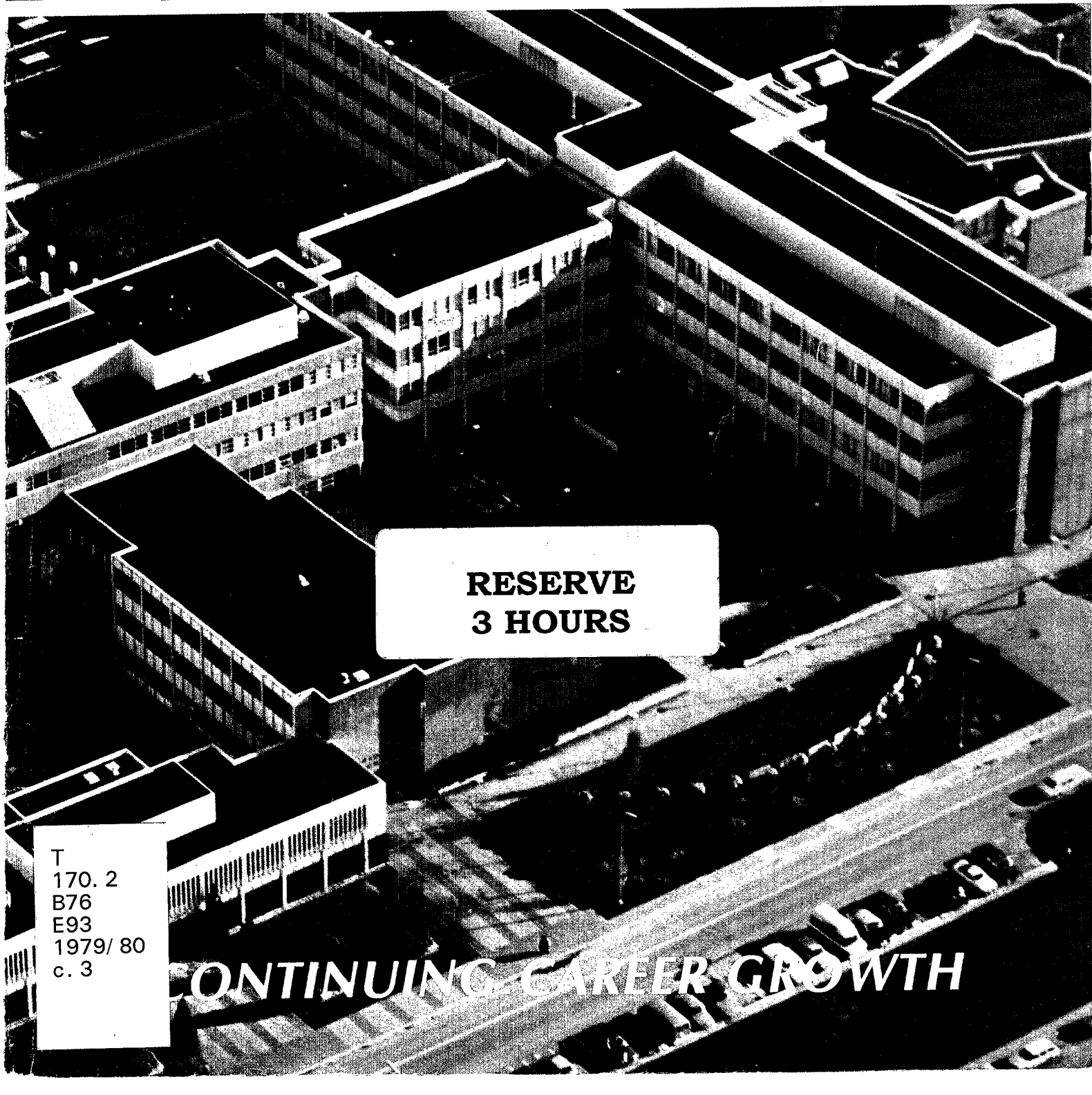
BCIT

TECHNOLOGICAL PROGRAMS for PART-TIME STUDENTS

79-80



CONTINUING CAREER GROWTH

USING THE CALENDAR

Read this information to quickly understand how to use this Calendar.

1. Read the "GENERAL INFORMATION" section at the front of the Calendar. This is your official source of information about the Division of Continuing Education and Industry Services policies.

   e.g. Registration..... page 22
   Student Services ..... page 22
   Transfer Credit..... page 24
   Financial Assistance ..... page 25
   Refund Policy ..... page 22

2. The "Table of Contents", include the "Courses in Programs" listing found on pages 5 to 20.
3. Note that the Calendar is divided into sections — Business, Engineering, Core and Health, Directed Study Centre, Program Development, Industry Services and Training and Development Centre, each section with a divider.
4. The regular terms begin in September, January and April but offerings may begin at other times of the year. Updated schedules are available at the beginning of each term in the form of a flyer.
5. Normally, registration is on a first-come-first-served basis. You are encouraged to register early by mail or in person. In every instance, fees must accompany the registration form before it will be processed.
6. **Forms:**

   (a) Application form for Certificate of Technology page 168A.

   (b) The Division of Continuing Education and Industry Services registration form page 112A.

   (c) Directed Study registration form page 192A.

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

3700 WILLINGDON AVENUE, BURNABY, BRITISH COLUMBIA, CANADA
V5G 3H2 Area Code (604) 434-5734

REGISTRATION FOR CONTINUING EDUCATION AND INDUSTRY SERVICES COURSES

Social Insurance

Application Date Year Month Day

Title: Mr., Miss, Mrs., Ms (circle)

Surname

Date of Birth Year Month Day

First Name

First and Middle Initials

Home Phone Number –

Home Address

Postal Code

Full-time BCIT Day School Student? Yes No

BCIT Staff Member? Yes No

If working towards a BCIT Certificate, state name of Certificate Program

Name of Employer

Business Address

Postal Code

Department

Business Phone Number – Local

Position

No. of years experience in this field of work

If a former BCIT student, check whether Day School Continuing Education

Country where attended secondary school

Date of final year at secondary school 19

Last grade completed

Type of Post-Secondary Institution	Name of institution	No. of years attended	Graduate Yes	Graduate No
Vocational				
College				
Institute of Technology				
University				
Other				

Reason for taking courses listed below:

- Related to current work
- Preparation for advancement with employer
- Preparation for completely new vocation
- General interest

Payment of fees:

- Full fees to be paid by you
- Paid jointly by you and employer
- Full fees to be paid by employer
- Payment of fees not applicable

Name of Course	Course No.	Day of Week	Time	Cost	Downtown Yes	Downtown No	Start Date

APPLICANTS SHOULD NOTE THE FOLLOWING:

1) Register early. Watch for registration deadlines.
2) Course(s) fees must accompany this Registration form. Registration forms not accompanied by fee payment will not be processed.
3) Mailing this Registration Form and payment of fees does not insure a seat in the class.
4) If it is not possible to register you in the class of your choice, your money will be refunded.
5) Program planning assistance is available throughout the year.
6) All cheques or Money Orders should be made payable to BCIT. The **back of the cheque should clearly indicate the Student's Name, Social Insurance Number, and phone number.**
7) Mail in applications must be accompanied by a cheque or money order. In-person registrations may also be made with Chargex or Master Charge.

REGISTRATION FORM
FOR
THE DIVISION OF
CONTINUING EDUCATION
& INDUSTRY SERVICES
COURSES

PLEASE SUBMIT TO:

Division of Continuing Education & Industry Services
British Columbia Institute of Technology
3700 Willingdon Avenue,
Burnaby, British Columbia
V5G 3H2

BCIT

3700 Willingdon Avenue
Burnaby, B.C.
V5G 3H2

Telephone: (604) 434-5734
Local 204/205 (8:30 a.m. - 5:00 p.m.)
434-5741/53/55 (5:00 p.m. - 10:00 p.m.)

Administered by
THE BOARD OF GOVERNORS
of the
BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
G.A. Thom, B.Comm., M.B.A., M.Ed., *Principal*
D.M. Brousson, B.A. Sc., P.Eng, Dean
Division of Continuing Education and Industry Services

A WELCOME FROM THE PRINCIPAL

1979 marks BCIT's fifteenth year of operation. Within those years continuing education programs have grown from 350 students in 1965 to over 26,000 registrants in night, part-time, customized, and correspondence courses this year.

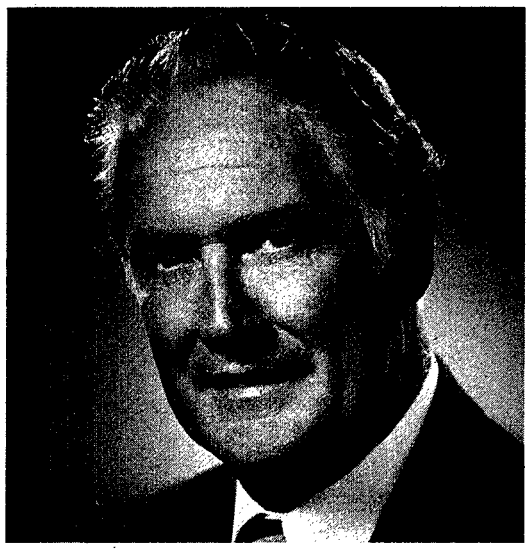
There is good reason for such growth — BCIT's response to the needs of individuals and employers in business, industry and government for career-oriented programs. This response will continue, and you will see new programs offered in differing formats in varied time frames — all to meet new career needs.

This calendar is provided to assist you in your choice of career programs and courses. As well, the staff of our Division of Continuing Education and Industry Services is ready to serve you.

Welcome to BCIT — the career campus that continues to grow, and grow. Try it. It will grow on you too!

Gordon Thom

DEAN'S MESSAGE



Our calendar is entitled "Continuing Career Growth" — and this is what our division of BCIT is all about.

Whether you can travel to our main campus for night or weekend courses, or find our downtown Vancouver after-work time frame convenient, or can use our correspondence system to advantage, or need short courses and seminars in various BC locations — we can be of service to you.

But we are constantly searching out new ways to serve you — the part-time learner — as part of our role at BCIT. You may become part of our interactive T.V. program via ANIK B Satellite which starts this fall, or perhaps you will be involved in some of our programs presented throughout BC in conjunction with community colleges.

Come and join us — and we will do all that we can to assist you in your personal career growth.

David Brousson

TABLE OF CONTENTS

Using the Calendar

BUSINESS CONTINUING EDUCATION
BUSINESS MANAGEMENT

ADMINISTRATIVE MANAGEMENT TECHNOLOGY

BROADCAST COMMUNICATIONS TECHNOLOGY

COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

FINANCIAL MANAGEMENT TECHNOLOGY

HOSPITALITY AND TOURISM ADMINISTRATION TECHNOLOGY

TRAVEL AGENT COURSES

BUILDING SERVICES MANAGEMENT PROGRAM

MARKETING MANAGEMENT TECHNOLOGY

OPERATIONS MANAGEMENT TECHNOLOGY

CORE CONTINUING EDUCATION

CHEMISTRY DEPARTMENT

ENGLISH DEPARTMENT

MATHEMATICS DEPARTMENT

PHYSICS DEPARTMENT

ASSOCIATION OF PROFESSIONAL ENGINEERS OF B.C.

COMBINED BUSINESS AND ENGINEERING CERTIFICATE PROGRAMS

ENGINEERING CONTINUING EDUCATION

BIOLOGICAL SCIENCES TECHNOLOGY

BUILDING TECHNOLOGY

CHEMICAL AND METALLURGICAL TECHNOLOGY

CIVIL AND STRUCTURAL TECHNOLOGY

ELECTRICAL AND ELECTRONICS TECHNOLOGY

INSTRUMENTATION

FOREST RESOURCES TECHNOLOGY

LANDSCAPE TECHNOLOGY

MECHANICAL TECHNOLOGY

MINING TECHNOLOGY

NATURAL GAS AND PETROLEUM TECHNOLOGY

SURVEYING TECHNOLOGY

HEALTH CONTINUING EDUCATION

HEALTH CARE MANAGEMENT

MEDICAL LABORATORY SCIENCES

RADIOLOGICAL SCIENCES

NUCLEAR MEDICINE SCIENCES

ENVIRONMENTAL HEALTH

CONTINUING NURSING EDUCATION

NURSING UPDATE PROGRAM

DIRECTED STUDY CENTRE

BUSINESS

ENGINEERING

HEALTH

FORESTRY

HIGHWAYS/CIVIL

PROGRAM DEVELOPMENT

INDUSTRY SERVICES

TRAINING AND DEVELOPMENT CENTRE

ACADEMIC AND ADMINISTRATIVE PERSONNEL

PROFESSIONAL AGENCIES

GENERAL INFORMATION

1. The Academic Year

The academic year, commencing July 1, for the Division of Continuing Education and Industry Services, consist of three terms:

Fall Term — September to December (Term 1)

Winter Term — January to March (Term 2)

Spring Term — April to June (Term 3)

Courses, however, may begin at any time.

2. Hours for Registration or Inquiries

Registration or inquiries may be made to the office between the following hours:

(a) Until June 30, 1979

Monday to Thursday	8:30 a.m. to 10:00 p.m.
Friday	8:30 a.m. to 4:30 p.m.
Saturday	8:30 a.m. to 12:30 p.m.

(b) June 30 to September 4, 1979

Monday to Friday	8:30 a.m. to 4:30 p.m.

In addition, during August the office will be open until 8:00 p.m. on the following weekdays and Saturday until 12:30 p.m.

Monday, August 13
Wednesday, August 15
Monday, August 20
Tuesday, August 21
Thursday, August 23
Saturday, August 25
Monday, August 27
Wednesday, August 29

The following dates in September the office is open until 10:00 p.m.

Tuesday, September 4
Wednesday, September 5
Thursday, September 6

(c) During the Continuing Education Terms, the office hours are:

Monday to Thursday	8:30 a.m. to 10:00 p.m.
Friday	8:30 a.m. to 4:30 p.m.
Saturday	8:30 a.m. to 12:30 p.m.

3. Program Consultation (Help in choosing a course!)

The Division of Continuing Education and Industry Services invites your inquiries for information, assistance and program consultation relating to program offerings.

Full-time Program Consultants are available to assist students and prospective students to select appropriate courses and plan programs of study to meet individual needs. Students who wish to meet with a Program Consultant are encouraged to make an appointment by phoning 434-5734, local 204/205 during the above office hours.

Students who are undecided about a career path and who wish to have a complete testing assessment for career planning, may request a list of organizations available from a Program Consultant.

The week before classes begin, Program Consultants are available on a "walk-in" basis. In-depth program planning is not possible on these nights, but this individual service can be requested at any time during the year as noted above!

4. COUNSELLING (Career, Personal, Financial)

The services of the Counselling Centre are available to any B.C.I.T. student or prospective student in need of assistance in the areas of career/vocational decision making, personal counselling and financial counselling/financial aid.

Office Hours-Monday to Friday
8:00 a.m. to 4:30 p.m with extended hours on Tuesday until 9:00 p.m.
PHONE 434-5734, local 327 FOR APPOINTMENT

The Counselling Centre is located in room 2N-205

Student Financial Services-Trailer D1, local 890

WORKSHOP: CAREER SEARCH

A four session workshop will be offered for adults who have been in the work force at least two years, but are unsure as to their potential and technical training opportunities. The first two sessions will involve standardized testing (interest inventory, values clarification, work environments/needs skills level, etc.) and career information. This will be followed by interpretation of the results and individual counselling.

Thursdays (6:45-9:45 p.m.)
September 13, 20, 27 and October 4 or
October 18, 25, November 1 and 8 or
February 28, March 6, 13, 20 or
April 3, 10, 17, 24

Limited to 15 applicants Fee: $60 (includes tests and materials)

5. Pre-Entry Courses

There are pre-entry or preparatory courses available for students interested in obtaining entrance into a full time program. See the Academic Core Division section of this calendar, page 99.

6. Canada Employment Centre on Campus

In addition to a job information centre on the B.C.I.T. campus, the following services are available to students.

— A job placement service
— Counselling in relation to employment opportunities
— Providing labor market information

The Centre also contains a library of information on careers and employers for the use of students.

Students who have inquiries about any of the above, please feel free to drop in to room 2N-204 or phone the Employment office at 434-5734, local 333.

Office hours are 8:00 a.m. to 4:30 p.m. Monday to Friday the year round.

7. Admission

In general, the Division of Continuing Education and Industry Services courses are taught at a level which assumes a student has completed secondary school. In addition there are certain specific prerequisites or special conditions for some of the courses. They are described with the courses in the calendar.

A mature student may be accepted without general prerequisites, provided the student and the instructor consider that the student has a reasonable chance to complete a specific course or program successfully.

Prospective students are advised to submit applications well in advance of commencement of classes. Wherever possible, all qualified students will be accepted, but where enrollment is limited, priority for admission will be based generally on the date of application. Failure of a student to present himself on the first night of classes or otherwise advise the Division of Continuing Education and Industry Services office, may cause a student to forfeit his seat in a class.

Further, B.C.I.T. reserves the right to establish other special priority criteria for special situations.

8. (a) Registration and Payment of Fees

An individual must register by completing a registration form and mailing or bringing it to the office of the Division of Continuing Education & Industry Services.

Fees must accompany the registration form. Cheques or money orders must be payable to "British Columbia Institute of Technology". Registrations not accompanied by fee payment will not be processed. Students registering in person may pay by Chargex or Master Charge.

Mailing a registration form and the payment of fees does not ensure a seat in a class.

Admission cards will not be mailed to students for applications which are received by mail after August 31. They will be held at the Registration Desk for students to pick up. After August 31st all registrations have to be made in person.

When student fees are to be paid by the employer, written authorization on company letterhead must accompany application.

Students must register and pay fees for the second term of a continuing course by November 24.

An official course fee receipt is mailed out for Income Tax purposes by the Finance Office in February.

(b) Course Fees

The new structure will be:

36 hour course $ 70
54 hour course $105
72 hour course $140
90 hour course $175

(i.e. $1.95 per hour when pricing a special course, or day school partial enrollment.) Note: For highly specialized courses we may arrange to operate the course by adjusting the fee.

Special fees will be set for courses having high instructional cost and/or small registration. The Special fees will be published in the "Nite Life" flyer, put out one month prior to Term commencement.

9. Late Registrations

After the first two sessions, students must obtain the permission of the instructor before registration will be accepted.

10. Cancellations and Restricted Enrollment

The Institute will make every effort to offer all the courses, as listed in the Calendar, to all qualified applicants. Nevertheless, the Institute reserves the right to limit enrollment, to select candidates, to cancel courses, to combine classes or to alter times of insruction without prior notice.

11. Refunds

BEFORE A REFUND IS ISSUED, A STUDENT MUST COMPLETE AN "APPLICATION FOR REFUND" FORM WHICH IS AVAILABLE FROM THE CONTINUING EDUCATION OFFICE PRIOR TO DEADLINE.

If a course is cancelled, fees in full will be refunded or transferred to another course as requested by the student.

Students who withdraw from a *regular evening course* are eligible for a refund only if they have submitted an "Application for Refund" form. This completed form must be in the Continuing Education office *by 12:30 p.m. Saturday of the second week of classes. A charge of $10 will be made for refund processing.*

12. Student Services

(a) Parking (see map on page 222)

Free parking is available to students parking in the evenings in the following areas:

(1) The large general parking area east of the main building adjacent to Wayburne Avenue.
(2) The parking area immediately south of the complex adjacent to Willingdon Avenue.
(3) The parking area in front of the main B.C.I.T. Building (next to Willingdon) is reserved (on a first come basis) for females travelling alone.
(4) The north parking lot (off the north foyer) is reserved for staff having parking permits

Handicapped persons should contact the Continuing Education office for special arrangements.

B.C.I.T. Security Department controls traffic and parking on campus. Vehicles improperly parked may, at any time, be removed at the owner's expense, i.e. vehicles parking on yellow curbed roadside, next to hydrants, in locations where the free flow of traffic is obstructed, etc.

The speed limit is 25 kl/h on campus roads. No overnight parking on Campus is permitted. If you are unable to move your vehicle due to mechanical failure you should:

(i) leave a note of explanation for the security staff (on windshield or dashboard) explaining the difficulty.
(ii) make arrangements to have the vehicle removed within 24 hours.

(b) Cafeteria

A hot meal service is available in the Food Training Centre between the hours of 4:30 p.m. and 6:30 p.m. (Monday to Thursday) on each evening during the sessions.

When classes are in session, limited food service and light refreshments are available from the 76 Building Food Service 6 to 9 p.m. (Monday to Thursday) and 8:30 a.m. to 12:30 p.m. on Saturdays, and from the "Road Runner" on the second floor of the main building 6-9 p.m. (Monday to Thursday).

Coffee service is also provided at various stations throughout the building when classes are in session.

(c) Library

The library facilities are available to all registered part-time students. Applications for a library card can be made at the front

desk of the library.

Library hours from September to May are:

Monday to Thursday.....	8:00 a.m. to 11:00 p.m.
Friday.....	8:00 a.m. to 5:00 p.m.
Saturday.....	9:00 a.m. to 4:00 p.m.
Sunday.....	12 noon to 6:00 p.m.

NOTE: Books overdue 30 days or more will be charged a $25 fine.

The library is well stocked in books and media materials in all technologies. An excellent self guided Library tour is available and students are encouraged to use the facilities and resources for recreational as well as academic interests.

(d) Bookstore

Textbooks and supplies may be purchased at the Bookstore which is located at ground level, on the east side of the Library Building.

Bookstore hours are:

Monday to Friday 8:00 a.m. to 4:20 p.m. During the months of September, October, January and the first two weeks of April, the Bookstore reopens from: 5:30 p.m. to 8:30 p.m. Monday to Thursday. The Bookstore is also open the first two Saturday mornings on which classes start in Term 1 and 2 from 8:30 a.m. to 12:30 p.m.

Most courses require that a student purchase a textbook which generally costs $15-$25 above the course fee but can range up to $50 for some Engineering programs.

(e) Student Activity Centre

The Student Activity Centre is the centre of leisure time activity for students attending B.C.I.T. Within the S.A.C. building there is a full size gymnasium, weight room, change rooms, and equipment centre, cafeteria, health service office, beauty salon, student offices and committee rooms.

More information on joining the Student Association can be obtained from the general office in the S.A.C. building or at 434-5734, local 601.

13. Examinations and Results

(a) Policy on examinations

As a general rule assessments will be made of students enrolled in courses at BCIT. Assessments will normally be based on mid-course examination and a final examination, plus projects or other oral and written work. No rigid form of evaluation is prescribed except to say that it should provide some measure of the student's comprehension and application of the body of knowledge learned. It should also distinguish between superior and passing students.

