 Machine Shop Math
Review of basic operations applied to whole numbers, fractions, and decimals, numerical treatment: approximations, significant digits, scientific notation, square root using Newton's successive approximation method. Algebra: simple equations in one variable, formulas. Trigonometry: Pythagorean theorem, solution of right triangles, applications, length, area, volume and weight calculations, general problem solving, taper and surface speed calculations.

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 P/E Math
Mathematics which is directly related to the trade. It covers fractions, decimals, square root, area, volume (both rectilinear and cyciner) and offset calculations.

T13-M517 Electrical P/E Math
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 logarithms, law of sines, law of cosines.

T13-M520 Electronics Math 1
Algebra, powers of ten, exponents, ratio, trigonometry, logarithms, simultaneous equations, problem solving (AC and DC circuits), decibles, network analysis, number system, Boolean algebra.
T13-M523 Telecom Math Term 1
Algebra, powers of ten, exponents, ratio, trigonometry vectors, problem solving (AC and DC circuits).

T13-M524 Drafting Math
Solution of engineering-related problems using algebra, geometry and trigonometry.

T13-M614 Drafting Math 2
Solution of architectural and engineering-related problems using algebra, geometry and trigonometry.

T13-S001 Related Science
In this course, the students are taught the basics of automotive electricity, effects of heat on metal and their properties, hydraulics colour, and how these apply to the trade.

T13-S122 Motor Vehicle Technician P/E Science 1
T13-S123 Motor Vehicle Technician P/E Science 2
T13-S124 Motor Vehicle Technician P/E Science 3

T13-S504 Welding Science
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-S508 Power Mechanics Science

T13-S511 Machine 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-S512 Carpentry Science

T13-S513 Plumbing Science
T13-S717 Lighting Fundamentals
Introduction to lighting terms. Types of light sources available, their advantages and disadvantages in terms of fixture costs, light output (quality and quantity), life expectancy and operating cost efficiency. Calculation of luminaires required for a specific workplace.

T13-W100 WHMIS Workshop
The generic WHMIS workshop describes the meaning of the main components i.e., labeling system, MSDS, and the education and training of workers. Specific introduction is given to health hazards, chemical handling and chemical and fire explosions.

T14-A045 Communication Skills 2
This course provides students enrolled in Machine Shop Practice – Advanced, with the following information: how to write letters, memos and short informal reports; how to write resumés, handle interviews and work ethics; how to prepare for and conduct meetings.

T14-A046 Communication Skills 1
This course provides students enrolled in Machine Shop Practice – Basic, with the following: reading and comprehension skills, study and test-taking skills, interpersonal communication skills, note taking skills.

T14-A103 Critical Thinking/Problem Solving
The student will develop critical thinking through the process of constructing and analyzing arguments and solving problems. By using case studies, the student will learn how to obtain the facts, understand concepts, construct a logical argument, and analyze other arguments.

T14-A104 Writing and Study Skills
This course is designed to develop written communication skills. The student will learn how to use the library in the investigation of a research proposal, as well as appropriate study skills.

T14-A10 Business Communications
This course emphasizes communications in the workplace, in particular, resumé writing, interview skills, and organizing and writing of letters, memoranda and technical reports.

T14-A202 Interpersonal Communications
The student will practice communication skills such as trust building, listening, clarifying, appropriate trust, seeing the other person's perspective, conflict management, recognizing appropriate responses and stress management. Also, the student will learn what are and what are not barriers to communication.

T14-A203 Oral Communications
Students will develop oral presentation skills through the presentation of technical reports.

T14-C001 Communications
The intent of this course is to develop carrier-related communication skills which will enable students to send and receive messages more effectively to co-workers, supervisors, and prospective employers through speaking, reading, and writing.

T14-C003 Communications
To develop the student's knowledge of communicating effectively within prescribed business practices, both oral and written.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T14-C122</td>
<td>Communications 1</td>
<td>A technical writing course designed to prepare students for the writing done on the job. It covers the basic format for letters, memoranda and informal reports. It also covers the entire job search process, from finding where the jobs are to the handling of interviews.</td>
</tr>
<tr>
<td>T14-C123</td>
<td>Communications 2</td>
<td>A continuation of T14-C124 Communications 1, designed to improve the student's letter and memorandum writing style. It covers the informal investigation report, oral presentations and discusses the techniques for getting along on the job and cultivating a supervisory style.</td>
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<tr>
<td>T14-C124</td>
<td>Communications 1</td>
<td></td>
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<tr>
<td>T14-C502</td>
<td>Communications</td>
<td>A course similar to T14-C504 Communications but only 20 hours duration.</td>
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<tr>
<td>T14-C504</td>
<td>Communications</td>
<td>A self-paced practical course that develops communications 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.</td>
</tr>
<tr>
<td>T14-C544</td>
<td>Communication and Basic Accounting</td>
<td>Communication: introduction to workers' legislation, to small business management, and to job search techniques. Basic Accounting: introduction to simple bookkeeping for the owner of a small business.</td>
</tr>
<tr>
<td>T14-R504</td>
<td>Communications</td>
<td>This course develops career-related communication skills, knowledge and behavior. The purpose is to enable students to send and receive messages more effectively and efficiently through writing, speaking and listening.</td>
</tr>
<tr>
<td>T15-D001</td>
<td>Cross Connection Control – Theory</td>
<td>This course deals with the protection of the water supply from non-potable water and covers the causes of backflow, types of backflow prevention devices, application of device, maintenance and testing of device and health aspects.</td>
</tr>
<tr>
<td>T15-D002</td>
<td>Cross Connection Control – Practical</td>
<td>The practical part of the course involves testing of devices with various test kits and recording the information accurately so that the values efficiency can be established.</td>
</tr>
<tr>
<td>T15-P007</td>
<td>Hot Water Heating – Theory</td>
<td>An introduction to space heating, types of heat, transfer equipment, hot water boilers, circulation pump and controls, a study of hot water systems.</td>
</tr>
<tr>
<td>T15-P008</td>
<td>Hot Water Heating – Practical</td>
<td>Hanging and grading mains, installing radiation, connecting to the boiler, testing and operating the system.</td>
</tr>
</tbody>
</table>
T15-P009 Basic Sprinkler/Fire Protection – Theory
The piping trades students will be given an introduction to identification, assembly, operation of the common sprinkler and stand pipe system used today.

T15-P010 Basic Sprinkler/Fire Protection – Practical
The piping trades students will do roll and cut groove assembly of steel pipe and will demonstrate their ability to install some of the devices used in fire protection systems.

T15-P011 In-Industry Work Experience
1) To provide Piping Trades pre-employment students with practical on-the-job experience.
2) To expose students to actual job conditions and industry requirements.
3) To help instill good work habits and a positive attitude in students.
4) To introduce plumbing-heating and sprinkler contractors to possible candidates.
5) To make plumbing-heating and sprinkler contractors aware of Red River Community College programs and students with a view to providing input.

T15-P012 Introduction to the Piping Trades and General Information
Types of work, tools, materials, equipment, and safety.

T15-P013 General Shop Work – Practical
Identification and use of tools, fittings, and materials, material handling, safety and rigging, use of torches, and lead work.

T15-P014 Piping and Materials – Theory
Cast iron, galvanized iron, copper, lead, plastic, glass: use of each, methods of assembling, supporting, handling, storing, and types of tools used with each.

T15-P015 Piping and Materials – 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, victanlic, flanged, and compression ring fittings. The assembly of valves and some basic pump installations.

T15-P016 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-P017 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 projects.