A student is required to take the examination for each course at a time set by the Institute.

To be allowed to write examinations, a student must have:

1. attended a minimum of 50% of the classes; and
2. satisfactorily completed work assignments during the session.

Students unable to write examinations due to special circumstances and unable to make alternate arrangements with the instructor should contact the appropriate Continuing Education Program Head.

(b) Statement of marks

It is the policy of the Division of Continuing Education and Industry Services to issue a statement of marks to every student who completes a course. To receive a statement of marks, all fees must be paid in full.

Any request for change of information carried by the "Statement of Marks" must be made in writing to the Office of Continuing Education and Industry Services *within thirty days of the end of the course.*

(c) Audit

A student may, with permission, audit a course. An audit student is not formally evaluated and does not write examinations. However, the student is expected to take an active part in the classroom discussions and laboratory exercises, and maintain satisfactory attendance.

An auditing student will not receive credit for the course, but will receive a Statement of Marks with "Audit" indicated. An Audit student will pay the prescribed course fee.

Students who wish to change their registration status to "audit" should consult with the instructor.

A student who audits a course may later request credit standing by contacting the appropriate Continuing Education Program Head. An evaluating procedure, as stipulated by the instructor, will be determined.

(d) External examinations

(1) We will attempt to co-operate with any part time student who cannot write our examinations because of absence from the city, by allowing him to write the examination at a set time in another centre under an invigilator acceptable to us. (2) It is understood that the student would be responsible to make all arrangements to obtain a place for his examination and to obtain the services of an invigilator and, further, to pay all costs, if any, that are involved.

(e) Grading

First Class — 80% or over	Pass 50% to 64%
Second Class — 65% to 79%	Failure — less than 50%

A — Aegortat	— a standing granted to a student who has a good term record but is unable to write the final examination because of illness or other circumstances.
C — Credit Granted	— Recognition of a successful challenge of a course.
PP — Provisional Pass	— Standing granted on the basis that the student will reach pass standing in the continuing subject.
AP — Adjudicated Pass	— Subject standing inadequate student permitted to continue based on overall performance.
N — Not complete	— No standing granted because student did not complete subject requirements.

X — No examination or grade given for this subject.

(f) Incomplete Standing

In extenuating circumstances, arrangements may be made to complete a course for credit where an "N" has been assigned. Those arrangements must be made in writing through the Continuing Education Office *within thirty days* of the end of the course in question.

(g) Appeal to Final Mark

A student who is not satisfied with his/her final mark is cautioned that the grades have been reviewed carefully and, aside from clerical error, appeals seldom result in a higher mark.

The student who desires re-consideration of a final mark should first make an informal approach to the instructor or the head of the appropriate C.E.I.S. department for that course.

If the student is not satisfied he/she may initiate a formal appeal in writing to the Dean, C.E.I.S., clearly stating the reasons for believing the student deserved a higher grade than that received. The appeal must be submitted within two months of the last class in the course, or in the case of a directed study course within two months of mailing the last assignment. The appeal is to be accompanied by a fee of $10 which will be refunded if the original mark is favourably adjusted.

14. Transcripts

A fee of $1 is charged for each transcript request. To apply for an official transcript write or phone to:

The Student Records Co-ordinator
Continuing Education
434-5734, local 731

15. Continuing Education and Industry Services Students Attending Day Classes

Due to the various forms of the compressed work week, our regular evening courses may not suit every individual's schedule. Continuing Education and Industry Services students may register in courses given in the day diploma program, subject to the approval of the technology head. Approval will usually be granted when the addition of student(s) would not cause difficulties in the classroom and laboratory.

A student making the request must get the signature of the certificate technology head and the signature of the instructor of each course he has proposed to study, using the form "Request for Part-time Study" available from the registration office.

When all signatures are obtained, the form should be returned to the admissions co-ordinator. Registration for each of the required courses, priced at the regular hourly rate, will then be completed on the registration form.

16. Course Credit

The basic measure of course credit is a UNIT, which normally consists of three classroom hours per week for 12 weeks, a total of 36 hours.

A course of three hours per evening twice a week for 12 weeks would thus earn two units of credit for the successful student.

17. Challenge Credit

What it is — Challenge credit is a means whereby a student may acquire credit recognition for knowledge and skills gained through self-study and/or work experience.

By challenging a course the student claims he already has the knowledge and abilities to be learned from the course. Because of the learning format of some courses, not all courses are considered challengeable.

Where approval has been granted to challenge a course, a formal evaluation procedure will take place. The student's abilities in the subject area challenged will be assessed by an evaluator through a written and/or oral examination, research paper or other means as the evaluator sees fit.

Challenge credit is not considered as work completed at BCIT but when a course is successfully challenged the number of units required for a certificate will be reduced. If a student is successful a "C" (for credit) will be indicated on his transcript. If he is unsuccessful, nothing will be indicated.

Who may challenge? — A student may challenge a course in a Certificate program in which he or she has completed 10 units of credit at B.C.I.T.

Only five(5) units of challenge credit will be allowed on each Certificate Program.

Fee to Challenge Course — Once approval has been granted to challenge a course the student will be required to pay a fee before the evaluation takes place.

How to Challenge — A student may apply to challenge a course by writing to:

Program Consultant
Division of Continuing Education and Industry Services
British Columbia Institute of Technology
3700 Willingdon Avenue
Burnaby, B.C. V5G 3H2

18. Transfer Credit

Transfer credit is a means whereby a student may acquire credit recognition for academic work completed at another recognized post-secondary institution and not used as part requirements for any other certificate, diploma or degree.

The course work for which transfer credit is being requested must be related to the student's program of studies here at BCIT.

(a) Transfer from day classes — A student transferring to evening classes from day classes will generally be granted credit for all courses successfully completed on withdrawal from day school. A student who fails one or more subjects in the day program is encouraged to consider the Division of Continuing Education and Industry Services after withdrawal from day classes.

(b) Transfer credit from other recognized post-secondary Institutions —B.C.I.T. credit may be granted for courses included in an approved program when those courses:

— have been passed at a recognized post-secondary institution

— have not been used as (part) requirement for any other certificate, diploma or degree.

— have been approved as to content and duration.

Note: transfer credit assessment will only be made after at least one unit of credit has been earned at B.C.I.T.; transfer credit will be allowed for up to 50% of the course work required for any certificate.

(c) Conflict with accrediting societies — The Division of Continuing Education and Industry Services will not give credit where there is a danger of being in conflict with accrediting societies such as the Society of Engineering Technologists. Where a student has considerable credit and where the amount of credit is not easily determined, the Continuing Education Program Head may recommend that the student be accredited by such a society and that he will accept the ruling of that society.

19. Application Procedure for Transfer Credit

A student who desires transfer credit must apply in writing to the Program Consultant and enclose:

(a) a copy of an official transcript

(b) an official description of course completed, including the number of hours involved for each course (excerpts from the appropriate calendars, etc. would be acceptable)

(c) a statement as to which BCIT Certificate program the student wishes to be granted.

20. Division of Continuing Education and Industry Services Certificates and Diplomas

(a) Regular Certificate and Diploma Programs

The Business Certificate or Engineering Technician Certificate or Health Care Certificate (15 units)

A BCIT Business Certificate or Engineering Technician Certificate will be awarded upon completion of a program of 15 units.

Outlines of these certificate programs in the various technologies are given throughout the calendar. For instance, on page 65 a 15 unit program is outlined which leads to a Business Certificate in Finance. However, as is noted at the top of the page, this is not a rigid program and changes will be made to meet the student's particular needs.

The Senior Engineering Technician Certificate or the Senior Business Certificate (30 units)

A Senior Business or Engineering Technician Certificate will be awarded upon completion of an additional 15 units of study beyond the certificate program outlined above.

In viewing the calendar, it may be seen that there are no program outlines for the senior certificate. A student is, therefore, advised to seek assistance in planning a program.

The National Diploma of Technology (at least 45 units)

A student who has completed a Senior Certificate and has extensive related work experience and a good academic record may make application to a Special Review Board consisting of the Dean, Division of Continuing Education and Industry Services, the Dean of the Technology and the Department Head or Heads concerned for a program of study leading to a National Diploma. At least 15 units of further approved course work in addition to the senior certificate would then be required for graduation.

(b) Diploma Program for Graduates

A student who has graduated from BCIT with a National Diploma of Technology or has a University degree or a college diploma or some similar or equivalent recognition may receive a National Diploma when he has completed at least 24 units of study on a pre-approved program.

(c) Special Certificates

A student with a BCIT National Diploma, or who has a University Degree or College Diploma or equivalent or similar recognition, may receive a Special Certificate when 15 units of study on a pre-approved program has been completed. This certificate recognizes that an individual has completed 15 units (540 hours) of study in a given technology in addition to previous educational qualifications. The Special Certificate does not indicate a level along the route of our regular certificate program (see section 20).

A student with a Special Certificate may apply the credits obtained toward a National Diploma of Technology.

A student with a Special Certificate who wishes to pursue a program of studies toward a National Diploma should apply in advance to have such a program set up.

Direct entry into advanced certificate program — A student with advanced standing equivalent to a certificate level may be admitted into an advanced program even though the basic certificate at BCIT has not been completed. Where a student does not have the preceding certificate equivalency, the deficiency may need to be made up.

Other Certificates — Other Certificates may be created from time to time to meet special situations which may or may not be related in number of units to the above Certificates.

Certificates will not be issued upon the completion of a single course, but only upon completion of a full program of studies.

21. Approved Program of Study

Throughout the calendar suggested programs of study are outlined in the various technologies which lead to a 15 unit Business, Engineering or Health Certificate.

A student who wishes to change any program to better meet his own requirements should have his program approved in advance.

In general it can be seen in the calendar that there are no program outlines for higher level certificates. Therefore, a student who has already earned a Certificate and wishes to obtain a higher level certificate should also have a program outlined and approved in advance.

A student who wishes to have an Approved Program of studies leading to a Certificate or a Diploma should contact a Program Consultant. Ultimately, the student must apply for the Approved Program with a written submission showing electives chosen and any changes requested.

22. Policy on Application for Certificates

The responsibility of applying for a certificate lies with the student. An application for a certificate should be completed only when the student has completed the requirements for the certificate. The application form is located on page 168A.

23. Financial Assistance for Part-time Students

(a) Special Assistance Program Ministry of Education Science and Technology Student Service Branch

This program is to provide financial assistance to individuals who do not qualify under the regular British Columbia Student Assistance program. It will also serve those enrolled on a full-time basis in courses less than 26 weeks in duration.

The maximum assistance available will be $250 per educational year and will be in the form of a grant ($125 per term/semester).

Applicants should complete the general application and the Special assistance program questionnaire. Applications are available in the office of the Division of Continuing Education and Industry Services, Department of Education, Student Services Branch, Victoria, B.C. or B.C.I.T.'s Student Financial Services office (Trailer ID behind the campus Bank of Commerce) phone 434-5734, local 890 or 886.

Grants will be awarded to those individuals who demonstrate a financial need and who meet the B.C. Student Assistance criteria.

Normally only credit courses leading to a certificate, diploma, or a first degree are eligible.

In keeping with the non-full time student criteria, this program is not designed to provide funds to cover normal maintenance but rather to service expenses which are a direct result of the applicant taking a course of studies. The most obvious are the tuition and book charges; although, in cases where an extra

transportation expense is demonstrated, it may also be included.

(b) The Harry H. Stevens Memorial Fund

The Kiwanis Club of Vancouver has established an assistance fund at B.C.I.T. as a memorial to the late Honorable Harry H. Stevens.

An initial contribution of $1,000 to start this fund was made by B. H. Campbell.

Interested businesses, individuals or organizations are encouraged to contribute to this worthwhile fund.

To be eligible, applicants must demonstrate financial need, must be a part-time student at B.C.I.T. who is upgrading existing skills or retraining for his/her betterment and must be a B.C. resident for at least one year prior to application for assistance. Special cases who do not meet all these criteria will also be considered.

Application forms are available from the Student Financial Services office.

The Harry Stevens Committee meets on the first Tuesday of every month except in September and January when meetings are held on the second Tuesday.

Applications must be received by Student Financial Services at least one week prior to the meeting date at which the application is to be considered.

(c) Bursary Opportunity: Part-time and/or Short-Term Adult Students

The Pacific Association for Continuing Education (PACE) invites applications for Bursary Funds. The amounts awarded shall vary between $50 and $200 for any one period of study.

A. Eligibility
1. An individual is eligible for a bursary if registered as a part-time or short-term student in any recognized and formally organized learning activity in continuing education or training in B.C., e.g. Academic Advancement, Trades and Union Skill Training, Business Training, Adult Education, Community Education.
2. Bursaries are open to residents of B.C.
3. Recipients are eligible for only one bursary award

B. Personal Criteria
1. The individual must show evidence of a financial need and indicate that he or she has limited or no access to other scholarship or bursary funds.
2. The individual should provide evidence of intent to pursue a continuing education plan or job upgrading goal which will benefit both the individual and his community.
3. The individual should provide evidence that the bursary would contribute to his or her continuing education goals.

C. Use of Bursaries
1. The bursary shall be applied directly to tuition fees or course materials.
2. The bursary is to be paid to the individual.
3. The amounts awarded shall vary between $50 and $200 for any one period.

D. Application Procedure
1. The application must be in writing.
2. The applicant must describe the reasons for seeking the bursary in accordance with the established criteria.
3. The application must be submitted to the Secretary of PACE one month prior to the commencement of the learning activity.

E. Selection Process
1. The applications will be forwarded to the Bursary Committe of PACE for consideration, and for the selection of bursary recipients.
2. Bursary criteria shall be applied to determine any recipient.

F. Contact

Please address applications and all inquiries to:
The Bursary Committee
Pacific Association for Continuing Education
c/o Douglas College
P. O. Box 2503
New Westminster, B.C. V3L 5B2

24. System International Metric

Since Canada is in the process of changing to the S.I. Metric System, students will be expected to be knowledgeable in the system. Courses on the S.I. Metric System will be offered by the Division of Continuing Education and Industry Services from time to time.

"IN-HOUSE" TRAINING FOR CREDITS TOWARD BCIT CERTIFICATES

BCIT Division of Continuing Education & Industry Services Certificates are awarded to students acquiring 15 units of credit. A unit normally consists of three classroom hours per week for 12 weeks, a total of 36 hours.

Transfer credits toward BCIT Certificates may be granted for work completed at other post-secondary institutions and accepted training organizations.

In accumulating 15 units of credit for a BCIT Certificate, at least 7½ must be for BCIT courses. The remainder may be transfer credits.

Our proposal is to enable BCIT students to obtain transfer credits for approved courses taken within, or sponsored by a Company, Government body or organization associating with BCIT in a joint development program for the student-employee.

This latter is an additional service to students and recognition that many worthwhile "in-house" training courses are carried on either through internal resources or by hiring reputable outside agencies. Yet these same organizations may lack the depth and volume to present a totally well-rounded program such as is available at BCIT.

Any company, etc., wishing to have credit granted to employees for "in-house" training should submit details to the Dean, Division of Continuing Education & Industry Services, BCIT, for approval before making a commitment to employees. Such information should include course content, length of course, qualification of instructor and any pertinent data. This need only be done once, unless there is a change. Courses for credit should be related to one or more BCIT Certificate Program (see those within the Calendar) and will normally represent a transferable skill — for example, Principles of Supervision would be acceptable whereas a course on Company policy and procedures or interpretation of the Company labour agreement would not. On-the-job training or skill or technique unique to the Company would also not be appropriate for recognition. Credit will not be granted for less than half a unit.

Requests for transfer credits may be submitted by individual employees to the Programme Consultant, Division of Continuing Education and Industry Services, at any time after completion of one BCIT course. Such submissions should be supported by the employer's indication of successful completion.

It is anticipated that this interest and encouragement to employees to develop and upgrade their qualificatons will be rewarding to both employee and employer.

Inquiries should be directed to:

The Dean, Division of Continuing Education & Industry Services.

GLOSSARY

Academic Session — three terms (which amount to one calendar year) called Term 1 (September-December); Term 2 (January-April); Term 3 (April-June)

Division of Continuing Education and Industry Services — one of the Divisions at B.C.I.T. This Division provides technological programs for part-time students.

Division of Continuing Education and Industry Services Calendar — an annual publication containing official information about the Division of Continuing Education and Industry Services including regulations.

Certificate — a document awarded by B.C.I.T. upon successful completion of the requirements of a Program.

Challenge Credit — a method to acquire credit recognition for knowledge and skills gained through self study and/or work experience.

Course — an organized unit of study extending over a term (e.g., Management in Industry I).

Directed Study — correspondence courses and specialized instruction for students who are unable to attend B.C.I.T. campus.

Elective Course — a course acceptable within the Program, but chosen at the discretion of the student.

Part-Time Day Studies — a student who registers through the Division of Continuing Education and Industry Services to take one or more full-time day scheduled courses.

Prerequisite — is the requirement of a pass standing or equivalent work experience in the designated course prior to registration.

Program — *(a)* Program (with capital P), a structure of courses leading to a Certificate (e.g. Business Certificate in Administrative Management).

(b) — Program (with a lower case p) a selection of courses chosen by a student in a particular Term.

(c) *Approved Program* — a special structure of courses designed to meet a student's individual requirements and pre-approved by the appropriate technology Department Head.

Registration — the official enrollment of students in the Institute for a particular term and Program including the payment of fees.

Statement of Marks — released by the Division of Continuing Education and Industry Services to each student at the conclusion of a course. It notes the course, the grade or standing assigned and the student's attendance as a percentage.

Technology — The application of proven theory to Business, Engineering, or Health.

Transcript — an offical document prepared by B.C.I.T. recording a student's courses and grades.

Transfer Credit — a method to acquire credit recognition for academic work completed at another recognized post-secondary institution.

Unit — a unit of academic measurement. The unit is assigned to 36 hours of classroom time.

CALENDAR OF EVENTS

August 13, 15	
August 20, 21, 23, 25,27, 29	Extended Summer Hours for Registration
September 4, 5, 6	(see page 21)

Fall 1979 (Term 1)

September 6	Deadline for registration for Term 1
September 10-13 and 15	Commencement of classes
September 22	DEADLINE FOR REFUND FOR TERM 1 COURSES
* October 8	Thanksgiving
* November 12	Remembrance Day
November 24	Deadline for registration and payment for second term of two term courses.
November 27-29 & December 1	Last night for Tuesday, Wednesday, Thursday and Saturday 12 week classes
December 10	Last night for Monday 12 week classes
December 10	Last night for Registration office open to 10 p.m.

Winter 1980 (Term 2)

January 2, 3	Program Consultation & Registration
January 3	Deadline for registration for Term 2
January 7-10 and 12	Commencement of all classes
January 19	DEADLINE FOR REFUND FOR TERM 2 COURSES
March 24-27 and 29	Last session for 12 and 24 week classes.

Spring 1980 (Term 3)

March 31	
April 8-10 and 12	Commencement of Term 3
April 4	Good Friday
* April 7	Easter Monday
April 19	DEADLINE FOR REFUND FOR TERM 3 COURSES
May 6-8 and 10	Last session for Tuesday, Wednesday, Thursday and Saturday 30 & 18 wk. classes
May 12	Last session for Monday 18 & 30 wk. classes
* May 19	Victoria Day
June 23-26 and 28	Last week of classes

1430 Feb. 14th

1730 April 23RD - Campus.

* Class may be held on a holiday at the discretion of the students and instructors.

1979

JANUARY							FEBRUARY							MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6					1	2	3					1	2	3	1	2	3	4	5	6	7
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31	29	30					

MAY							JUNE							JULY							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2	1	2	3	4	5	6	7				1	2	3	4
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31					26	27	28	29	30	31	

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1		1	2	3	4	5	6					1	2	3							1
2	3	4	5	6	7	8	7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8
9	10	11	12	13	14	15	14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
16	17	18	19	20	21	22	21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
23	24	25	26	27	28	29	28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29
30																					30	31					

1980

JANUARY							FEBRUARY							MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2							1			1	2	3	4	5
6	7	8	9	10	11	12	3	4	5	6	7	8	9	2	3	4	5	6	7	8	6	7	8	9	10	11	12
13	14	15	16	17	18	19	10	11	12	13	14	15	16	9	10	11	12	13	14	15	13	14	15	16	17	18	19
20	21	22	23	24	25	26	17	18	19	20	21	22	23	16	17	18	19	20	21	22	20	21	22	23	24	25	26
27	28	29	30	31			24	25	26	27	28	29		23 30	24 31	25	26	27	28	29	27	28	29	30			

MAY							JUNE							JULY							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3										1	2	3	4	5						1	2
4	5	6	7	8	9	10	1	2	3	4	5	6	7	6	7	8	9	10	11	12	3	4	5	6	7	8	9
11	12	13	14	15	16	17	8	9	10	11	12	13	14	13	14	15	16	17	18	19	10	11	12	13	14	15	16
18	19	20	21	22	23	24	15	16	17	18	19	20	21	20	21	22	23	24	25	26	17	18	19	20	21	22	23
25	26	27	28	29	30	31	22	23	24	25	26	27	28	27	28	29	30	31			24 31	25	26	27	28	29	30
							29	30																			

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6				1	2	3	4							1		1	2	3	4	5	6
7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22	21	22	23	24	25	26	27
28	29	30					26	27	28	29	30	31		23 30	24	25	26	27	28	29	28	29	30	31			

BUSINESS CONTINUING EDUCATION

BUSINESS CONTINUING EDUCATION ADMINISTRATION

Stewart McGill ..... Head, Business Continuing Education
Atley W. Morrow, B.A.B.Ed., M.Ed. ..... Assistant Head, Business Continuing Education
Laurel Cowie, B.A., M.Sc. ..... Program Consultant, Business Continuing Education
Cornel Dukowski, B.A., M.Ed. ..... Program Consultant, Business Continuing Education
Loraleigh Smith ..... Program Assistant, Business Continuing Education

****

Telephone (604) 434-5734, local 583

TERM 1 DOWNTOWN COURSES

All courses will be held in the downtown core. The specific locations will be determined one month in advance in the "Nite Life" flyer

Monday	Tuesday	Wednesday	Thursday
	These courses are offered in the 5:00-7:15 p.m. time frame over 14 weeks		
Management in Industry 1 Labour Relations 1 Selection Interviewing Business Law 1 Training Techniques Zero Based Budgeting Interior Design-Basic Marketing Planning Basic Math of Finance	Management Psychology 1 Supervisory Skills Managerial Styles Discussion Leadership Accounting for the Manager Financial Independence Hospitality Management Accounting Salesmanship Math Algebra 1 Math Algebra 2	Management by Objectives Testing Taxation 1 Business Finance 1 General Marketing Public Relations Retailing Sales Management Inventory Planning and Control	Admin Asst/Exec. Sec. 1 Salary Administration Supervisory Skills Credit and Collections Public Financial Admin. Domestic Air Intro to Tourism Advertising 1 Oral Communication & Public Speaking 1 Purchasing Statics (42.103)
	These courses are offered in the 7:30-9:45 p.m. time frame over 14 weeks		
Manpower Planning	Accounting for the Manager Profitable Restaurant Operation	Office Management Management Psychology 1	Management in Industry 1

TERM 2 DOWNTOWN COURSES

All courses will be held in the downtown core. The specific locations will be determined one month in advance in the "Nite Life" flyer

Monday	Tuesday	Wednesday	Thursday
These courses are offered in the 5:00-7:15 time frame over 14 weeks			
Management in Industry 1 Management in Industry 2 Labor Relations 2 Selection Interviewing Business Law 2 Training Techniques Interior Design-Basic Basic Math of Finance	Supervisory Skills Discussion Leadership Managerial Styles Business Law 1 Problem Solving and Decision Making Accounting for the Manager Taxation 1 Food and Beverage Cost Control Advertising Creative Print Salesmanship Structural Design in Steel and Timber	Management by Objectives Organizational Behavior Labor Relations Research Management Psychology 1 Principles of Accounting Acc. (17 weeks) Business Finance 2 (21 weeks) Taxation 2 Sales Management General Marketing Retailing Public Relations Structural Design in Reinforced Concrete	Admin/Asst. Exec. Sec. 2 Salary Administration Principles of Property Management Labor Relations 1 Credit and Collections Tourism Geography Domestic Air Advertising 2 Oral Communications and Public Speaking 2 Advertising 1 Statics (42.103)
These courses are offered in the 7:30 9:45 time frame for 14 weeks			
Inventory Planning & Control	Accounting for the Manager	Management Psychology 2	Supervisory Skills Management in Industry 2

TERM 3 DOWNTOWN COURSES

All courses will be held in the downtown core. The specific locations will be determined one month in advance in the "Nite Life" flyer

---

All courses are two nights/week for 7 weeks in the 5:00-7:15 time frame

---

Mon/Wed Classes

Supervisory Skills
Management Psychology 2
Organizational Behavior
Management in Industry 2

Tues/Thurs Classes

Business Law 2
Taxation 2
Labor Relations 2
Management Psychology 1
Management in Industry 1
Advertising 2

Mon/Thurs Classes

Domestic Air

WEEK LONG COURSES

AT BCIT	TERM 1	DOWNTOWN
Management In Industry 1	Oct. 15	Management Psychology 1 Supervisory Skills
Management Psychology 1	Oct. 22	Labor Relations 1 Administrative Assistant Exec./Sec 1
Management Psychology 2	Oct. 29	Management In Industry 1
Management In Industry 2	Nov. 5	
	Nov. 19	Management Psychology 1
	Nov. 26	Management Psychology 2 Management In Industry 1
	Dec. 3	Management In Industry 2
Labor Relations 2 Data Processing Introduction	Dec. 10	

AT BCIT	TERM 2	DOWNTOWN
	Feb. 4	Supervisory Skills
	Feb. 11	Administrative Assistant Exec./Sec 1
	Feb. 18	Management In Industry 1
	Feb. 25	Management Psychology 1
	March 3	Labor Relations 1
Management In Industry 1 Management In Industry 2 Management Psychology 1 Management Psychology 2 Organizational Behavior Supervisory Skills Personnel Management Admin. Asst. Exec. Sec 1 Labor Relations 1 Labor Relations 2 Data Processing Introduction Public Relations Salesmanship	March 10	
	March 17	Management Psychology 2 Management In Industry 2

WEEK LONG COURSES

AT BCIT	TERM 3	DOWNTOWN
	April 14	Management Psychology 1 Admin Asst/Exec Sec 1
	April 21	Supervisory Skills Organizational Behavior
	April 28	Management In Industry 1 Labor Relations 2
	May 5	Management Psychology 2
	May 12	Labor Relations 1
Management In Industry 1 Labor Relations 1 Supervisory Skills Admin Asst/Exec Sec 1 Selection Interviewing Management By Objectives Data Processing Introduction Salesmanship	June 2	
Management In Industry 2 Management Psychology 1 Labor Relations 2 Data Processing Introduction Inventory Planning and Control	June 9	
Management Psychology 2 Personnel Management Business Law 1 Organizational Behavior Data Processing Introduction Purchasing Salesmanship/Salesman	June 16	
Supervisory Skills Business Law 2 Data Processing Introduction General Marketing	June 23	

BUSINESS MANAGEMENT

Throughout the Business Management section of this Calendar prospective students will find descriptions of a broad range of courses.

There are also a number of programs leading to certification in the various technologies for those who will benefit from such recognition in the business community. Course presentations lean heavily to class participation.

Our Program Consultants will be pleased to assist you in selecting appropriate courses for a program to meet your individual needs.

REGISTER EARLY TO AVOID DISAPPOINTMENT

ADMINISTRATIVE MANAGEMENT TECHNOLOGY

Business Certificate in Administrative Management

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Accounting for the Manager (16.904)	1.0
Management Psychology 1 (10.221)	1.0	Management Psychology 2 (10.321)	1.0	Managerial Styles (10.905)	1.0
		or		Elective	1.0
		Organizational Behavior (10.906)			
Year 2					
Personnel Management (10.910)	1.0	Discussion Leadership (10.907)	1.0		
Labor Relations 1 (10.325)	1.0	Labor Relations 2 (10.425)	1.0		
Year 3					
Economics 1 (10.135)	1.0	Economics 2 (10.235)	1.5		
Business Law 1 (10.360)	1.0	Business Law 2 (10.460)	1.0		

See page 39 for the list of electives and substitute courses.

NOTE — Course No. 10.904, Supervisory Skills, should be taken before Management in Industry 1 and 2 if the student is close to entering supervision or is a relatively new supervisor.

Business Certificate in Personnel Management

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Management Psychology 1 (10.221)	1.0	Organizational Behavior (10.906)	1.0	Elective	1.0
Personnel Management (10.910)	1.0	*or*		Elective	1.0
		Management Psychology 2 (10.321)		Elective	1.0
		Selection Interviewing (10.913)	1.0		
Year 2					
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0		
Training Techniques (10.950)	1.0	Occupational Safety and Health (10.918)	1.0		
Year 3					
Testing (10.915)	1.0	Discussion Leadership (10.907)	1.0		
Labor Relations 1 (10.325)	1.0	Labor Relations 2 (10.425)	1.0		

See page 39 for the list of electives and substitute courses.

Business Certificate in Public Administration

(for Municipal Option — see below)

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Business & Technical Correspondence (31.910)	1.0
Government & Business (10.240)	1.0	Public Financial Administration (16.350)	1.0	*or*	
Year 2				Business Report Writing (31.912)	
Management Psychology 1 (10.221)	1.0	Organizational Behavior (10.906)	1.0		
* Gov't and Politics in Canada 1 (10.340)	1.0	* Gov't and Politics in Canada (10.440)	1.0	Accounting for the Manager (16.904)	1.0
Year 3					
Labor Relations 1 (10.325)	1.0	Labor Relations 2 (10.425)	1.0	Elective	1.0
Concepts of Economics (10.941)	1.0	Personnel Management (10.910)	1.0		

See page 39 for the list of electives and substitute courses.

For information on Certification by the Municipal Administration Education Council of B.C. refer to page 212 of this Calendar.

* Students who want a B.C.I.T. Business Certificate in Public Administration (Municipal Administration Option) should substitute the two courses 10.957 Municipal Law, and 10.956 Local Government for Government and Politics in Canada 1 and 2.

Canadian Institute of Management Certificate Program in Management and Administration

Admission requirements for this program are on page 214

	September (Term 1)		*January (Term 2)*
Year 1		Units	Units
	Organization as Systems-CIM (10.970)	1.0	Managerial Accounting-CIM (10.971) 1.0
Year 2			
	Canadian Business Law (10.978)	1.0	Organizational and Human Behavior-CIM (10.973) 1.0
Year 3			
	Marketing CIM (10.974)	1.0	Operations Management CIM (10.975) 1.0
Year 4			
	Applied Management-Finance CIM (10.976)	1.0	Applied Management-Policy and Administration CIM (10.977) 1.0

Canadian Institute of Management course credits may be used for B.C.I.T. Certificate Programs.

Electives & Substitutions

It is our sincere desire to assist students to plan and complete a certificate program that is most useful to the particular individual. Therefore, *considerable flexibility is permitted in the selection of electives and in substitutions providing that the changes are appropriately related to the particular certificate program.*

Such selections should be approved in advance in writing by a Program Consultant to ensure that they are appropriate and will be accepted as an elective or substitute.

Electives and substitutions may be selected from:

1. Any course listed in the Administrative Management Technology (Prefix 10. . . .) when approved as above.

or

2. Such courses as:

		Units
14.050	Data Processing — Introduction	1.0
14.052	Computers in Business	1.0
16.361/461	Business Finance 1 and 2	2.5
16.904	Accounting for the Manager	1.0
20.180/280	Marketing 1 and 2	2.5
20.502/602	Oral Communications and Public Speaking 1 and 2	2.0
22.951	Systems Analysis	1.0
22.535/635	Statistics for Business and Industry 1 and 2	2.0
22.100	Basic Mathematics of Finance	1.0

(see over — list continues)

22.941/942	Work Study 1 and 2	2.5
22.902	Inventory Planning and Control (Basic Inventory Planning)	1.0
22.903	Operations Planning	1.5
31.910	Business & Technical Correspondence	1.0
31.912	Business Report Writing	1.0

and

Many other courses listed in the Business Management Technologies selected by the student and approved in writing by a Program Consultant.

NOTE — While we do our best to serve the student who "drops in" for counselling, you will find that you get more personalized attention if you make an appointment.

COURSES IN ADMINISTRATIVE MANAGEMENT

The Administrative Management Technology offers a wide variety of excellent training for people wishing to develop and improve their knowledge and skills in administration and business management.

A sound introduction to the functions of management is provided by the basic course — Management in Industry. This course is supported by a greater depth of training in numerous areas as described in the following pages. If the information is not sufficient and you wish some guidance please call on our Program Consultants.

***10.131 Management in Industry 1**

Purpose — This course is designed for supervisors, managers, and persons anticipating such responsibility. It provides a practical and theoretical introduction to the principal functions of modern management. The material covered is particularly useful for persons with no formal training in management as it provides a base for advancing to more specific training in the various areas touched upon in these sessions.

Objective — From this course the student will obtain a good understanding of how an organization functions to accomplish its goals. It will also provide an insight for planning a certificate program which will be of maximum assistance to the student in reaching his career goals.

Outline — Through lectures, films, and case discussions, with special emphasis on participation, the classes will examine theory and improve the student's knowledge of the management functions of planning and organizing. Topics include the related areas of communication and management information systems; setting objectives; planning for profit, sales and personnel; organization theory and structure.

NOTE — Students who are newly appointed supervisors or anticipate a supervisory appointment in the near future should take Supervisory Skills (10.904) before Management in Industry 1.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	*Mon./March 31*
Tues./Sept. 11	*Tues./Jan. 8*	*Tues./April 8*
Wed./Sept. 12	*Wed./Jan. 9*	*Wed./April 9*
Thurs./Sept. 13	*Thurs./Jan. 10*	
Sat./Sept. 15	*Sat./Jan. 12*	
(9-12 noon)	*(9-12 noon)*	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	*Tues./Thur./April 8*
		Mon./Wed./April 21

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13		

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Oct. 15		*Oct. 29*
Mar. 10		*Nov. 26*
Jun. 2		*Feb. 18*
		April 28

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Mon. & Wed.		*Begins: Oct. 22*
Mon. & Wed.		*Feb. 18*
Mon. & Wed.		*March 31*

* Has Day School equivalency

***10.232 Management in Industry 2**

Purpose — A continuation of Management in Industry 1

Objective — To continue the study of the functions of management begun in Management in Industry 1

Outline — Through lectures, films and case discussions to examine the management functions of directing and controlling. Topics include: leadership styles, decision-making, labor relations and other aspects of management responsibility.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	*Mon./March 31*
	Tues./Jan. 8	*Tues./April 8*
	Wed./Jan. 9	
	Thurs./Jan. 10	
	Sat./Jan. 12	
	(9-12 noon)	

DOWNTOWN CAMPUS (see page 31)

5:00 - 7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Mon./Jan. 7	

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Nov. 5		*Dec. 3*
Mar. 10		*Mar. 17*
Jun. 9		

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Mon. & Wed.		*Begins: March 31*
Mon. & Wed.		*May 19*

***10.221 Management Psychology 1**

Purpose — To give the person with no formal courses in psychology a background in basic psychological concepts and the application to management situations. This will include exposure to the operational definitions or terminology common to psychology and other social sciences to allow the student to grasp more readily the information conveyed in reading in all areas of organizational behaviour studies.

Objective — To give students a common background for further courses in management administration and interpersonal and organizational behavior.

Outline — A combination of lectures, films, case studies, discussion, and group experiences. Concentration is on the individual in the first portion of the course with a focus on determinants of behaviour, heredity, culture, motivation, perception, attitudes, learning, and leadership. The course concludes with a focus on understanding group interactions in an organizational environment.

Succeeding courses are 10.321 Management Psychology 2 or 10.906 Organizational Behavior.

NOTE — Students completing this course should proceed to 10.321 Management Psychology 2 if they wish to develop their skills in dealing with situations on a one to one basis or to 10.906, Organizational Behavior if their work situation is more related to being part of a group.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	
Tues./Sept 11	*Tues./Jan. 8*	*Tues./April 8*
Wed./Sept. 12	*Wed./Jan. 9*	
Thurs./Sept. 13	*Thurs./Jan. 10*	
Sat./Sept. 15	*Sat./Jan. 12*	
(9-12 noon)	*(9-12 noon)*	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
		(2 nights a week for 7 weeks)
Tues./Sept. 11	*Wed./Jan. 9*	*Tues./Thurs./April 8*

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Oct. 22		*Oct. 15*
Mar. 10		*Nov. 19*
Jun. 9		*Feb. 25*
		Apr. 14

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Tues. & Thurs.		*Begins: Oct. 23*
Tues. & Thurs.		*Apr. 8*

***10.321 Management Psychology 2**

Purpose — This second part of Management Psychology is for persons in counselling situations or with leadership responsibilities who, having completed Part 1, will benefit from a deeper appreciation of motivation theory and applications.

Objectives — To build on the base provided in Part 1 so that students on completion may better understand and cope with human behaviour situations in the world of work.

Outline — Through lectures, case studies, and films the group will probe deeper into the theories which were introduced in Part 1 as they relate to people management. This includes organization culture, attitudes, and their importance in change leadership styles and conflict in goals and objectives.

Prerequisite: Management Psychology 1

* Has Day School equivalency

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Mon./Jan. 7	
Tues./Sept. 11	*Tues./Jan. 8*	*Tues./April 8*
	Wed./Jan. 9	*Wed./April 9*
Thurs./Sept. 13	*Thurs./Jan. 10*	
	Sat./Jan. 12	
	(9-12 noon)	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
		(2 nights a week for 7 weeks)
		Mon./Wed./April 21

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Wed./Jan. 9	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Oct. 29		*Nov. 26*
Mar. 10		*Mar. 17*
Jun. 16		*May 5*

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Tues. & Thurs.		*Begins: May 20*

***10.325 Labor Relations 1**

Purpose — This course is designed for people who are involved in or associated with labour relations either as a member of management or a union. People in the personnel field, shop stewards, supervisors, or managers will find the coverage of the collective bargaining process and day-to-day contract administration extremely useful.

Objective — The student can expect to approach his responsibilities in matters covered by a collective agreement with more confidence and expertise.

Outline — Through lectures, case discussions, and exchange with the group the course covers related laws, typical contract clauses, grievance procedure, responsibilities of the supervisor and the shop steward and current activities in the labor relations field.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10		
	Tues./Jan. 8	
Wed./Sept. 12		
Thurs./Sept. 13	*Thurs./Jan. 10*	
Sat./Sept. 15		
(9-12 noon)		

* Has Day School equivalency

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10		
	Thurs./Jan. 10	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		*Downtown*
The week Beginning		*The week Beginning*
Mar. 10		*Oct. 22*
Jun. 2		*Mar. 3*
		May 12

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Mon. & Wed.		*Begins: March 31*

***10.425 Labor Relations 2**

Purpose — A continuation of the studies begun in Labor Relations 1.

Objective — This course gives students a thorough understanding of the practical application of administering a collective agreement as well as negotiations and related procedures.

Outline — Having secured a good understanding of legislation and the principles of labor relations, the course now covers such topics as: administering the collective agreement, wage issues, economics supplements, arbitration, mediation, preparation for collective bargaining and techniques in collective bargaining.

Case studies, discussion groups and role playing techniques are used in these presenations.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Mon./Jan. 7	*Mon./March 31*
	Wed./Jan. 9	
	Thurs./Jan. 10	
	Sat./Jan. 12	
	(9-12 noon)	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Mon./Jan. 7	*(2 nights a week for 7 weeks)*
		Tues./Thurs./April 8

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Dec. 10		*Apr. 28*
Mar. 10		
Jun. 9		

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Tues. & Thurs.		*Begins: April 8*
Mon. & Wed.		*May 19*

10.530 Administrative Assistant/Executive Secretary 1

Purpose — This course is intended for secretaries and other office workers who wish to prepare themselve for increased responsibilities in a staff position such as administrative assistant or executive secretary. People now working in such a position can also benefit from this course by increasing their knowledge and skills in order to broaden the scope of the work they now perform.

Objective — A secretary/assistant is often an under-utilized member of the management team. Students completing this course can expect to increase their confidence in many areas and therefore be able to take more initiative in developing her own skills and taking on a wider range of administrative responsibilities.

Outline — Course content includes such topics as: the role of the secretary today, time management principles, expressing ideas (both speaking and writing), listening skills, handling criticism, and small group discussion skills. Student participation to develop communication skills and to share information and encouragement is stressed in this course.

AT B.C.I.T.

6:45-9:45 p.m. Term 1 *Mon./Sept. 10* *Wed./Sept. 12*	12 weeks (1 night a week) Term 2 *Wed./Jan. 9*	1.0 unit of credit $70 Term 3

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1 *Thurs./Sept. 13*	14 weeks (1 night a week) Term 2	1.0 unit of credit $70 Term 3

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m. At B.C.I.T. *The week Beginning* *Mar. 10* *Jun. 2*	Monday through Friday	1.0 unit of credit $70 Downtown *The week Beginning* *Oct. 22* *Feb. 11* *Apr. 14*

10.630 Administrative Assistant/Executive Secretary 2

Purpose — This course is designed for experienced secretaries and office workers who want to prepare themselves to accept increased supervisory and administrative duties.

Objective — Students having previously taken Administrative Assistant/Executive Secretary 1 will find this course provides a good opportunity to further practise communication skills in order to familiarize themselves with aspects of their work. Other prospective students with a good knowledge of communication skills can be accepted into the course with the consent of the instructor.

Outline — Course content includes such topics as: writing memos and short reports, public relations skills, interviewing, instructing and evaluating other employees, the role of the secretary in meetings, decision-making and problem solving. Written and oral communication skills will be developed through individual and group assignments that will relate to trends in office procedures. Skills necessary to work as part of a team will be especially stressed.

AT B.C.I.T.

6:45-9:45 p.m. Term 1	12 weeks (1 night a week) Term 2 *Mon./Jan. 7*	1.0 unit of credit $70 Term 3 *Mon./March 31*

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1	14 weeks (1 night a week) Term 2 *Thurs./Jan. 10*	1.0 unit of credit $70 Term 3

10.901 Salary Administration

Purpose — This 12-week presentation is for people who will benefit from a solid grounding in the fundamentals of salary administration.

Objective — On completion of the course the student should know the whys and hows of salary administration and have an introductory level knowledge and understanding of the techniques in this field.

Outline — Through lectures, discussions, case presentations and examples, this course will cover how to set up a plan, alternative methods of job evaluation, elements of a job description, administering a salary plan, establishing and maintaining salary schedules, the various types of general and specific adjustments for promotions, demotions, etc.

AT B.C.I.T.

6:45-9:45 p.m. Term 1 *Mon./Sept. 10*	12 weeks (1 night a week) Term 2 *Mon./Jan. 7*	1.0 unit of credit $70 Term 3

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1 *Thurs./Sept. 13*	14 weeks (1 night a week) Term 2 *Thurs./Jan. 10*	1.0 unit of credit $70 Term 3

10.904 Supervisory Skills

Purpose — New supervisors or aspirants for leadership responsibilities will find this course designed to meet their needs. It is applicable to people in large or small companies, institutions, Government departments, municipalities, or associations— wherever a supervisory situation exists.

Objectives — To provide knowledge and techniques which will enable the student to increase his confidence and capabilities as a leader. It also will prepare the student for more in-depth training in supervision and management.

Outline — Lectures, films, and case discussions are used to cover the needs of persons taking the first step into supervision. Included are such subjects as getting work done through others, handling grievances, delegation, work planning, and roles and relationships within an organization.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	
Wed./Sept. 12	*Wed./Jan. 9*	*Wed./April 9*
Thurs./Sept. 13	*Thurs./Jan. 10*	*Thurs./April 10*
Sat./Sept. 15	*Sat./Jan. 12*	
(9-12 noon)	*(9-12 noon)*	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
		(2 nights a week for 7 weeks)
Tues./Sept. 11	*Tues./Jan. 8*	
Thurs./Sept. 13		*Mon./Wed./April 21*

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Mar. 10		*Oct. 15*
Jun. 2		*Feb. 4*
Jun. 23		*Apr. 21*

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Mon. & Wed.		*Begins: Oct. 22*

10.910 Personnel Management

Purpose — This 12-week introductory course is designed for those who have recently joined personnel or industrial relations departments or who plan to enter the field. It is also valuable to supervisors and managers who must implement and are held accountable for administering personnel policies.

Objectives — On completion of the course, students can expect to have a good understanding of the role of the personnel function, its relation to management, its responsibility to employees, and what it does.

Outline — Through lectures, case studies, and audio/visual aids, all of the major functions of the personnel department will be examined, with particular emphasis placed on the practical application of personnel policies and procedures within the work environment. It includes such topics as employment wage and salary administration, administration of pension plans and insurances, employee relations, and other functions. These subjects are presented to show the breadth of these functions only and should be followed by supporting courses giving in-depth coverage on how to administer the various subject areas.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	
Tues./Sept. 11	*Tues./Jan. 8*	*Tues./April 8*
Thurs./Sept. 13	*Thurs./Jan. 10*	*Thurs./April 10*
Sat./Sept. 15	*Sat./Jan. 12*	
(9-12 noon)	*(9-12 noon)*	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Mar. 10		
Jun. 16		

10.913 Selection Interviewing

Purpose — This course is presented for people in the field of personnel, management, or supervisors, and anyone who is called upon to interview applicants for employment.

Objective — This highly important skill is seriously under-rated in most organizations. Students completing this course can be expected to make a more meaningful contribution to their organization through avoiding many pitfalls.

Outline — The course identifies techniques, styles, stages, uses, pitfalls, and key points in interviewing, with particular emphasis on questioning techniques and selective listening. The classes will lean heavily to practice sessions on closed circuit television. With this need for individual attention the class is limited to 20 students.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	*Mon./March 31*
Tues./Sept. 11	*Tues./Jan. 8*	*Tues./April 8*
Thurs./Sept. 13	*Thurs./Jan. 10*	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning* $70
Jun. 2		

10.914 Manpower Planning

Purpose — Members of a personnel department; training section, managers, supervisors, or people in a planning organization which involves "people resources" are those who will find this presentation very practical.

Objective — To give participants the philosophy and some of the techniques of maximising people potential in an organization.

Outline — Through lectures, group discussions, and case studies the instructor will lead the class to an understanding of the importance of Manpower Planning, methods of evaluating present resources, future projections, sources of supply, identifying training needs, related personnel policies, budgeting and costing, and program evaluation.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10		

10.954 Office Management

Purpose — This course is for new office supervisors or people anticipating a move into such a position.

Objective — To provide knowledge and techniques so office supervisors can approach their job with increased confidence.

Outline — Lectures, case studies and group discussions are used to cover such topics as: clarification of the role of this supervisor, planning of work, delegation, establishment of systems and organization of methods, control, training and development of employees, assessing performance, communications, etc.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	*Thurs./April 10*

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

NOTE— This course is not recommended for those students who have completed Supervisory Skills.

10.955 Management of Time

Purpose — This course is designed for people in administrative positions who wish to improve their performance on the job through more effective use of their time and still have time to enjoy living.

Objective — On completion of the course students will have acquired knowledge and skills in using the basic tools of time management and a framework in which to make better discussions and to effectively manage their responsibilities.

Outline — Through the use of films, lectures, assignments, discussions and direct application in individual work situations, as well as to personal life, a comprehensive analysis of time used and abused will furnish the student with a working knowledge of managing this resource.

Some of the topics will be: time robbers— cause and cure; planning, setting goals and priorities; creative time analysis; deciding what *not* to do; ending procrastination forever; rediscovering lost time; overcoming the "paper work" habit; myths about hard work; a manager's time inventory, etc.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

10.941 Concepts of Economics (formerly Basic Concepts of Economics)

Purpose — This course is designed to provide an overview of the key ideas of economics for those students whose careers do not require a working knowledge of the formal aspects of economic analysis. It elucidates the contribution which a relatively few key ideas of economic theory can make towards the understanding of contemporary economic issues.

Objective — To provide students with a framework of ideas which can be applied in other business courses and which can enhance the students' ability to critically assess the impact of government policies, legal constraints, and economic shocks upon the behaviour of business firms, employees; and upon the political process.

Outline — Lectures, case studies and discussion will be used to cover the topics of inflation, unemployment, money, banking, credit price information, legal constraints, industrial relations, crime and the economics of organizations. Emphasis shall be placed on the study of several key markets including; the housing market, financial market and the job market.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	*Thurs./April 10*

10.902 Small Business Management 1

Purpose — This course will assist people planning to embark on a small business venture. This can be either starting a new business or purchasing an existing operation.

Objective — Through developing a new business proposal in class, members of the group should be able to analyse systematically the feasibility of participating in a small business operation.

Outline — The subjects covered by lectures, case studies and general discussions will include prerequisites for success, financing, legal problems, credit, physical facilities, location, and layout planning, etc.

Operational tactics are covered in Part 2.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	
Wed./Sept. 12	*Wed./Jan. 9*	

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Mon. & Wed.		*Begins: March 31*

10.903 Small Business Management 2

Purpose — This course is designed for the manager or owner of a small business and for students who have completed Part 1 and wish to be exposed to operating techniques before embarking on a new business venture.

Objective — This segment of the two-part course will assist in planning, organizing, directing and controlling each of the key functional areas of a small business. It is designed to improve the effectiveness of the student in tackling his day-to-day business problems.

Outline — Subjects covered through lecture, case studies, films, and general discussion will include financial control, record-keeping, budgeting, forecasting, product and inventory control, pricing, sales promotion, staffing, and other functions pertinent to successful business operation.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

10.924 Management By Objectives

Purpose — This course is designed for supervisors, administrators, managers and specialists who wish to improve their knowledge of the planning process in management.

Objective — On completion of this course, students will have a good knowledge of the philosophy, practices and procedures commonly known as Management by Objectives.

Outline — Through lectures, discussion and group work, the class will cover; the case for planning relationship to strategic plans, identifying key areas, setting objectives, the management cycle and the styles of management in a climate appropriate to the process of managing by objectives.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning Jun. 2		

10.919 Labor Relations Research

Purpose — To give an insight into the information used in collective bargaining and arbitration. To familiarize students with survey techniques, statistical practices, case preparation, costing methods, pension plans, and how to present factual information in negotiations and hearings.

The course is designed primarily for people involved in preparing material for labour-management negotiations.

Objective — A student completing this course will *(a)* be able to prepare factual data for negotiations and will understand the information presented; *(b)* be able to cost wage, salary, and fringe-benefit proposals; *(c)* be familiar with sources of information; *(d)* have an understanding of research concepts.

Outline — The course emphasizes discussion following lectures and will employ mock bargaining to demonstrate the importance of emotional and political interference in the communication process. Guest speakers from labour and management will be invited to participate in lectures and discussions.

Prerequisite — Working experience in labor relations or have completed a course in labor relations.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Wed./Jan. 9	

10.950 Training Techniques

Purpose — This course is helpful to people with responsibility for training of personnel in business, industry, government, municipalities, and institutions. Members of a personnel department contemplating a training program and supervisors will be particularly interested.

Objective — On completion of these 12 weeks the student will have a good grounding in current training methodology techniques and aids.

Outline — Lectures, demonstrations, and practice sessions will cover such topics as learning theory, determining training needs, writing objectives, designing, training programs using outside resources and evaluation. Practice sessions will provide familiarity and skills in the effective use of visual aids.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	
Wed./Sept. 12	*Wed./Jan. 9*	*Wed./April 9*

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	

10.956 Canadian Local Government

Purpose — This course is designed to provide anyone interested in the local government process with an understanding of why local government exists, how it is organized and administered, what it is expected to achieve, some insights into the problems of making it responsive and accountable to the citizens, and a review of attempts to reform the system.

Objective — To give students a common background for further courses in municipal administration.

Outline — The course includes the background and rationale of local government, relationships to senior levels of government, forms of local government organization; representation and accountability, elections, duties and responsibilities of elected officials, committees of council, special interest groups, metropolitan and regional government problems of divided and overlapping jurisdictions such as school boards and police commissions, a review of examples of municipal reform in Canada and elsewhere.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

10.957 Municipal Law

Purpose — In addition to providing the student with an overview of the B.C. Municipal Act and other provincial statutes governing local government activities, the course will cover those areas of administrative law, constitutional law and contract law, in so far as they impact upon municipal administrative practice.

Objective — To give students the basics of the law as it applies to the operation and management of municipalities of B.C.

Outline — This course includes the development of a working knowledge of the B.C. Municipal Act, municipal powers and duties, municipal councils, elections, by-laws, acquisition and disposal of land, contracts and franchises, revenues, assessment and taxation, actions by and against municipal government, B.C. statutes and case law relating to the principal services provided by municipal authorities.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	

*10.135 Economics 1-Micro

Purpose — This course is designed to improve managerial skills by providing a basic understanding of how the market place functions. It supplies background for other B.C.I.T. courses and is accepted by various associations such as the Institute of Chartered Accountants for students in such programs.

Objective — On completion the student has increased his understanding of the anatomy and physiology of the economy and the interaction of individual components to the interdependent economy.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Mon./Jan. 7	
Tues./Sept. 11		
Wed./Sept. 12		

*10.235 Economics 2-Macro

Purpose — A continuation of the study of principles of Economics begun in Economics 1.

Objective — The student should have a good understanding of how and why the economy works as it does.

Outline — Topics covered are: wages, employment, unemployment, competition, profits, consumer behaviour, change theory, supply and demand, price discrimination, speculation, price setting behaviours, interest, production theory, etc.

AT B.C.I.T.

6:45-9:45 p.m.	18 weeks (1 night a week)	1.5 unit of credit $105
Term 1	Term 2	Term 3
	Tues./Jan. 8	
	Wed./Jan. 9	

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	9 weeks (2 nights a week)	1.5 unit of credit $105
Tues. & Thurs.		*Begins: April 8*

*10.240 Government and Business

Purpose — This basic course will be particularly helpful to persons seeking a career in the Federal, Provincial or Municipal levels of Government for business people who need to understand the kind, extent and reasons for government involvement in business.

Objective — To give the student a good understanding of the practical aspects of government interaction with business.

Outline — Through lectures, group discussions and selected readings the class will explore: federal, provincial and municipal government in the regulation and support of business enterprises in Canada; government policy toward monopoly and combines control; legislation and regulations in such areas as banking, broadcasting, transportation, labour, consumer protection, etc.: support programs of various types for economic development; taxation, licensing, marketing boards, etc.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

*10.340 Government and Politics in Canada 1

Purpose — The course is designed for those who wish to have a better understanding of the process of government in the Canadian milieu, and to give individuals who are already in the public service but who have had no formal training an overall view of the policy process at all four levels of government.

Objective — To relate the course material to the policy process, and thus, with every topic covered, the focus will be "what has this to do with the making of public policy in Canada?"

Outline — The course emphasizes the process of government and politics. It deals with the political parties, interest groups and bureaucracy at all four levels of government. A portion of the course is devoted to the Canadian constitution and federalism.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10		

* Has Day School equivalency

***10.440 Government and Politics in Canada 2**

Purpose — A continuation of the studies begun in Part 1.

Objective — To continue the examination of how governments in Canada function.

Outline — This part of the studies will concentrate on policy making process and how the public, bureaucracy and elected officials contributed to governmental policies.

AT B.C.I.T.

6:45-9:45 p.m. Term 1	12 weeks (1 night a week) Term 2 *Mon./Jan. 7*	1.0 unit of credit $70 Term 3

***10.360 Business Law 1**

Purpose — This course is designed as familiarization for students who will benefit from a general coverage of commercial law or those requiring the fundamentals to proceed to the more advanced studies outlined in 10.460 Business Law.

Objective — Students who attend this course will acquire a broad understanding of the principles of law.

Outline — The course consists of reading assignments, lectures based on the readings, and case study.

About half of the course will deal with contract law. Other topics covered will be jurisprudence, organization of courts, a brief discussion of tort law, along with a brief study of constitutional law.

AT B.C.I.T.

6:45-9:45 p.m. Term 1 *Wed./Sept. 12* *Thurs./Sept. 13* *Sat./Sept. 15* *(9-12) noon*	12 weeks (1 night a week) Term 2 *Wed./Jan. 9*	1.0 unit of credit $70 Term 3

DOWNTOWN CAMPUS (see page 31)

5:00 p.m.-7:15 p.m. Term 1 *Mon./Sept. 10*	14 weeks (1 night a week) Term 2 *Tues./Jan. 8*	1.0 unit of credit $70 Term 3

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m. At B.C.I.T. *The week Beginning* *Jun. 16*	Monday through Friday	1.0 unit of credit $70 Downtown *The week Beginning* *XXX*

***10.460 Business Law 2**

Purpose — This second part of the 24 week course will give students carrying on from 10.360 a considerably greater depth of knowledge of commercial law.

Objective — Upon completion of this course students will have a better understanding of contracts, mortgages, real property law, and company law; they will be able to deal more effectively with lawyers and be better able to handle many of their own affairs. Finally, completion of this course will enable students to determine specifically what legal problems should be turned over to a lawyer.

Outline — This course consists of reading assignments, lectures based on readings and case study. Topics of study include Canadian mercantile law; the law of contracts and subject involved with guarantee, agency, employment, mechanics' and wage-earners' liens, sale of goods, bailment, corporations, partnerships, bankruptcy, real property, mortgages, landlord and tenant, negotiable instrument, insurance, banks and banking torts, crimes, marriage, and constitutional law.

AT B.C.I.T.

6:45-9:45 p.m. Term 1	12 weeks (1 night a week) Term 2 *Wed./Jan. 9* *Thurs./Jan. 10* *Sat./Jan. 12* *(9-12 noon)*	1.0 unit of credit $70 Term 3 *Wed./April 9*

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1	14 weeks (1 night a week) Term 2 *Mon./Jan. 7*	1.0 unit of credit $70 Term 3 *(2 nights a week for 7 weeks)* *Tues./Thurs./April 8*

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m. At B.C.I.T. *The week Beginning:* *June 23*	Monday through Friday	1.0 unit of credit $70

10.905 Managerial Styles

Purpose: — This is a practical course designed for people with leadership responsibility as supervisors or managers, or for students who have taken other courses and wish a better understanding of the "people aspects" in management.

Objective — Students completing this course should have a better knowledge and appreciation of the theory and practices of management. The course will also assist them in developing a productive management style.

Outline — Starting with the roles and relationships of a manager, the course through lectures, case studies, films and discussion groups provides a practical application of management psychology, a good examination of how accepted thoeries may be applied in differing situations and the implications for organizational behavior and development.

Prerequisite — Students should have a working experience in leadership situation and preferably have completed Management in Industry and Management Psychology.

AT B.C.I.T.

6:45-9:45 p.m. Term 1 *Wed./Sept. 12*	12 weeks (1 night a week) Term 2 *Wed./Jan. 9*	1.0 unit of credit $70 Term 3 *Wed./April 9*

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1 *Tues./Sept. 11*	14 weeks (1 night a week) Term 2 *Tues./Jan. 8*	1.0 unit of credit $70 Term 3

* Has Day School equivalency.

*10.906 Organizational Behavior

Purpose — This course is ideally suited for students who have completed Management Psychology 1 and who are either members or leaders in a work team.

Objective — To provide a better knowledge and appreciation of organizational design and dynamics and to understand theories and practices related to improving the effectiveness of people within a group and of groups working together.

Outline — Through lectures, films, discussion groups and case studies the class will examine social systems at work, developing a behavioural climate participation, managing change, conflict in groups and the development of teamwork through group dynamics.

Prerequisite — Management Psychology 1 or similar training acceptable to the Programme Consultant.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Tues./Jan. 8	
Wed./Sept. 12		*Wed./April 9*
	Thurs./Jan. 10	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Wed./Jan. 9	*(2 nights a week for 7 weeks)*
		Mon./Wed./April 21

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Mar. 10		*Apr. 21*
Jun. 16		

AT B.C.I.T.-TWO NIGHTS A WEEK

6:45-9:45 p.m.	6 weeks (2 nights a week)	1.0 unit of credit $70
Tues. & Thurs.		*Begins: April 8*

10.907 Discussion Leadership

Purpose — This course is designed for anyone who gets involved in a discussion leadership situation, whether formal or informal— supervisors, managers, group leaders, association representatives, union leaders, etc. It is aimed principally at the problem-solving situation.

Objective — Persons completing this course will gain confidence and skill in getting the most out of an exchange within a group, a meeting, or a more formal conference.

Outline — Through lectures, demonstrations, and critiqued practice sessions the instructor will lead the group through the kinds of meetings for various situations, planning techniques, introducing the subject, question techniques, controlling the discussion, ensuring participation, summarizing, fixing responsibility, and ensuring follow-up action.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	*Mon./March 31*

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	

10.908 Problem Solving and Decision Making

Purpose — This course is intended for anyone in developing skills in problem-solving and decision-making through the use of systematic techniques and processes.

Objective — Persons completing this course will be able to apply a range of techniques to problems and decisions they face that will assist them in achieving a more satisfactory resolution.

Outline — Through lectures, demonstrations, critiqued practice sessions, and actual applications, this course will clarify the common elements of problem situations and examine a variety of techniques and processes intended to make the problem-solver more effective. The course is concerned with practical, general-purpose methods rather than sophisticated quantitative ones.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	*Thurs./April 10*

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Tues./Jan. 8	

10.915 Testing

Purpose — For personnel selection and career planning. This basic course is designed to assist persons in personnel departments and administration departments in industry, business, hospitals, and education where selection and development of personnel is of concern. Supervisors, managers, and counsellors will find useful this practical orientation to the proper use of psychology tests. BCIT students who have completed 10.913 Selection Interviewing will find this Aptitude Testing course particularly supportive and appropriate.

Objectives — Satisfactory completion of this course should enable the participants to (1) understand the proper use of aptitude tests, their administration, scoring, and norms, and straightforward interpretation of Level A tests; (2) avoid unintentional abuse of tests and the data derived; (3) appreciate when professional guidance and assistance are needed in a testing programme and how to use supplementary analysis and reports from an industrial psychologist.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 2	Term 2	Term 3
Wed./Sept. 12		

---

* Has Day School equivalency

10.916 Counselling 1 (formerly Communication 1-Skills)

Purpose — To demonstrate that communication skills can be learned and that through training everyone can learn to become a more effective communicator.

Objective — The instructional method focuses on learning to descriminate various levels of communication. This is accomplished through lectures, listening, observing and actual practising.

Outline — The discrimination training will focus on empathy, respect, genuineness, concreteness, self-disclosure and confrontation. Audio Video tape recordings, typescripts and live interaction will be used to develop effective ratings. Role-playing and observer feed-back are essential aspects in this developmental training.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	*Tues./April 8*

10.917 Counselling 2 (formerly Communication 2-Models)

Purpose — To develop an awareness and basic understanding of a number of current models employed in communication and counselling.

Objective — The course participants will examine various applied communication models to recognize their differences, to see how these models can be applied and when a specific model seems appropriate to use.

Outline — A broad range of models such as: Behavior Modification; reality therapy; transactional analysis; rational-emotive therapy; client-centered and others will be studied.

Lectures, films, discussion and live class participation will be used to demonstrate the application of the various models.

Prerequisite — Counselling 1

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	*Thurs./April 10*

10.918 Occupational Safety and Health (formerly Accident Prevention)

Purpose — This course is for anyone who has responsibilities for occupational safety and health in an industrial setting. Managers, supervisors, shop stewards, safety committee members, or members of the Industrial Relations or Personnel Department will find this presentation of practical value.

Objective — On completion of this course, the participants should be in a position to make a meaningful contribution to the reduction of injuries and accident costs in their operation(s).

Outline — Through lectures, films, and case discussions, the course will cover the important aspects of occupational safety and health, including the Worker's Compensation Act, Factories Act, rules and regulations, types of organization structure, the role of the committee, creating a "thinking" state of mind, promotional approaches, effective use of statistics, the pros and cons of reward systems, union/management cooperation, industrial hygiene, and other ways and means of getting this important job done.

This course is conducted by the British Columbia Safety Council for the British Columbia Institute of Technology.

AT B.C.I.T.

6:45-9:45 p.m.	12 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

10.331 Principles of Property Management (moved to the Marketing Management Technology)

10.925 Appraising Real Property-SREA-Introduction (moved to the Marketing Management Technology)

10.940 Special Project

Purpose — This opportunity is offered to give advanced level B.C.I.T. Continuing Education students the opportunity to do an independent, in-depth study of an area of interest in the business management field under the guidance of an instructor.

Objective — In this project students will be able to take a real "live" problem or situation that they face in their work and tackle it with the guidance of an "expert" in the field. The specific objectives of the project will be set by the student himself.

Outline — If a student is interested in pursuing this avenue of study, he should approach a Program Consultant for assistance in putting forth his proposal for the project.

Unit — This course may be taken for one or two units of credit.

Fee — Calculated on basis of the project.

ADMINISTRATIVE MANAGEMENT TECHNOLOGY

BCIT is please to co-operate with the Canadian Institute of Management in presenting the following courses *for C.I.M. Members.*

For further information see the C.I.M. information page and the Certificate program outline on page 39

C.I.M. unit credits may be applied to BCIT Certificate Programs.

The fees quoted are BCIT instructional fees and do not include C.I.M. membership.

Year 1

10.970 Canadian Business Concepts— C.I.M.

This course provides an overview of Canadian business and the various environmental factors, both internal and external which affect the operation of a business. Specific areas such as personnel, production, marketing and finance will be examined in order to expose the student to the total organization and to how the other departments relate to the area in which he is currently involved. Management itself is examined in relationship to what is normally considered to be the functions of Management (planning, organizing, staffing, directing and controlling) as well as to the various leadership styles. Managing in both unionized and non unionized organizations will be discussed.

On completion of this course, students will have become aware of the interactive nature of organizations and will understand the importance of their studying in the areas of economics, law, inter-personal behavior, marketing, organizational behavior, management information systems, job design and accounting, as they prepare themselves to carry increased responsibilities as managers.

Monday: 6:45-9:45 p.m. *Begins:* Sept. 10
Term 1 (12 weeks) *Unit:* 1.0 $70

10.971 Managerial Accounting— C.I.M.

Managerial Accounting exposes the student to accounting theory and logic, cost control and profit planning, and an appreciation of the techniques of financial analysis.

Accounting theory and logic deals with relatively simple financial statements, how to read and understand them. The student is not expected to prepare financial statements.

Accounting for cost control and profit planning explores the management tools provided through the accounting information systems: standard cost accounting, budgetary control, and cost/volume/profit relationships. This section of the course is expected to give the student an appreciation of the benefits to be gained from a sound financial information system.

Emphasis through the Managerial Accounting course is placed on the interpretation, analysis and use of accounting data. The mechanics of bookkeeping and techniques of producing accounting data are not considered to be relevant to the objectives of the C.I.M. course, and are therefore not covered.

Monday: 6:45-9:45 p.m. *Begins:* Jan. 7
Term 2 (12 weeks) *Unit:* 1.0 $70

Year 2

10.978 Canadian Business Law

This course provides an overview of Canadian Business Law to give the prospective manager an understanding of the facets of commercial law that are considered to be relevant to his future role.

Topics of study include contract law, jurisprudence, organization of courts, tort law, subjects involved with guarantee agency, employment mechanics, liens, sale of goods, bailment, corporation, and bankruptcy, etc. Students will acquire a broad understanding of the principles of business law and will be able to determine specifically what legal problems should be turned over to an attorney.

Monday: 6:45-9:45 p.m. *Begins:* Sept. 10
Term 1 (12 weeks) *Unit:* 1.0 $70

10.973 Organizational and Human Behavior— C.I.M.

Organizational and Human Behavior will explore the inter-relationship of individual personality and work, the characteristics of organizations and occupation and relationships of the first two factors to the business and economic dimensions of society.

Included as part of the major areas of discussion are the structure of the organization in relation to the goals of the organization, integration of the reward system and the objectives of the organization, the management of communication, and the dynamics of groups.

Monday: 6:45-9:45 p.m. *Begins:* Jan. 7
Term 2 (12 weeks) *Unit:* 1.0 $70

Year 3

10.974 Marketing— C.I.M.

This course is designed to introduce the student to the "Systems" idea of the marketing concept as practiced in marketing management. It will assist the student to develop a functional judgment of the role each of the controllable variables plays in the marketing mix. Furthermore, the course coverage is designed to give breadth of understanding and appreciation rather than depth.

Upon completion of this course the student will: understand the nature, purpose and process of marketing, its importance to Canadian economy, and to the individual firm; learn to identify and solve marketing problems in general terms; learn to evaluate the marketing mix of a firm.

Monday: 6:45-9:45 p.m. *Begins:* Sept. 10
Term 1 (12 weeks) *Unit:* 1.0 $70

10.975 Operations Management

This course is designed to give the student a broad familiarity with the field of operations management and a comprehensive appreciation of some of the problems faced by different types of enterprises (private and public) in the management of their productive systems.

Upon completion of this course, the student will: understand the nature, purpose and processes associated with operations management; its relevance to facilities design, operations planning and control to the individual firm; learn to identify and solve operational problems in general terms; learn to evaluate the systems approach to operations management.

Monday: 6:45-9:45 p.m. *Begins:* Jan. 7
Term 2 (12 weeks) *Unit:* 1.0 $70

Year 4

10.976 Finance— C.I.M.

This course is designed to enable candidates to: 1) Acquire a "general management" perspective through the application and integration of the material studied in the first three and a half years of the course to the analysis of complex business problems of the type encountered at the "general management" level. 2) Exchange views, attitudes and experiences with other course candidates and through a discussion of actual case histories, to develop individual and group administrative abilities and the capacity to express ideas coherently in both spoken and written form.

Case histories in financial management are selected to illustrate the wide range of problems which develop in the financing of a business. Particular attention is given to techniques such as cash flow, source and application of funds, budgeting, short and long term funding including the many sources of credit and some exposure to financial analysis of new business opportunities. Borrowing is examined from both the borrower and lender point of view. Finally, attention is given to interpretation of financial statements as a prelude to policy formulation cases which integrate financial analysis with a study of all other aspects of a business.

Monday: 6:45-9:45 p.m. *Begins:* Sept. 10
Term 1 (12 weeks) *Unit:* 1.0 $70

10.977 Policy and Administration— C.I.M.

This course is designed to enable candidates to: 1) Acquire a "general management" perspective through the application and integration of the material studied in the first three and a half years of the course to the analysis of complex business problems of the type encountered at the "general management" level. 2) Exchange views, attitudes and experiences with other course candidates and through a discussion of actual case histories to develop individual and group administrative abilities and the capacity to express ideas coherently in both spoken and written form.

Case histories in policy formulation are designed to expose the student to a wide range of business problems involving the examination of a company's opportunities, competence, aspirations and responsibilities. The student is then expected to assess the objectives of the company, develop a strategy for achieving them and point the way toward organizing to get the job done. In the beginning to deal with these "over all" problems, he begins to see how the individual parts of the company (accounting, engineering, production, marketing, administrative organization, people, etc) have to be coordinated and integrated if the company is to achieve profits.

Monday: 6:45-9:45 p.m. *Begins:* Jan. 7
Term 2 (12 weeks) *Unit:* 1.0 $70

BROADCAST COMMUNICATIONS TECHNOLOGY

Certificate Program in Broadcast Communications

Students seeking a Certificate in Broadcast Communications should be prepared to complete a minimum of 10 units in Broadcast subjects plus an additional five units from Broadcast or other Business courses. At least two courses in each of the Radio, Television, and Broadcast Journalism areas must be included in the 10 units.

STUDENTS COMPLETING 24 UNITS AND WHO MEET THE NORMAL ENTRY REQUIREMENTS MAY ENTER THE SECOND YEAR OF THE DAY SCHOOL PROGRAM PROVIDING THESE UNITS INCLUDE 2 OF THE THREE ADVANCED COURSES 12.511/611 RADIO, 12.512/612 TELEVISION OR 12.513/613 BROADCAST JOURNALISM, 2 APPROVED COURSES IN BUSINESS ADMINISTRATION AND 2 APPROVED COURSES IN ENGLISH AND 12.510/610 INDUSTRY ORGANIZATION.

All applications for entry to Broadcast Communications courses must be approved by a Program Consultant or a member of the Broadcast staff. Program Consultants are available during the day and evenings during the office hours specified on *page 21* Consultation with a member of the Broadcast Communications staff is available each Monday evening at 5:00 p.m. in room 129 commencing August 13, 1979 to June 16, 1980 excluding holidays.

12.901 Radio Broadcasting — Introduction

Purpose — This course is for people keenly interested in Radio Broadcasting as a career and for people currently employed in non-broadcast positions in the industry who are interested in moving in to the actual broadcast area of a Radio Station.

Objective — The intent of this course is to provide students with a basic background knowledge of the radio broadcasting industry, through extensive theoretical instruction and practical experience. This course (or industry experience) is a pre-requisite for the intensive radio course Radio 511/611.

Outline — The course introduces the student to broadcast radio equipment and its use in practical industry situations.

Monday: 6:45-9:45 p.m. or	Sept. 10 or
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $80
Special fee (see page 22)	

Begins Again:

Monday: 6:45-9:45 p.m. or	Jan. 7 or
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $80
Special fee (see page 22)	

Begins Again:

Monday: 6:45-9:45 p.m. or	March 31 or
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	*Unit:* 1.0 $80
Special fee (see page 22)	

Enrollment limited to 23

12.902 Television Broadcasting — Introduction

Purpose — This course is designed for persons in the industry, working in non-program areas or those outside the field who will benefit from knowing more of the "how" and "why" of television.

Objective — On completion of this course students will have an elementary knowledge of television production techniques.

Outline — The course material includes an introduction to all commonly used television equipment and includes some practice in its use. A television production is the ultimate goal of this course.

Tuesday: 6:45-9:45 p.m. or	Sept. 11 or
Thursday: 6:45-9:45 p.m.	*Sept. 13*
Term 1 (12 weeks)	*Unit:* 1.0 $95
Special fee (see page 22)	

Begins Again:

Tuesday: 6:45-9:45 p.m. or	Jan. 8 or
Thursday: 6:45-9:45 p.m.	Jan. 10
Term (12 weeks)	*Unit:* 1.0 $95
Special fee (see page 22)	

Begins Again:

Tuesday: 6:45-9:45 p.m. or	Apr. 8 or
Thursday: 6:45-9:45 p.m.	Apr. 10
Term 3 (12 weeks)	*Unit:* 1.0 $95
Special fee (see page 22)	

Enrollment limited to 22 persons

12.903 Film for Beginners

Purpose — People with an interest in cinematography or with limited experience are invited to participate.

Objective — To provide an introduction to the basics of professional film-making including scripting, equipment operation, and filming techniques.

Outline — In discussion and workshops, the course material will cover optical and magnetic sounds, animation, special effects, lighting, and editing.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $90
Special fee (see page 22)

Begins Again:
Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (12 weeks) — *Unit:* 1.0 $90
Special fee (see page 22)

Begins Again:
Thursday: 6:45-9:45 p.m. — April 10
Term 3 (12 weeks) — *Unit:* 1.0 $90
Special fee (see page 22)

12.905 Copywriting — Radio and T.V.

Purpose — This course is ideal for non-production or writing employees in the broadcast industry looking for a move to this area or for any person wishing to know "how it's done."

Objective — To improve the student's technique in selling.

Outline — The course will cover the "how's" and "why's" of writing radio and T.V. commericals with considerable practice and evaluation.

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. — April 9
Term 3 (12 weeks) — *Unit:* 1.0 $70

12.908 Broadcast News Writing

Purpose — To aid those in the news field who wish to develop additional skills, those with a general interest fn the field, and employees in the broadcast industry who wish to add news to their present skills.

Objectives — Students can expect to improve their oral and visual newswriting skills.

Outline — The course covers the techniques and skills used in writing news for radio and television. Practical demonstration, assignments, and practice sessions will be used to develop these skills.

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (12 weeks) — *Units:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. — April 9
Term 3 (12 weeks) — *Unit:* 1.0 $70

12.912 Radio and Television Announcing

Purpose — To provide students with introductory skills and practice in this important function.

Objective — To improve presentation, articulation, and familiarity with basic announcing skills.

Outline — Students will be exposed to several styles of announcing techniques and will be given sufficient time for practice.

Prerequisite: A voice audition may be required.

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. — April 9
Term 3 (12 weeks) — *Unit:* 1.0 $70

Limited enrollment-22 persons.

12.913 Broadcast Journalism — Introduction

Purpose — This course provides a basic introduction to all aspects of news operations in the Broadcast Industry.

Objective — On completion of the course students will have sufficient knowledge of the subject to proceed to 12.513/613.

Outline — The course content includes reporting, presentation and content of radio and TV news.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Tuesday: 6:45-9:45 p.m. — April 8
Term 3 (12 weeks) — *Unit:* 1.0 $70

Limited enrollment-22 persons.

12.510/610 Industry Organization

Purpose — This presentation is for students who are now in the Broadcast field and are seeking advancement, for students in the Certificate Program or for anyone planning to enter the 2nd year Day School Broadcast Communications Technology.

Objective — To give the students in Broadcast a firm grounding in the complex rules and regulations, and structure of the Broadcast Industry. This course will require one major term paper plus term examinations.

Outline — Beginning with the background historically of Broadcasting in Canada, the student will be given detail in all regulations and laws governing Broadcasting in Canada. In addition, structure of the Radio and Television Industry in Canada will be studied in some depth.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Unit:* 1.0 $70

12.511 Radio Advanced 1

Purpose — The intent of the course is to equip the student with an in-depth knowledge of the operation of a radio station and the function of the equipment found in a station.

Objective — This course is the first term of a two-term course. The completion of the whole course provides the student with the knowledge gained in the Radio Production course taught in day school first year.

Outline — The course meets two nights per week, four hours per night, for twenty-four weeks. In the first part of the course, much information on the operation of a radio station and its

equipment will be taught. Some practical work will be encountered. The second part of the course, 12.611 will place more emphasis on "putting into practice" the information passed on in first term. In the latter part of the course some of the classes will be rescheduled to weekends, where extended hours will be available for practical simulated radio station operations.

Prerequisite: Successful completion of Radio-Basic (12.901) or relevant experience. A basic understanding of the operation of equipment is necessary. Other suggested courses are Radio Announcing (12.912) and Copywriting-Radio and T.V. (12.915).

Tues. & Wed. 6:45-10:45 p.m. — Jan. 8
Term 1 (12 weeks) — *Units:* 2.5 $255
Special fee (see page 22)

12.611 Radio Advanced 2

Purpose — This course is the second term of a two-term course. The completion of this term provides the student with the Radio Production knowledge taught in the first-year of day school. In this second term, an emphasis is placed on practical work.

Objective — Much new knowledge will be passed on to the student in this term, but more emphasis will be placed on putting into practice the knowledge gained in term one.

Outline — In the latter part of the course, some of the classes will be rescheduled to weekends to allow extended hours of operation. Students will operate extended (six-hour) station operation simulations. Full critiques and evaluations will be held on each simulation.

Prerequisite: Successful completion of 12.511-Radio Advanced 1.

NOTE — Students who successfully complete both courses, 12.511/611 and who complete other course requirements may qualify to enter the day program at the second year level as stated at the beginning of the Broadcast Technology section.

Tues. & Wed. 6:45-10:45 p.m. — Apr. 8
Term 2 (12 weeks) — *Units:* 3.0 $255
Special fee (see page 22)

12.512 Television — Advanced 1

Purpose — Designed for the student who is unable to attend the day program in Television, this intensive course will equip the student to enter the second year day program.

Objective — Meeting twice per week for four hours per evening, the students in this course will cover complex television equipment and systems.

Outline — The lectures will focus on detailed technical explanations of television production equipment. This instruction will be followed up with practical operation of an "on Air" T.V. facility and the production of commercial and information programs.

Prerequisite: Successful completion of Television Broadcasting-Introduction (12.902) or equivalent experience.

Mon. & Wed. 6:45-10:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Units:* 2.5 $255
Special fee (see page 22)

12.612 Television — Advanced 2

Purpose — Designed for the student who is unable to attend the day program in Television, this intensive course will equip the student to enter the second year day program in Television.

Objective — Meeting twice per week for four hours per evening, the students in this course will complete the coverage of TV equipment systems and concentrate on the preparation and production of "Broadcast Standard" commercials and programs.

Outline — The above will be included in the Broadcast Logs of their "On Air" TV Station. In the last four weeks of the course, there will be no lectures to allow for extended "On Air" operations.

Prerequisite: Successful completion of 12.512.

NOTE — A student who passes successfully the 12.512/612 radio program and completes the other course requirements, may qualify to enter the day Television program at the second year level.

Mon. & Wed. 6:45-10:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Units:* 3.0 $255
Special fee (see page 22)

12.513 Broadcast Journalism — Advanced 1

Purpose — Designed for the student who is unable to attend the day program in Broadcast Journalism, this intensive course will equip the student to enter the second year day program or to conclude journalism studies at the first year competence level together with 12.613.

Objective — Meeting twice per week for four hours per evening, the students in this course will operate and staff a radio and a television news operation.

Outline — The student will receive a critique of the work done on each occasion. During the term, both media (radio and television) and both types of news work (inside desk duties and outside reporting tasks) will be assigned to each student in turn.

Prerequisite: Successful completion of 12.913 (Broadcast Journalism-Introduction), 12.904 (Television News Photography), 12.908 (Broadcast News Writing), 12.912 (Radio and Television Announcing), 12.510/610 (Industry Organization), Radio-Introduction (12.901, and Television-Introduction (12.902) are strongly recommended courses to be taken prior to enrollment in 12.513.

Tues. & Thurs. 6:45-10:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Units:* 2.5 $255
Special fee (see page 22)

12.613 Broadcast Journalism — Advanced 2

Purpose — Designed for the student who is unable to attend the day program in Broadcast Journalism, this intensive course should equip the student to enter the second year day program or to conclude journalism studies at the first year competence level.

Objective — The students in this course will operate and staff a radio and television news operation.

Outline — Continuing with the "news lab" newsroom production schedule of the previous term, the student will spend two evenings per week, for four hours per time, in reporting and editorial functions.

Prerequisite: Successful completion of 12.513 — Broadcast Journalism — Advanced 1.

NOTE — A student who passes successfuly the 12.513/613 Broadcast Journalism and completes the other course requirements may qualify to enter the day program at the second year level.

Tues. & Thurs. 6:45-10:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Units:* 3.0 $255
Special fee (see page 22)

COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

Business Certificate in Computer Programming and Systems Technology

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

Students should also note that the basic Certificate is not the equivalent of the National Diploma of Technology which graduates from the full-time (two year) day program receive.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Data Processing — Introduction (14.050)	1.0	Computer Programming — Assembler I (14.902)	1.0	Elective	1.0
Accounting 1 (16.140)	1.0	Accounting 2 (16.240)	1.5	*or*	
Year 2					
Computer Programming — Assembler II (14.903)	1.0	Computer Programming — "High Level" language (see list below)	1.0	Computer Programming "High Level" language (see list below)	1.0
Elective	1.0	Elective	1.0	Elective	1.0
				or	
Year 3					
Computer System Introduction (14.505)	1.0	Computer Systems — Introduction (14.605)	1.0	Computer Programming "High Level" language (see list below)	1.0
or		*or*			
Computer Systems Development (14.515)	1.0	Computer Systems Development (14.615)	1.0		
Computer Programming "High-Level" language (see list below)	1.0	Elective	1.5		

The specified courses shown above (i.e., other than electives) are normally required for the basic Certificate. Elective courses may be selected from the list shown on the following page. *Two units of "high level" languages are required.* These units may be selected, in any combination, from the following list:

14.503	Computer Programming PL/1	1.0
14.603	Computer Programming PL/1	1.0
14.909	Fortran IV Basic	1.0
14.913	Fortran IV Intermediate	1.0
14.917	Fortran IV Advanced	1.0
14.919	Basic-Interactive Programming I	1.0
14.920	Basic-Interactive Programming II	1.0
14.923	Computer Programming-Introductory COBOL	1.0
14.924	Computer Programming-Advanced COBOL	1.0
14.927	RPG II — Introduction	1.0

At least six units (including Accounting) must be non-computer courses. A total of 15 units are required for the basic Certificate.

Students working on a high level certificate such as the Senior Business Certificate should choose not more than 50% of their courses from non-computer electives.

Note:

1. Students with a university degree or graduates from B.C.I.T. with a National Diploma of Technology may receive a Special Certificate by taking 15 units of further part-time studies (see *page 25*).
2. Students with programming experience or managerial experience in a business environment should consider taking the Computer Systems Development course (14.515/615) instead of the Computer Systems Introduction course (14.505/605). For clarification, read the course descriptions in the calendar and contact the Technology Coordinator, Computer Programming and Systems Technology.
3. The sequence of the courses shown above is not mandatory, students may alter the sequence to suit their needs.

Electives — Courses which may be used as electives or substitutes where appropriate for Certificate Programs in the Computer Programming and Systems Technology.

Selections should be approved in advance in writing by a Program Consultant to ensure that they are appropriate and will be accepted as an elective or substitute.

1. Any course listed in the Computer Programming and Systems Technology
2. Such courses as:

10.131	Management in Industry 1	1.0
10.232	Management in Industry 2	1.0
10.135/235	Economics 1 and 2	2.5
10.905	Managerial Styles	1.0
16.341/441	Cost Accounting 1 and 2	2.5
16.347/447	Financial Accounting 1 and 2	2.5
20.914	General Marketing	1.0
20.502/602	Oral Communications and Public Speaking 1 and 2	2.5
22.535/635	Statistics for Business and Industry 1 and 2	2.0
22.941	Work Study 1	1.0
22.942	Work Study 2	1.5
22.951	Systems Analysis	1.0
22.953	Project Planning and Scheduling	1.0
22.963	Mathematics for Management	1.5
31.910	Business and Technical Correspondence	1.0
31.912	Business Report Writing	1.0
43.507/607	Digital Techniques	2.0

Other courses in the Business Management Technologies may be selected with approval of the Program Consultant. In selecting electives, students are advised to read the current calendar and determine what courses they feel would be appropriate for their certificate program.

STUDENTS WHO ARE CLAIMING EQUIVALENT EXPERIENCE OR COURSES INSTEAD OF PREREQUISITES SHOULD BRING THEIR PROOF TO THE FIRST NIGHT OF CLASS

COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

In addition to the regular part-time courses listed on the following pages, the Computer Programming and Systems Technology also offers part-time courses in the following two areas:

1. SUMMER SCHOOL

Commencing June 4, 1979 courses will be available during the summer from June through to August. Most courses will be offered in a one week (Monday to Friday) basis and will have the equivalency of one (1.0) unit of credit. Students are advised

to check with the Continuing Education office to obtain up-to-date information on the latest course offerings.

2. MANAGEMENT SEMINARS

Two seminars at present are being offered on a regular basis. Both are offered in a two day format and are scheduled to be held at the Four Seasons Hotel in downtown Vancouver. These seminars are:

Word Processing and Office Automation (see below for a list of 1979 summer dates).

This is a seminar for individuals who wish to install or upgrade work processing systems. The course includes a completed presentation of work processing concepts, equipment and feature. Attendees will learn how to evaluate, select and implement WP systems appropriate for their organizations. Sessions on related technologies will provide a practical understanding of office automation, for users who want to expand the functions of their systems.

Evaluating and Selecting Business Mini Computers (see below for a list of 1979 summer dates).

This seminar is designed for individuals who are considering the acquisition of a small business computer. The material presented will provide attendees with sufficient knowledge about hardware, software, and implementation technicalities to make a sound and objective selection from a number of alternatives.

DATES	COURSE
June 7 and 8	Evaluating and Selecting Business Mini Computers
June 21 and 22	Evaluating and Selecting Business Mini Computers
June 28 and 29	Word Processing and Office Automation
August 30 and 31	Evaluating and Selecting Business Mini Computers
December 6 and 7	Evaluating and Selecting Business Mini Computers

More Management seminars are planned, check with the Continuing Education office for dates and other details.

COURSES IN COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

*14.050 Data Processing — Introduction

Purpose — To introduce the principles and concepts of business data processing to people with little or no experience in this area. The course may be useful to people who need an understanding of a computer operation in their firm. For people considering the computer field as a career, this course is a prerequisite for most of the systems and programming courses in this technology.

Objective — To provide a general understanding of business data processing, and to provide a foundation of knowledge for more advanced courses.

Outline — A mixture of lectures and laboratory sessions, with "hands on" computer experience. Introduction to the computer: input/output, hardware, uses of computers, background, data represenatation. Applied systems: files, magnetic tape and disk, master and transaction files, data entry and control, batch processing, on-line data entry. Computer programming: flowcharting, input/output, processing, decisions, arithmetic, branching.

Students will write and test five programs in the BASIC programming language.

Monday: 6:45-9:45 p.m. *or*	Sept. 10 *or*
Tuesday: 6:45-9:45 p.m. *or*	Sept. 11 *or*
Wednesday: 6:45-9:45 p.m. *or*	Sept. 12 *or*
Thursday: 6:45-9:45 p.m. *or*	Sept. 13 *or*
Saturday: 9:00 to 12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Wednesday: 6:45-9:45 p.m. *or*	Jan. 9
Thursday: 6:45-9:45 p.m.	Jan. 10 *or*
Saturday: 9:00 to 12 noon	Jan. 12,
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	March 31 *or*
Tuesday: 6:45-9:45 p.m.	April 8 *or*
Wednesday: 6:45-9:45 p.m.	April 9 *or*
Thursday: 6:45-9:45 p.m.	April 10 *or*
Saturday: 9:00 to 12 noon	April 12
Term 3 (12 weeks)	*Unit:* 1.0 $70

Please indicate a preference of day you wish to attend and an alternative.

WEEK LONG COURSE

9:00 a.m. to 5:00 p.m. Monday through Friday 1.0 unit of credit $70

BCIT

The week Beginning
July 9
July 16
July 23
July 30
Aug. 13
Aug. 20

*14.902 Computer Programming — Assembler I

Purpose — To provide an introductory programming course for those persons intending to become computer programmers. Assembler language is used so that the student will become more familiar with the actual programming steps taken by the computer.

Objective — On completion of the course students can expect to be able to produce working, fully documented assembler programs for elementary business problems.

Outline — By means of a combination of lectures and workshop practice, students will write, test, and debug a series of assembler programs that illustrate the problems encountered in the business data processing field. Topics include computer storage; devices; assembler instruction set; decimal, binary and hexadecimal number systems; character and packed data; decimal arithmetic operations. Other topics are problem analysis; flowcharting; coding and testing; debugging; programming standards; documentation, control, and validation of data; data controls; multi-level totals.

Prerequisite — Second class standing in Data Processing — Introduction or equivalent data processing experience and per-

* Students with both the courses could be given exemption for 14.160 Computer Programming I in Day School.

mission of the Computer Programming Co-ordinator.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. *or*	April 8 *or*
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

Please indicate a preference of day you wish to attend and an alternative.

****14.903 Computer Programming — Assembler II**

Purpose — To provide a continuation of the introductory course 14.902 Computer Programming — Assembler I and more detailed practical knowledge of IBM 360 and 370 assembler language and computer architecture.

Objective — On completion of the course a student can expect to *(a)* be knowledgeable of the architecture and principles of operation of the IBM 360 and 370 computers; *(b)* be able to use assembler language in common business programming situations.

Outline — Lectures and problem sessions. Topics include: assembler instruction formats, binary instructions, registers, base/displacement addressing, tables and table look-up techniques, subroutines and program structure, and IOCS: file definition and imperative macros.

Prerequisite — Computer Programming — Assembler I

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	*Unit:* 1.0 $70

****14.904 Computer Programming — Assembler III**

Purpose — To provide an advanced knowledge of assembler language and ability to write extensive programs in assembler language. Persons already employed in programming will find this course helpful in broadening their understanding of programming concepts and IBM operating systems.

Objective — On completion of the course a student can expect to *(a)* understand input/output control and operating interfaces, *(b)* be able to use the assembler macro language *(c)* use magnetic tape and disk storage devices.

Outline — A mixture of lectures and laboratory exercises provide practical experience. Topics include: operating system interfaces, tape and disk storage, macro writing, subprograms, Logical IOCS operations.

Prerequisite — Computer Programming — Assembler II

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (18 weeks)	*Unit:* 1.5 $105

14.923 Computer Programming — Introductory COBOL

Purpose — For persons who want to learn business computer programming using the widely used "high-level" language COBOL. The course is also suitable for accountants or accounting students who want to understand programming in a data processing environment. For the persons who want to program in COBOL as a career, this course serves as preparation for 14.924 Advanced COBOL.

Objective — On completion of the course, the student will: *(a)* know and be able to apply the basic principles and practices of business computer programming: *(b)* be able to write simple programs in COBOL.

Outline — Each three-hour period is a mixture of lectures and lab sessions. General topics covered include a programming method, documentation standards, flowcharting, report design, sequence checks, page overflow, and control breaks. COBOL topics include all language components required to write simple business report programs.

Prerequisite — 14.050 Data Processing — Introduction or permission of the Technology Co-ordinator.

Monday: 6:45-9:45 p.m. *or*	Sept. 10 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	March 31 *or*
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

14.924 Computer Programming — Advanced COBOL

Purpose — This course is designed for persons who want to write COBOL programs in a data processing environment using disk and tape files.

Objective — On completion of the course students will have a good understanding of *(a)* tape file organizations and the COBOL instructions associated with tape files; *(b)* disk file organizations, including indexed-sequential, and random access files, and the COBOL instructions associated with their use; *(c)* utility programs and program libraries; *(d)* special techniques.

Outline — The course covers efficient COBOL programming techniques, sequential and binary table look-ups, subprograms, overlay techniques, multiple disk and tape file handling, indexed sequential and direct (random) file organizations, and all the associated COBOL instructions. The disk libraries, DOS utility support, and sort programs are also taught. The students write a number of programs which apply these techniques.

Prerequisite — 14.923 Computer Programming — Introductory COBOL or previous programming experience in COBOL.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

** Students with these two courses may be given exemption for Computer Programming II Day School

Begins Again:

Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	*Unit:* 1.0 $70

14.906 Computer Operating Systems Principles

Purpose — To provide a basic understanding of computer operating systems and how they work.

Objective — To facilitate understanding of the functions handled by computer operating systems ranging from small processors through large multi-programming systems.

Outline — Topics include: basic concepts of software, hardware and data management; concepts of multi-programming and time sharing; programming/systems communication; basic functions of any operating system; systems efficiency, processing using more than one computer.

Prerequisite — Computer Programming — Assembler 1 or 2 years of programming experience and permission of the Technology Co-ordinator.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

14.909 Fortran IV — Introductory

Purpose — To allow students who have some introductory experience of computers and computer programming, to gain an insight into one "high-level" programming language. Students already familiar with another programming language will find the course helpful in broadening their outlook on computing in general. Introductory FORTRAN IV is intended as a preparation for 14.913 Intermediate FORTRAN IV.

Objective — On completion of the course, students will have sufficient knowledge and experience in the use of FORTRAN IV, to enable them to: design, flow-chart, write, test and debug simple computer programs as assigned.

Outline — The course consists of a balance between lectures, tutorials, and practical experience in designing, flow-charting, writing, testing and debugging simple computer programs as assigned. Topics include the syntax and use of a subset of the statements comprising the FORTRAN IV language; the application of these statements to solve simple numeric problems; and preparation and submission of programs to an available computer.

Prerequisite – Grade 12 mathematics and 14.050 Data Processing – Introduction

Wednesday: 6:45-9:45 p.m. *or*	*Sept. 12 or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

14.913 Fortran IV — Intermediate

Purpose — To provide students a continuing progression into aspects of the FORTRAN IV language beyond those covered in 14.909 FORTRAN IV — Introductory.

Objective — On completion of the course, students will have expanded their knowledge and experience in the use of FORTRAN IV, to enable them to: *(a)* design, flow-chart, write, test and debug both programs as assigned, and programs within their own field of endeavour; *(b)* follow the logic within programs written by others.

Outline — The course consists of a balance between lectures, tutorials, and practical experience. Topics include the syntax and use of FORTRAN IV statements as related to areas such as: *(a)* double precision and logical constants, variables and expressions; *(b)* subroutine, function and block data subprograms; *(c)* processing sequential files on tape and disk devices; *(d)* the application of these statements to solving both numeric and non-numeric problems; *(e)* preparation and submission of programs to an available computer.

Prerequisite — 14.909 FORTRAN IV — Introductory

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

14.917 FORTRAN IV — Advanced

Purpose — To provide students a continuing progression into aspects of the FORTRAN IV language beyond those covered in 14.913 FORTRAN IV — Intermediate.

Objective — On completion of the course, students will be able to make a meaningful contribution, with a minimum of supervision, to projects assigned within a business environment.

Outline — The course consists of a balance between lectures, tutorials, and practical experience. Topics include the syntax and use of FORTRAN IV statements related to areas susch as: *(a)* complex variables, constants and expressions; *(b)* varying dimension's of arrays and format elements during processing of a program; *(c)* processing direct access files on disk devices; *(d)* the application of these statements to solving both numeric and non-numeric problems; *(e)* preparation and submission of programs to an available computer. Emphasis will be placed on students developing programs within their own field of endeavour rather than on assigned projects.

Prerequisite — 14.913 FORTRAN IV — INTERMEDIATE

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

14.919 BASIC — Interactive Programming I

Purpose — To provide an introductory Programming course for those persons who intend to work using the BASIC Language on an interactive computer terminal system.

Objective — On completion of the course, students can expect to *(a)* produce working programs for elementary business problems, and *(b)* have a reasonable knowledge of the BASIC Language.

Outline — By means of a combination of lectures and "hands-on" experience on the B.C.I.T. Hewlett-Packard computer, students will write, test and debug a series of programs that illustrate the problems encountered in the business data processing field. Topics include logical development of a program, problem analysis; flowcharting, coding and testing; debugging; validation of data; data totals; two levels of totals; print formatting, system commands; sequential disk storage.

Prerequisite — 14.050 Data Processing — Introduction

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	March 31
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

14.920 BASIC — Interactive Programming II

Purpose — To provide an advanced programming course for those persons who expect to work with the BASIC Language on an interactive computer terminal system.

Objective — On completion of the course, the student should be able to program effectively and efficiently in BASIC on an interactive minicomputer.

Outline — The course includes lectures and practical "hands-on" experience on the B.C.I.T. Hewlett-Packard minicomputer. Topics include tape and disk storage, file processing, sequential and direct disk accessing, print formatting, arrays, BASIC instruction set, system commands, functions, subroutines, program efficiency, the interpreter concept.

Prerequisite — BASIC-Interactive Programming I

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

14.503 Computer Programming PL/1

Purpose — To allow students who have had some previous programming experience to learn the PL/1 "high level" language using typical business programming techniques.

Objective — On completion of this course the student can expect to be able to code, test, and debug PL/1 programs of a relatively complex nature.

Outline — Each three-hour period consists of a mixture of lecture and lab sessions. Topics include data declaration, record and stream I/O, PL/1 arithmetic, structures, arrays, built-in functions, procedure and Begin blocks.

Prerequisite — 14.902 Assembler I or permission of Technology Co-ordinator

Wednesday: 6:45-9:45 p.m. *or*	Sept. 12 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

14.603 Computer Programming PL/1

Purpose — To learn the Pl/1 "high level" language using typical business programming techniques.

Objective — On completion of this course students will be able to code text, and debug PL/1 programs of a relatively complex nature.

Outline — Continuation with 14.503, tapes and disk processing; and more advanced programming techniques and language features.

Prerequisite — 14.503 Computer Programming PL/1

Wednesday: 6:45-9:45 p.m. *or*	Jan. 9 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

14.921 Data Communications 1

Purpose — This course provides an introduction to the analysis and design of business and data communications systems. With the rapid changes in telecommunications, this course could be valuable to systems programmers and analysts, including individuals directly or indirectly involved in the communications or computer industry.

Objective — Upon completion of the course students will be conversant in the area of data communications and will be capable of assisting in the analysing and designing of data communications systems for business applications.

Outline — The course outlines the basic principles of data communications; the various types of terminal equipment and their characteristics; the line facilities and service offerings as provided by the common carrier companies and the economics of these services and equipment. Computer teleprocessing and timesharing are briefly covered.

Prerequisite — Programming or Systems Design experience or permission of the Computer Technology Co-ordinator.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

14.922 Data Communications II

Purpose — This course is a continuation of Data Communications 1. This course covers the problem of designing a data communications system and presents the analytic tools necessary in determining variables (i.e., number of terminals, number of lines, speed of lines, type of terminal, etc.) of such a system.

Objective — The objective of this course is to give the student the necessary quantitative as well as qualitative methods necessary to design a cost effective data communications system.

Outline — The 12 week course systematically presents the analytical tools necessary to develop a data communications system. The terminal through the modems, lines, control units, software, and finally the CPU are analysed. Basics of probability and statistics and queuing theory are presented so that the design methods will be understood. Various d.c. systems are modelled and their parameters studied.

Prerequisite — 14.921 Data Communications 1 or permission of the Technology Co-ordinator.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

*14.505 Computer Systems — Introduction

Purpose — To allow persons to develop their analysis skills and learn basic computer systems design techniques. Emphasis is on systems design fundamentals and file organizations.

Objective — Upon finishing this course, the student should proceed to 14.605 to learn more techniques and applications in systems design. A thorough knowledge of file designs and organizations is completed in this course.

Outline — Introduction to the general systems cycle of analysis, design and implementation. Topics are data gathering techni-

---

* 14.505 Systems I and Data Processing= day school Systems I.

ques, controls, systems flowcharting, decision tables and forms design. File designs and organizations for cards, tape and disk are discussed in detail.

Prerequisite — 14.050 Data Processing — Introduction or permission of the Technology Co-ordinator.

Monday: 6:45-9:45 p.m. *or*	Sept. 10 *or*
Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

****14.605 Computer Systems — Introduction**

Purpose — To allow persons to develop their analysis skills and learn basic computer systems design techniques. The techniques include common business applications as processed on small to medium-sized computers.

Objective — The student is expected to have taken 14.505 and the course is taught on the basis that the fundamentals covered in 14.505 are known. On completion of the course a student can expect to be able to gather and organize systems data, prepare systems flowcharts, design files, set up an implementation schedule and other documentation.

Outline — Coding structures and application systems like invoicing accounts payable and accounts receivable are discussed in detail. Scheduling techniques like Gantt charts, PERT/CPM are introduced. The roles of data communications, data base usage and small computers in systems design are also discussed. A major systems project utilizes the material presented in 14.505 and 14.605.

Prerequisite — 14.505 Computer Systems — Introduction or permission of the Technology Co-ordinator.

Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

14.515 Computer Systems Development

Purpose — To provide a working knowledge of the practice of systems analysis, and to develop the job skills and techniques related to the design of information processing systems.

Objective — On completion of the course the student will be able to contribute actively in the investigation analysis and design phases of systems development projects.

Outline — By means of a combination of lectures, discussion and extended case study practice, students are guided through phases of systems design including feasibility studies, fact finding and analysis and design alternatives. Other topics covered include forms design, hardware considerations, standards and documentation.

Prerequisite — 14.505/605 Computer Systems— Introduction or an advanced programming course, or permission of the Technology Co-ordinator.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

14.615 Computer Systems Development

Purpose — To provide a working knowledge of the practice of systems analysis and to develop the job skills and techniques related to the implementation of information processing systems.

Objective — On completion of the course the student will be able to contribute actively in the documentation and implementation phases of systems development projects.

Outline — By means of a combination of lectures and discussion, and a continuation of the case study from Term 1, students are guided through phases of documenting and implementing systems. Other topics covered include controls, communication techniques, scheduling, systems conversion and post implementation auditing.

Prerequisite — 14.515 Computer Systems Development.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

14.052 Computers in Business

Purpose — This course is designed for those people who are not directly involved in data processing but require a familiarity with the current terminology and concepts being used in the computer industry. Participants will be required to have a basic understanding of programming and computer systems.

Objective — Upon completion of the course students should be able to communicate effectively with data processing personnel, recognize the potential use of computers in a business environment, and understand the implications of installing an in-house computer or data centre system.

Outline — This course uses a combination of lectures, laboratory ssessions and discussion groups to cover topics such as: the "state of the art" of computer equipment and programming, data entry techniques, batch, on-line and distributed processing, telecommunications, control and security over computers, the criteria for evaluating and selecting various computer systems and the implications computers have on the financial and staff resources of companies. This is not a programming course but students will code and execute one program in a high level programming language and analyze the characteristics of several computer systems which can be used to meet the computer needs of a medium sized company.

Prerequisite — 14.050 Data Processing — Introduction or permission of the Technology Co-ordinator.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

14.925 Computer Operations — Introduction

Purpose — To provide an introductory course for people who have some data processing knowledge and are interested in employment as computer operators. The course also provides students with an opportunity to learn the functions of an operations department.

Objective — To give students practice in using operations techniques and a basic knowledge of DOS POWER/VS operating system, thus enhancing their employment prospects a a computer operator.

Outline — A mixture of classroom lectures and "hands on" operating, students must be prepared to attend one or more Saturdays during the term for "hands on" operating practice.

The course includes the organization of a data processing in-

** 14.605 Systems Term I and II and Data Processing = day school Systems II and II.

stallation, operator duties and responsibilities, running the equipment within installation standards, input-output control, tape-disk library functions, error reporting.

Prerequisite — Data Processing — Introduction or the equivalent.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. *Jan. 8*
Term 2 (12 weeks) *Unit:* 1.0 $70

14.926 Computer Operations Management

Purpose — The course is intended for experienced operators, shift supervisors, or operations manager candidates, to provide theoretical and practical training in operations management.

Objective — On completion of the course the student can expect to understand commonly used techniques and the responsibilities of computer operations management.

Outline — A mixture of lectures, discussion, and practising techniques. Topics include standards policy, department organization and training, budgeting estimating and costing, planning, forecasting and scheduling, performance measurement, personnel evaluation, security.

Prerequisite — Practical operations experience or permission of the Technology Co-ordinator.

Thursday: 6:45-9:45 p.m. Sept. 13
Term 1 (12 weeks) *Unit:* 1.0 $70

14.927 R.P.G. II — Introduction

Purpose — To provide an introductory course for people who have some data processing knowledge and want training in the fundamentals of programming in R.P.G. II.

Objective — To give students practice in the use of elementary R.P.G. programming techniques and documentation, as applied in business applications.

Outline — The course is a combination of lecture and practical programming. The student will be expected to develop, write, test, and run several programs. Topics include basic R.P.G. II logic; Input, Output and calculation specifications; programming techniques and other related topics.

Prerequisite — 14.050 Data Processing — Introduction

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. Jan. 8
Term 2 (12 weeks) *Unit:* 1.0 $70

14.928 Data Base Concepts

Purpose — To expose Data Processing Personnel to the principles involved in the evaluation, selection and implementation of Data Base Management Systems.

Objective — To introduce students to the purpose of data base systems, their functions and facilities. On completion of the course, the students will be familiar with the various approaches taken to data base software and will know the procedures for installing a Data Base Management System.

Outline — The course will include the evaluation of data structures, advantages and disadvantages of data base, a review of existing data base applications and an insight into the various Data Base Management Systems on the market. The role of the Data Base Administrator will be developed. A mixture of lecture, discussion and practising techniques will be used.

Prerequisite — Programming or systems design experience or permission of the Technology Co-ordinator.

Wednesday: 6:45-9:45 p.m. Sept. 12
Term 1 (12 weeks) *Unit:* 1.0 $70

14.935 The Computer in Management Decisions

Purpose — To provide the basic principles of decision-making under uncertainty and offer an opportunity to apply these principles in the context of computer simulation.

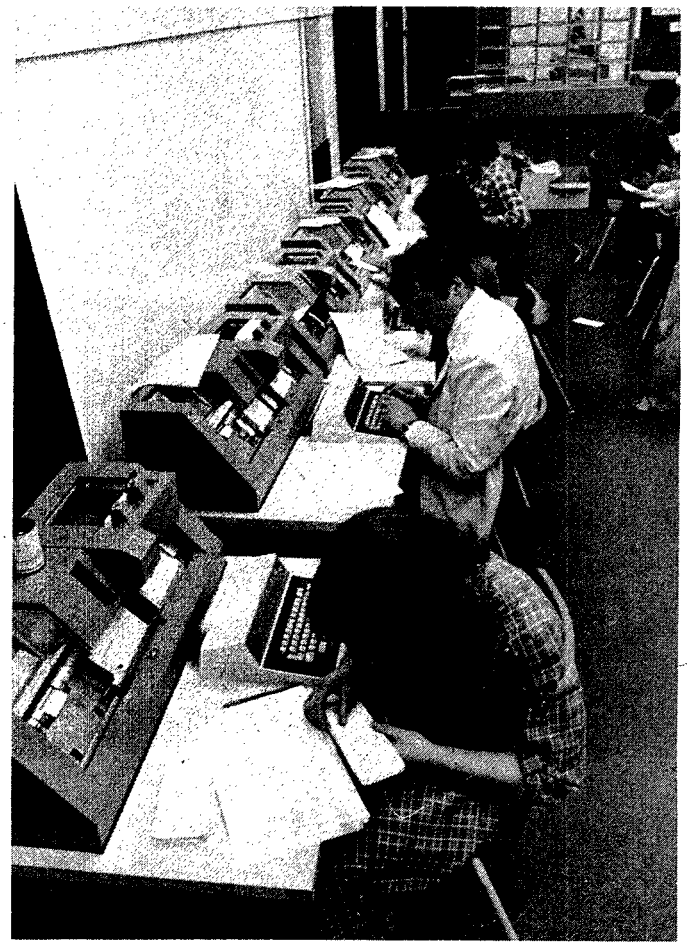
Objective — On completion of this course a person should be able to recognize situations where computer simulation might successfully be applied, be able to develop a simulation computer program and communicate the results effectively. Typical situation might be, for example, the introduction of a new product, the expansion of a firm's activities or the improvement of production scheduling in a plant.

Outline — The course will cover the elementary principles of decision-making under uncertainty, simulation and queuing theory. As one of the assignments, participants will be asked to develop a simulation program, in FORTRAN or BASIC, for an inventory system or application of their choice.

Prerequisite — 14.050 Data Processing — Introduction

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

Enrollment is limited to 20 persons.



FINANCIAL MANAGEMENT TECHNOLOGY

Business Certificate in Accounting

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Accounting 1 (16.140)	1.0	Accounting 2 (16.240)	1.5	Data Processing — Introduction (14.050)	1.0
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Elective	1.0
Year 2					
Economics 1 (10.135)	1.0	Economics 2 (10.235)	1.5		
Financial Accounting 1 (16.347)	1.0	Financial Accounting 2 (16.447)	1.5		
Year 3					
Elective	1.0	Elective	1.0		
and one of		*and one of*			
Cost Accounting 1 (16.341)	1.0	Cost Accounting 2 (16.441)	1.5		
Auditing 1 (16.346)	1.0	Auditing 2 (16.606)	1.0		
Taxation 1 (16.912)	1.0	Taxation 2 (16.913)	1.0		

Electives — to be approved in advance by a Program Consultant. For a list of electives or substitute courses, see *page 65*

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Business Certificate in Finance

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Accounting 1 (16.140)	1.0	Accounting 2 (16.240	1.5		
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Data Processing — Introduction '14.050)	1.0
Year 2					
Economics 1 (10.135)	1.0	Economics 2 (10.235)	1.5		
* Elective	1.0	* Elective	1.5		
Year 3					
Business Finance 1 (16.361)	1.0	Business Finance 2 (16.461)	1.5		
Basic Mathematics of Finance (22.100)	1.0	Security Analysis (16.911)	1.5		

* Financial Accounting or Taxation strongly recommended.

For a list of electives or substitute courses, see *page 65*

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Electives

Courses which may be used as electives or substitutes where appropriate for Certificate Programs in the Financial Management Technology.

Selections should be approved in advance by writing to a Program Consultant to ensure that they are appropriate and will be accepted as an elective or substitute.

1. Any course listed in the Financial Management Technology (Prefix 16. . . .)
2. 10.221/321 Management Psychology 1 and 2 ..... 2.0
   10.360/460 Business Law 1 and 2 ..... 2.0
   10.902/903 Small Business Management 1 and 2 ..... 2.0
   10.325/425 Labor Relations 1 and 2 ..... 2.0
   10.905 Managerial Styles 1.0
   10.924 Management by Objectives 1.0
   14.052 Computers in Business 1.0
   20.502/602 Oral Communications & Public Speaking 1 and 2 ..... 2.0
   20.914 General Marketing 1.0
   22.535/635 Statistics for Business & Industry 2.0
   22.941/942 Work Study 1 and 2 ..... 2.5
   22.901 Purchasing 1.0
   22.902 Inventory Planning & Control 1.0
   31.910 Business & Technical Correspondence 1.0
   31.912 Business Report Writing 1.0
   10.908 Problem Solving & Decision Making 1.0
   22.100 Basic Mathematics of Finance 1.0

and other courses listed in the Business Management Technologies selected by the student and approved in writing by a Program Consultant.

***16.140 Accounting 1**

Purpose — To permit individuals with little or no accounting background to become familiar with the techniques required in working through the full accounting cycle. This course will provide *theoretical* and *practical training* in basic accounting. Persons already employed, or seeking employment in accounting, will find this course helpful in broadening their employment possibilities. It also serves as preparation for Accounting 2.

Objective — On completion of the course the student can expect *(a)* to have an understanding of basic accounting functions; *(b)* to be able to maintain the financial records and prepare the financial statements of any small business; and *(c)* to have gained an appreciation for the accounting history which sets the foundation for accounting procedures.

Outline — A mixture of lectures and laboratories will provide for an interesting course. Topics include accounting as an information system, introduction to accounting theory, income measurement, traditional record-keeping procedures, the accounting cycle, special journals, cash, investments and receivables.

Monday: 6:45-9:45 p.m *or*	Sept. 10 *or*
5:15-8:15 p.m.or	
Tuesday: 6:45-9:45 p.m. *or*	Sept. 11 *or*
Wednesday: 6:45-9:45 p.m. *or*	Sept. 12 *or*
5:15-8:15 p.m. *or*	
Thursday: 6:45-9:45 p.m. *or*	Sept. 13 *or*
Saturday: 9:00 a.m. to 12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0 $70

Please indicate a preference of day you wish to attend and an alternative.

***16.240 Accounting 2**

Purpose — To permit individuals with a basic course in accounting to expand their knowledge of financial and management accounting techniques. This course will provide theoretical and practical training in these areas. Persons already employed or seeking employment in accounting will find this course helpful in broadening their employment possibilities. It also serves as a preparation for 16.347 and 16.447.

Objective — On completion of the course the student can expect *(a)* to have gained an appreciation for a number of financial and management accounting techniques; *(b)* to prepare and interpret detailed financial statements and management reports; and *(c)* to converse with and understand the requirements of professional accountants.

Outline — A mixture of lectures and laboratories with the undertaking of a practice set will provide for an interesting course. Topics include inventory, long-lived assets, liabilities, forms of business organization, cash-flow analysis, manufacturing accounting, management accounting, income tax, consolidated statements and analysis of financial statements.

Prerequisite — 16.140 Accounting 1 or permission of the Financial Management co-ordinator.

Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
5:15 p.m.-8:15 p.m.	
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Wednesday: 6:45-9:45 p.m. *or*	Jan. 9 *or*
5:15 p.m.-8:15 p.m.	
Thursday: 6:45-9:45 p.m. *or*	Jan. 10 *or*
Saturday: 9:00 a.m. to 12 noon	Jan. 12
Term 2 (18 weeks)	*Unit:* 1.5 $105

Please indicate a preference of day you wish to attend and an alternative.

***16.140 Accounting IL**

This course is designed to permit students to start the basic course in accounting in January. It covers the equivalent of 16.140 and the first six weeks of 16.240 for a total of 18 weeks of the 30 weeks presentation. The remaining 12 weeks can then be completed starting in September 1980, (16.240 Accounting 2S).

For a description of the course content see 16.140/240

Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Wednesday: 6:45-9:45 p.m. *or*	Jan. 9 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Unit:* 1.5 $105

***16.240 Accounting 2S**

This is the follow up course to 16.140 above to enable students to complete the last 12 weeks of the basic accounting courses.

For a description of course content see 16.240 Accounting 2.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

16.918 Principles of Accounting (Accelerated)

This is the equivalent of 16.140/240. This course is designed to permit students to take a full introduction to accounting in 14 weeks.

Prospective students are cautioned against enrolling in this course unless they have a reasonable background in accounting or are prepared to spend a minimum of 6 hours per week out of class working on the course material.

For a description of the course content, see 16.140 and 16.240.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11
Wednesday: 6:45-9:45 p.m. *or*	Sept. 12
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (14 weeks)	*Unit:* 2.0
Special fee (see page 22)	

Begins Again:

Tuesday: 6:45-9:45 p.m. *or*	Jan. 8
Wednesday: 6:45-9:45 p.m. *or*	Jan. 9
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (14 weeks)	*Unit:* 2.0
Special fee (see page 22)	

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	17 weeks (1 night a week)	2.0 units
		Special Fee (see page XX)
Term 1	Term 2	Term 3
	Wed./Jan. 9	

* Has Day School equivalency.

***16.341 Cost Accounting 1**

Purpose — To enable the student with some background in introductory accounting to understand the basic tools that management can use in planning and controlling the activities of an organization. In addition, problems related to inventory valuation and income determination in manufacturing enterprises will be introduced.

Objective — The successful student will be able to apply the techniques which he has learned to problem areas in his own particular area of employment. He will also be equipped to move on to Cost Accounting 2 or its equivalent.

Outline — A mixture of lectures and problem-solving periods. The course will emphasize the role of the management accountant, cost terms and purposes, cost-volume-profit relationships, job-order accounting, budgeting, responsibility accounting, and standard costs.

Prerequisite — 16.240 Accounting 2 or its equivalent or permission of the Financial Management co-ordinator if claiming equivalent experience.

Wednesday: 6:45-9:45 p.m. *or*	Sept. 12 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

***16.441 Cost Accounting 2**

Purpose — To enable the student who has learned 16.341 or who has considerable practical cost accounting experience, or who has had accounting training through a recognized professional accounting organization to understand accounting techniques which will assist management in planning control, income determination and decision-making.

Objective — The successful student will be able to apply these diversified management accounting techniques to his own particular area of employment at the management, cost accounting, or audit level within the business community.

Outline — A mixture of lectures and problem-solving periods. The course will emphasize direct costing, relevant costs, cost allocation, capital budgeting, inventory planning and valuation, joint and by-product costs, process costing, payroll, factory ledgers and decentralization, and transfer pricing.

Prerequisite — 16.341 Cost Accounting 1 or permission of the Financial Management co-ordinator if claiming equivalent experience.

Wednesday: 6:45-9:45 p.m. *or*	Jan. 9 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Units:* 1.5 $105

***16.341 Cost Accounting 1L**

This course is designed to permit students to start Cost Accounting in January. It covers the equivalent of 16.341 and the first 6 weeks of 16.441 for a total of 18 weeks of the 30 week presentation. The remaining 12 weeks can then be completed either by taking 16.441S over 6 weeks, on a 2 nights per week basis commencing in May, or over 12 weeks commencing in September (16.441 Cost Accounting 2S)

For a description of the course content and prerequisite, see 16.341 and 16.441.

* Had Day School equivalency

Mondays 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

***16.441 Cost Accounting 2S**

This is the follow-up course to 16.341 Cost Accounting 1L to enable students to complete the last portion of the Cost Accounting courses.

For a description of the course content and prerequisite see 16.441 Cost Accounting 2.

Mondays 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Units:* 1.0 $70
Begins Again:	
Mon. & Wed.: 6:45-9:45 p.m.	May 12
Term 3 (6 weeks)	*Units:* 1.0 $70

16.928 Cost Accounting (Accelerated)

This is the equivalent of 16.341/441 or 16/3411L/441S. This course is designed to permit students to take the equivalent of both cost accounting courses in 15 weeks.

Prospective students are cautioned against enrolling in the course unless they have a reasonable background in cost accounting or are prepared to spend a minimum of 6 hours per week out of class working on the course material.

For a description of the course content and prerequisite 16.341 and 16.441 Cost Accounting 1 and 2.

Tues. & Thurs.: 6:45-9:45 p.m.	Sept. 11
Term 1 (15 weeks)	*Unit:* 2.5
Special fee (see page 22)	
Begins Again:	
Mon. & Wed.: 6:45-9:45 p.m.	Jan. 7
Term 2 (15 weeks)	*Unit:* 2.5
Special fee (see page 22)	

***16.347 Financial Accounting 1**

Purpose — To provide students who have completed the study of basic accounting with a more advanced course to enrich and broaden their understanding of the accounting process and its underlying theory. Completion of this course and 16.908 will equip them for more responsible employment in the accounting field.

Objective — On completion of the course a student *(a)* will have determined affinity and aptitude of more advanced study of accounting as a career objective and *(b)* will be prepared to complete the study of intermediate accounting by obtaining the prerequisite for Financial Accounting 2, 16.447.

Outline — A mixture of lecture, discussion and practical work on weekly assignments will cover the main thrust of the course which is the development of financial information for proper presentation on company financial statements for external circulation. The 16.347 segment of the financial accounting course specifically covers a review of the accounting process from a more analytical standpoint, an overall view of the income state-

* Has Day School equivalency

ment and balance sheet, and a study of cost, valuation, presentation and income measurement problems associated with current assets and current liabilities.

Prerequisite — 16.140 Accounting 1 and 16.240 Accounting 2 or permission of the Financial Management co-ordinator if claiming equivalent experience.

Monday: 6:45-9:45 p.m. *or*	Sept. 10 *or*
Wednesday: 6:45-9:45 p.m. *or*	Sept. 12 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

***16.447 Financial Accounting 2**

Purpose — For students who have completed the first segment of the study of accounting at the intermediate level, this course provides the opportunity to complete that study. This will provide the necessary background for employment in more responsible accounting positions.

Objective — On completion of the course a student can expect to *(a)* have sufficient accounting knowledge to perform competently in an intermediate level financial accounting position; and *(b)* have gained exemption (subject to achieving a prescribed mark) from the equivalent course offered by certain professional accounting bodies should the student desire to continue studies towards a professional designation.

Outline — A mixture of lecture, discussion and practical work on weekly assignments will carry on from the point reached in 16.347. Specifically, the course will cover cost, valuation, presentation and, where appropriate, income measurement problems associated with long-term assets and liabilities, and shareholders' equity accounts. Other subjects include income tax allocation, statement of charges in financial position, statements from incomplete data, accounting changes and price-level and fair-value accounting.

Prerequisite — 16.347 Financial Accounting 1 or permission of the Financial Management co-ordinator if claiming equivalent experience.

Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
Wednesday: 6:45-9:45 p.m. *or*	Jan. 9 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Units:* 1.5 $105

***16.347 Financial Accounting 1L**

This course is designed to permit students to start Financial Accounting in January. It covers the equivalent of 16.347 and the first six weeks of 16.447 for a total of 18 weeks of the 30 week presentation. The remaining 12 weeks can be completed either by taking 16.447 over six weeks on a two night per week basis commencing in May, or over 12 weeks commencing in September. (16.447 Financial Accounting 2S).

For a description of the course and prerequisite see 16.347 and 16.447.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

* Has Day School equivalency

***16.447 Financial Accounting 2S**

This is the follow up course to 16.347 Financial Accounting 1L to enable students to complete the last portion of the Financial Accounting courses.

For a description of the course content and prerequisite see 16.447 Financial Accounting 2.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tues. & Thurs.: 6:45-9:45 p.m.	May 13
Term 3 (6 weeks)	*Unit:* 1.0 $70

16.926 Financial Accounting (Accelerated)

This is the equivalent of 16.347/447. This course is designed to permit students to take the equivalent of both financial accounting courses in 15 weeks.

Prospective students are cautioned against enrolling in the course unless they have a reasonable background in financial accounting or are prepared to spend a minimum of 6 hours per week out of class working on the course material.

For a description of the course content and prerequisite, see 16.347 and 16.447.

Mon. & Wed.: 6:45-9:45 p.m.	Sept. 10
Term 1 (15 weeks)	*Unit:* 2.5
Special fee (see page 22)	
Begins Again:	
Tuesday & Thursday: 6:45-9:45 p.m.	Jan. 8
Term 2 (15 weeks)	*Unit:* 2.5
Special fee (see page 22)	

***16.361 Business Finance 1**

Purpose — To familiarize the individual with little or no backgroung in the field of financial management with the various methods of optimizing the firm's economic position.

Objective — To train the individual in Business finance in order that the student, as a member of the middle management, may take the best decisions on the financing of the firm.

Outline — The course combines 12 lectures and discussions on topics, including control and financial management of the business firm, a study of profit planning, cash and capital budgeting, as well as inventory control.

Prerequisite — A working knowledge of accounting is helpful.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

* Has Day School equivalency

***16.461 Business Finance 2**

Purpose — To familiarize the individual with the various methods of obtaining finances for the firm.

Objective — To teach the student how to obtain capital in order to finance the firm.

Outline — The course combines 18 lectures and discussions on topics, including the cost of capital; short, medium, and long term financing leasing; refinancing; security analysis. The Canadian capital and money markets and pension portfolios as they affect business decisions of the Canadian firm.

Prerequisite — 16.361 Business Finance 1 is preferable, but not essential.

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (18 weeks) — *Unit:* 1.5 $105

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1 | 21 weeks (1 night a week) Term 2 *Wed./Jan. 9* | 1.5 unit of credit $105 Term 3

***16.346 Auditing 1**

Purpose — To equip the student with generalized knowledge of auditing principles and specific techniques in analytical auditing and for some asset classifications.

Objective — To give the student an understanding of the meaning and purpose of the audit function, and to introduce the student to some techniques and procedures. The successful student will also be equipped to move on to Auditing 2.

Outline — A mixture of lectures and discussions including history, professional ethics, internal control, auditing EDP systems, gathering evidence, audit work papers.

Prerequisite — 16.240 Accounting 2 or equivalent. Admission may be granted with permission of the Financial Management co-ordinator.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

16.606 Auditing 2

Purpose — Building on Auditing 1, to equip the student with specialized skills in all areas of auditing, and to deepen the student's knowledge of accounting procedures through critical assessments and by giving opinions of them. This should prove helpful in entering employment in scale fields as public accounting, internal auditing, or management in any business.

Objective — On completion of the course the student can expect to have an understanding of general auditing principles, specific audit procedures and be able to critically assess accounting procedures.

Outline — Lectures and discussions on specific areas of auditing including assets, liabilities, owner's equity, revenues, cost, expenses, financial statements, audit reports. A short audit case will be undertaken. *Prerequisite* — 16.346 Auditing 1 or equivalent. Admission may be granted with permission of the Financial Management Co-ordinator.

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (12 weeks) — *Unit:* 1.0 $70 -11

* Has Day School equivalency

16.912 Taxation 1

Purpose — To provide individuals who have little or no background in income tax to become familiar with the basis of Canadian income tax. The course should be of particular interest to those people who operate their own businesses, have various sources of income, or are planning a career in the accounting field. This course constitutes the first half of the coverage of the field of taxation only.

Objective — On completion of the course, the individual can expect to have gained a general understanding of Canadian income tax law as it applies to sources of revenue.

Outline — A mixture of lecture, discussions, assigned readings and technical problems will be used to cover the areas of tax information sources, residency, classes of taxpayers, employment income, business income, investment income, capital cost allowance, and capital gain rules.

Prerequisite — Accounting 2 — 16.240 or its equivalent or permission of the Financial Management co-ordinator if claiming equivalent experience.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1 | 14 weeks (1 night a week) Term 2 *Tues./Jan. 8* | 1.0 unit of credit $70 Term 3

Wed./Sept. 12

16.913 Taxation 2

Purpose — To enable students who have completed 16.912 — Taxation 1 to continue their study of Canadian income tax.

Objective — Upon completion of this course, the individual can expect to have a strong basic knowledge of the subject and be aware of the complexity and problem areas involved in tax planning.

Outline — A mixture of lectures, discussions, assigned readings and technical problems will be used to cover the areas of computation of taxable income, computation of tax liabilities for individuals (including proprietors and partners) corporations and trusts, corporate surplus distributions, international income, appeal procedures, tax planning and tax avoidance versus tax evasion.

Prerequisite — 16.912 Taxation 1 or permission of the Financial Management co-ordinator if claiming equivalent experience.

Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — March 31
Term 3 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m. Term 1 | 14 weeks (1 night a week) Term 2 *Wed./Jan. 9* | 1.0 unit of credit $70 Term 3 *(2 nights a week for 7 weeks)* *Tues./Thurs./April 8*

16.904 Accounting for the Manager

(see 16.443 for a Subsequent course)

Purpose — This course is designed for the manager who wants to understand basic accounting principles without taking a formal introductory accounting course. It will also serve as refresher for those who have taken an introductory course or for persons who wish to know more about the accounting function as a vocation.

Objective — The student completing this course can expect to have a good understanding of the accounting function, the services it can provide to the manager, and how to interpret statements, reports, budgets, etc. in managerial decision-making.

Outline — Through lectures and problem-solving labs the student is exposed to the accounting cycle, inventory valuation and control, depreciation methods, credit control budgeting and analysis of financial statements.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m. *or*	Apr. 8 *or*
Thursday: 6:45-9:45 p.m.	Apr. 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	

DOWNTOWN CAMPUS (see page 31)

7:15-9:45 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	

*16.145 Credit and Collections

Purpose — To give the student a thorough understanding of the uses of credit in business today at various levels of the economy; *(a)* Government (a brief study only); *(b)* Financial institutions; *(c)* Manufacturing and construction; *(d)* Wholesaling; *(e)* Retailing; *(f)* Hotel, motel and restaurant credit; *(g)* Consuming.

The course is suitable for the following people: *(a)* Persons contemplating employment in the field who have no or limited previous experience in credit work; *(b)* Persons whose knowledge of credit is specialized, and who wish to broaden their understanding of the subject; *(c)* Persons in areas such as marketing, accounting, etc., to whom a knowledge of credit would be advantageous now or in the future.

Objective — There will be a detailed examination of credit granting and collection techniques and philosophy in all levels of busiess. On completion of the course a student can expect *(a)* to be able to handle the complete responsibilities of a credit manager of a small or medium sized business; or *(b)* to assist the credit manager of a larger business in any area of the subject.

Naturally, the experience, age, and ability of each student will govern the level of responsibility attained in industry.

Outline — Each evening there will be a lecture of about one and one-half hours followed by a discussion of about the same length of time. The discussions will be based on material prepared in advance by each student, based on specified readings from the prescribed text and the previous week's lecture. Topics include determining credit-risk; credit instruments and collateral security: types of consumer credit and credit cards; sources of consumer credit information, mercantile credit terms and limits; sources of mercantile credit information; collections; credit and collection letters; credit department management; credit manuals; sales department cooperation; credit history, present and future.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	

16.914 Financial Independence

Purpose — A course designed to introduce students to a variety of savings and investment aspects to build a sound program to achieve their long-term financial goal.

Objective — At the conclusion of the course the student should be in a position to follow an investment program tailored to his needs.

Outline — A mixture of lectures and discussions will provide for an interesting course for individuals of all ages. Topics include money management, life insurance, investments and portfolio distribution, home ownership, wills and estates.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11		

*16.443 Management Accounting

Purpose — To enable the student to acquire a knowledge of the nature, scope and uses of Managerial Accounting as applied to modern business management.

Objective — Major emphasis is placed on planning, controlling, performance evaluation and decision making.

Outline — Material covered will stress: cost-volume-profit analysis; flexible budgeting with an introduction to standard costs for planning and control; variable and absorption costing for product costing purposes; responsibility centers and

---

* Has Day School equivalency

emphasis on short-term decision making.

Prerequisite — 16.904 Accounting for the Manager or 16.140/240 Accounting 1 and 2 or equivalent.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11 *or*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

16.350 Public Financial Administration

Purpose — To familiarize students with the roles, problems and technology of governments in Canada, with emphasis on budgeting and finance.

Objective — To give the students an appreciation of the broad ramifications of government action with emphasis on various costs and benefits and to acquaint them with techniques of budgeting.

Outline — Techniques used will include lectures, discussions, in-class presentations, selected readings and tests. Material covered will include a macroeconomic view of government activities, a comparison of various budget techniques including P.B.S. and M.B.O. auditing, financial markets, portfolio management and trusteeship.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13		

16.911 Security Analysis and Employee Benefits

Purpose — To permit persons with little or no knowledge of security markets to invest more successfully.

Objective — To familiarize participants in this course with employee benefits in Canada, their methods of funding, investing and pension benefits.

Outline — In a combination of lectures and labs topics include: sources of information financial analysis, business cycle analysis, technical analysis, taxation and commodity markets.

Six evenings will be devoted to Pension Plans in Canada, Registered Retirement Savings Plans and measurement of pension investment performance.

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (18 weeks)	*Unit:* 1.5 $105

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	21 weeks (1 night a week)	1.5 unit of credit $105
Term 1	Term 2	Term 3
Tues./Sept. 11		

16.924 Zero Base Budgeting

Purpose — To introduce students to the theory and techniques of zero base budgeting.

Objective — To teach individuals how and where Zero Base Budgeting may be introduced successfully, determine prerequisites for success, review problems involved and to look at various organizations using or contemplating the use of Zero Base Budgeting.

Outline — A combination of lectures and discussions will be used to cover topics such as history, the concept of resource allocation, related techniques, preparation of decision packages, ranking, systems requirements and the impact on members of the organization.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10		

16.919 Principles of Insurance 1

Purpose — An introductory course on basic insurance principles.

Objective — To obtain a basic understanding of the principles of insurance.

Outline — An introduction to basic insurance principles covering elements of risk, valuation, loss and insurance coverage calculation; co-insurance.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

16.920 Principles of Insurance 2

Purpose — To build on the principles of insurance coverage begun in Insurance 1.

Objective — To be able to deal effectively with all elements of insurance principles.

Outline — Topics included are the elements of actuarial science; the structure of the insurance industry; automobile insurance, the insurance industry in Canada and British Columbia with special emphasis on statutory requirements; and elements of financial planning.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

16.921 Loss, Casualty and Adjustments

Purpose — A course designed to introduce individuals to risk and insurance.

Objective — To obtain a working knowledge of loss, casualty and adjustments.

Outline — The estimation of loss, calculation of risk and its relation to loss, casualty insurance; and the laws of negligence and insurance; insurance adjustment. The course will include practical examples of adjustment situations; insurance counselling and interview techniques; and presentation of loss and adjustment and situational problems arising.

Prerequisite — Principles of Insurance 1 and 2 or permission of the Financial Management Co-ordinator.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

16.922 Estate and Insurance Planning

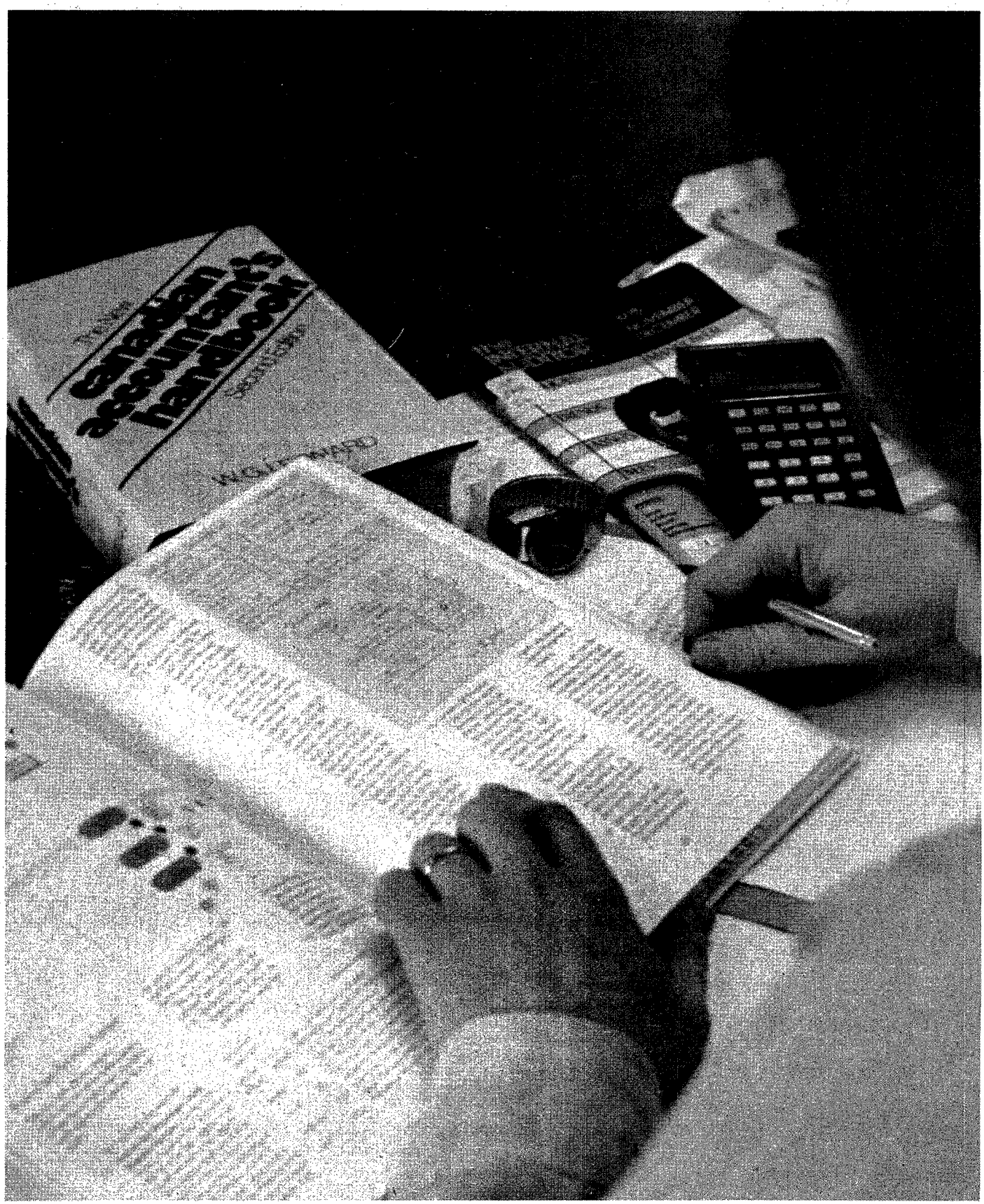
Purpose — To familiarize the individual with limited background in the area of life insurance.

Objective — To train the individual to be able to understand and use the principles of life insurance.

Outline — The course combines lectures and discussions in the following topics: term and whole life insurance, computation of coverage and appropriate rate schedules; life expectancy tables and their calculation; pension planning, and annuities, their nature, advantages, and disadvantages.

Prerequisite — Principles of Insurance 1 and 2 or permission of the Financial Management Co-ordinator.

Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (18 weeks) *Unit:* 1.5 $105



HOSPITALITY AND TOURISM ADMINISTRATION TECHNOLOGY

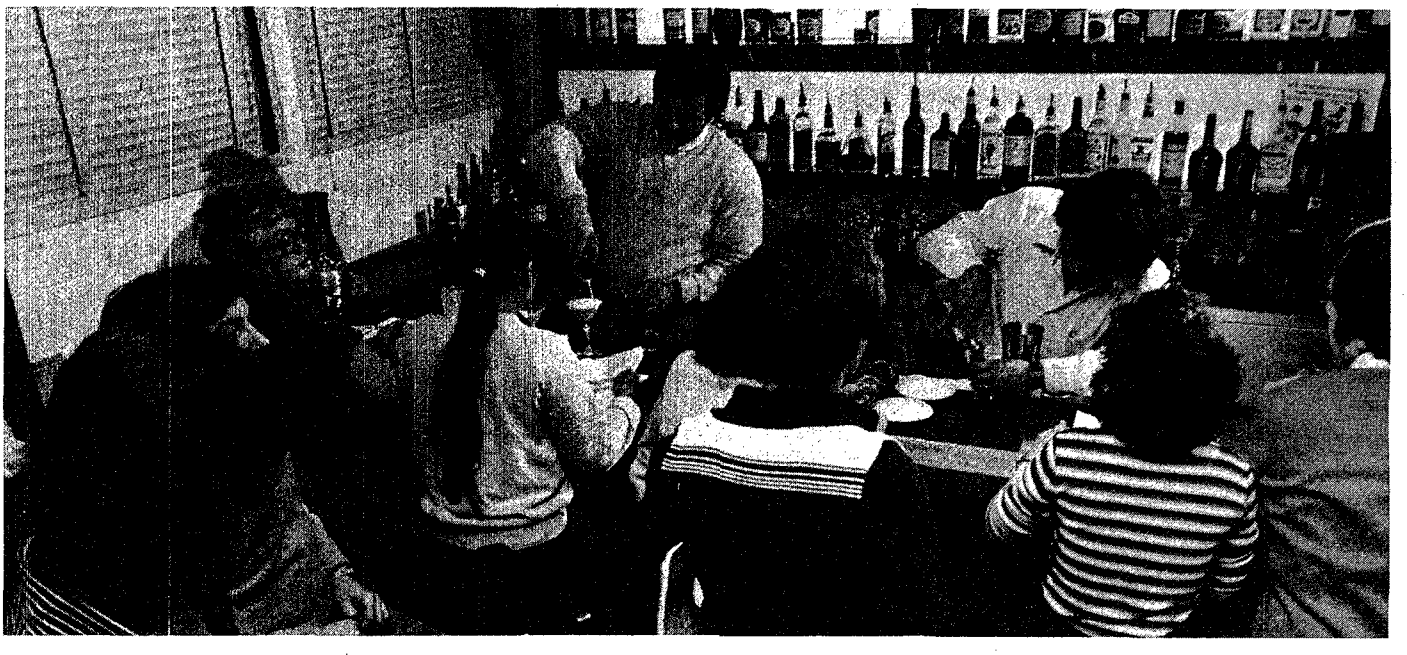
Business Certificate in Hospitality Industry Management

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

Students considering the Hospitality Industry as a career are advised to consider course 18.900 The Hospitality Industry — An Introduction as described on *page 75* before embarking on a certificate program.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Front Office Procedures (18.103)	1.0	Marketing and Sales Promotion for the Hospitality Industry (18.907)	1.0	Understanding Wines (18.913)	1.0
Accounting 1 (16.140)	1.0	Hospitality Management Accounting (18.908)	1.0	Elective	1.0
Year 2				Elective	1.0
Food Management 1 (18.503)	1.0	Food Management 2 (18.603)	1.0		
Food and Beverage Cost Control (18.313)	1.0	Night Audit Procedures (18.418)	1.0		
Year 3					
Introduction to Tourism (18.331)	1.0	Menu Planning (18.422)	1.0		
Restaurant Planning (18.908)	1.0	Profitable Restaurant Operations (18.911)	1.0		



Business Certificate in Travel and Tourism

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Introduction to Tourism (18.331)	1.0	* Rail, Bus & Ship (18.917)	1.0	International Air— Basic (18.919)	1.0
* Tours & Hotels (18.916)	1.0	* Domestic Air (18.918)	1.0	Elective	1.0
* Noted: These courses may be taken in any order.				Elective	1.0
Year 2		Communications Skills in Hospitality Customer Service (18.927)	1.0		
Tourism Geography (18.922)	1.0	Public Relations (20.906)	1.0		
Accounting for the Manager (16.904)	1.0				
Year 3					
Advertising 1 (20.371)	1.0	Advertising 2 (20.471)	1.0		
Salesmanship (20.275)	1.0	Marketing & Sales Promotion for the Hospitality and Tourism Industry (18.907)	1.0		

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Electives:

Courses which may be used as electives or substitutes where appropriate for Certificate Programs in the Hospitality and Tourism Administration Technology.

1. Courses listed in the Hospitality and Tourism Administration Technology (Prefix 18. . .)
2. Electives and substitutes may be selected with approval from a Program Consultant from the courses listed in the various technologies that are considered appropriately related such as:

		Units
10.135/235	Economics 1 and 2	2.5
10.907	Discussion Leadership	1.0
14.050	Data Processing Introduction	1.0
16.140/240	Accounting 1 and 2	2.5
16.145	Credit and Collections	1.0
20.906	Public Relations	1.0
22.100	Basic Mathematics of Finance	1.0
22.941	Work Study 1	1.0
10.131/232	Management in Industry 1 and 2	2.0
10.221	Management Psychology 1 and	1.0
10.321	Management Psychology 2 or	1.0

List continued on next page.

10.906	Organizational Behavior	1.0
10.902	Small Business Management 1	1.0
10.903	Small Business Management 2	1.0
20.323	Sales Management	1.0
31.910	Business and Technical Correspondence	1.0
31.912	Business Report Writing	1.0
20.502/602	Oral Communications and Public Speaking 1 and 2	2.0

These and courses listed in the Business Management Technologies may be selected but should be approved in writing in advance by a Program Consultant.

18.900 Career Orientation for the Hospitality Industry (formerly The Hospitality Industry-An Introduction)

Purpose — To provide participants with basic information on the following: career opportunities in hotels, motels, foodservice operations, resorts, and related industries; training opportunities in B.C. (both full-time and part-time) entry requirements into the job market; employment possibilities and advancement.
A systematic approach to career information research will also be presented.

Objective — At the conclusion of the four evening series participants may expect to be able to (a) describe the job market for the hospitality in terms of training, opportunities for entry and advancement; (b) discuss specific job functions and working conditions for hospitality industry positions (c) prepare a systematic plan for their own career decisions.

Outline — The sessions will be a lively mixture of presentations by BCIT instructors in hospitality administration and guest instructors from industry. Individual projects and group discussions will add to the information gathering process.
The course is strongly recommended for people with little or no hospitality industry experience.

Monday	October 1
Term 1 (10 weeks)	

***18.103 Front Office Procedures**

Purpose — For persons with little or no hotel/motel experience, this course provides theoretical and simulated practical training in most aspects of front office operation. Persons already employed in hotels/motels will find this course helpful in broadening their employment possibilities. It also serves as preparation for courses 18.418 Night Audit Procedures and 18.925 NCR 4200/8000 Posting Practicum.

Objective — On completion of the course a student can expect to *(a)* be knowledgeable of the specific functions of the front office department in a hotel or motel; *(b)* receive basic instruction in the operation of NCR 4200 accounting machine; and *(c)* be able to perform the duties of a front desk clerk in a hotel or motel (after a brief period of on the job training).

Outline — A mixture of lectures, discussions, and simulated practice sessions will provide for an interesting course. Topics: include who does what in a hotel or motel; personal requirements to be a front desk clerk; reservation systems; credit procedures; dealing with guests, management, and fellow employees; effective sales techniques; cash and credit handling, handling emergencies, career opportunities and steps to gain employment as desk clerk, communications skills.

This class is limited to 20 students.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Monday: 6:45-9:45 p.m. *or*	Jan. 7
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	*Unit:* 1.0 $70

The first 8 sessions (24 hours) will be on the Monday or Tuesday nights. The remaining 12 hours will be schedules on a Saturday and Sunday at the end of the course for NCR machine training.

18.925 NCR 4200/8000 Posting Practicum

Purpose — A weekend seminar designed to give those interested in working at the "front desk" of a hotel or motel, a complete understanding and knowledge of how to operate the billing machine, NCR 4200 and the latest electronic NCR 8000 model.

Objective — Upon completion of this seminar the student should be able to handle all procedures and transactions relating to the machines, i.e. posting debits and credits to guests accounts, handling transfers to city ledger, correcting errors, cash reports, etc.

Outline — The seminar content will include lectures, handouts, exercises and practical experience on the latest NCR posting equipment.

NOTE: The class will be limited to 14 participants. Students receive 15 hours of instruction. All students attend the Friday evening session. Half of the participants attend the first Saturday/Sunday with the remaining half attending the second Saturday/Sunday. There is only one Friday session per workshop. It is advisable that students have 18.103 Front Office Procedures prior to enrolling in this course.

Times	Dates
Friday 7-10 p.m.	Oct. 12, 13, 14, 20, 21 or
Saturday 9-4 p.m.	Nov. 16, 17, 18, 24, 25 or
Sunday 9-4 p.m.	Feb. 1, 2, 3, 9, 10 or
	March 7, 8, 9, 15, 16
	$70 each session

18.418 Night Audit Procedures

Purpose — To prepare persons for work as night audit clerks in the hotel and motel industry. This is an advanced course. Par-

* Has Day School equivalency

ticipants must have completed course 18.925 NCR 4200/8000 Posting Practicum. An interest in working with figures is the only other prerequisite.

Objective — On completion of the course a student can expect to be able to understand and perform standard night audit procedures using an NCR 4200 system. With such training a person would be prepared to enter the hospitality industry as a night auditor.

Outline — The course is problem-oriented. Practical exercises are designed to simulate typical hotel/motel situations. Small classes allow for close instructor/student contact.

The class is limited to 10 participants. To create a realistic training situation, the course is scheduled as a two-weekend workshop.

NOTE: Students receive 15 hours of instruction in this course. All students attend the first Friday evening session, half the participants attend the first Saturday/Sunday with the remaining half attending the second Saturday/Sunday. There is only one Friday session per workshop.

Times	Dates
Friday 7-10 p.m.	Nov. 30, Dec. 1, 2, 8, 9 or
Saturday 9-4 p.m.	$95
Sunday 9-4 p.m.	April 18, 19, 20, 26, 27
	$95

18.908 Hospitality Management Accounting

Purpose — To allow persons with some background in accounting to study principles and procedures of hospitality management accounting. An understanding of general accounting principles is necessary to benefit fully from the course. If you are interested and not too sure about this or other aspects of the outline, consult the counsellor prior to registration.

Objective — To obtain an understanding of departmental income statements and balance sheets in order to be able to interpret and analyse the results and information shown; and to learn the use of management tools such as the break-even technique budgeting, and investing.

Outline — The course is problem-oriented. Brief lectures will be used to introduce the different concepts, followed by discussion and problem-solving exercises. Such exercises will be directly related to present-day hospitality industry accounting.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues.: Sept. 11		

18.905 Supervisory Development for Hotel and Food Service Personnel

Purpose — To allow persons with practical experience in some aspects of the industry to explore problematic aspects of human relations and develop skills necessary to function as supervisors. Participants may be presently employed in junior/middle management positions or wanting to prepare themselves for a move in that direction.

Topics dealt with will be directly related to interpersonal relations with guests, fellow-workers, owner/managers, and people outside the operation. This course is not designed to prepare a person for one particular job, rather it will provide opportunity for personal learning and growth and thus help the individual to be a better, more meaningful functional person on the job and away from it.

Objective — On completion of the course the student can expect to *(a)* have gained an understanding of theoretical principles involved in interpersonal relationships; *(b)* be familiar with specific skills which can be used to improve interpersonal communications; *(c)* be knowledgeable of and be able to deal with some of the problem areas that arise when acting in a supervisory role; *(d)* have learned how he/she reacts in different situations and how others react in different situations; *(e)* have had experience in problem-solving and decision-making techniques.

Outline — A mixture of small lectures, discussions, case studies, communication exercises, films, and selected readings will be used to make the course meaningful to each participant. Specific course topics within the framework of this outline will be selected by the students and the instructor.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

18.927 Communication Skills in Hospitality Customer Service

Purpose — A course for those who are in contact with the public or who are seeking this type of employment, e.g. travel clerks, ticket agents, restaurant staff, desk clerks and others serving the travelling public.

Objective — Persons completing this course can expect to: speak confidently and clearly to customers, use good telephone techniques, deal with a variety of unusual situations effectively, demonstrate and practice good communication skills (attending, listening, responding) and analyse their personal grooming and professional appearance.

Outline — Course content includes: mini-lectures, demonstration by instructor; practice by students; evaluation; role-playing; student presentations, group discussions and guest speakers.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2	*Unit:* 1.0 $70
8 evenings plus two Saturdays (6 hours each)	

Begins Again:

Thursday: 6:45-9:45 p.m.	April 10
Term 3	*Unit:* 1.0 $70

8 evenings plus two Saturdays (6 hours each)

18.911 Profitable Restaurant Operation

Purpose — This course permits persons who are involved in the restaurant business to question and analyse their particular cost problems and solutions. This detailed course is directed at persons who wish to reduce operation restaurant costs.

Objective — The success of this course can be determined on a weekly basis as the participant may institute suggestions for cost reduction immediately within his operation and the results can be established quickly.

Outline — Brief lectures on actual proven cost-saving techniques, followed by group discussion and on-site evaluation. Cost areas covered include management, product, service, staff, utilities, and advertising.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

7:30-9:45 p.m. | 14 weeks (1 night a week) | 1.0 unit of credit $70
Term 1 | Term 2 | Term 3
Tues./Sept. 11

****18.503 Food Management 1**

Purpose — To allow persons with limited or no experience in the food service industry to become aware of the multiple aspects of food operations.

Objective — On completion of this course and Food Management 2, a person can expect to have a fundamental understanding of the basic organization of food and beverage departments and the thoery and uses of food, supplies in the Hotel Industry and related field of feeding. Basic management functions and requirements in catering, operational cost control, layout, objective and policies governing the Food Industry.

Outline — Lectures, case studies, films, and considerable group discussion will be the mode used to cover the following topics: food hygiene, food service design and layout; personnel administration; storage, identification, classification and selection of foods; menu planning; operation cost control.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

**** 18.603 Food Management 2**

Purpose — To allow persons with limited or no experience in the food service industry to become aware of the multiple aspects of food operations.

Objective — Upon completion of this two-course sequence the student will have gained a comprehensive over-all picture of the catering management field; and will be prepared to take more specialized courses such as Menu Planning and Restaurant Planning.

Outline — Through lectures, discussions and problem-solving exercises, the topics covered will be: Menu Planning and recipes; food costing; labor costs; identification and classification of foods; use of convenience foods, types of food services, and table equipment, atmosphere and decor for restaurants.

Prerequisite — Food Management 1

Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* 1.0 $70

18.930 Quantity Food Production

Purpose — To allow persons to study the management aspects of food production as they apply to restaurants, cafeterias, and related public eating facilities. This is not a cooking course; participants should have some previous experience in the food production field. This course serves as preparation for 18.422 Menu Planning.

Objective — On completion students can expect to be able to define and understand management procedures related to basic food costing, food loss control, kitchen sanitation and safety, standard recipes and standard food production methods and evaluation and costing of test products. Furthermore, students will develop and perform basic food-preparation skills. An increased awareness of recent innovations in the area of equipment design and production methods can also be expected.

Outline — Lectures, films and discussions will be used to introduce weekly material. The practical aspects of food production will be explored in the fully equipped food production laboratory.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

18.422 Menu Planning

Purpose — To allow persons with limited experience in the food service industry to gain theoretical and practical experience in the planning and design of menus.

Objective — On completion of the course a student can expected to *(a)* be knowledgeable about the factors that influence the make-up of a menu, such as types of market served, price structure, staffing, physical plant, limitations, storage, availability of foods, costing; *(b)* be able to analyse the above data and compose suitable menus; *(c)* be able to advise management on layout, color, print-type, and manufacture of actual menus.

Outline — Lectures and discussions will be used to introduce new material, followed by practical exercises that will allow the students to apply theory to practice. Some take-home assignments will be given.

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (12 weeks) — *Unit:* 1.0 $70

18.926 Dining Room Service (formerly Dining Room Management)

Purpose — To introduce persons with limited experience in restaurants to the fundamentals, techniques and prerequisites of successfully operating a quality dining room.

Objective — On completing the course participants will have a clear knowledge and understanding of a first-class dining room operation. With some practical experience in the field it may allow them to assume relevant responsibilities at the junior management level and to better understand supervision.

Outline — The course will consist of lectures, lab sessions, demonstrations and discussions entailing such topics as: supervisory responsibilities; hiring of personnel; staff scheduling; menu terminology; salesmanship; equipment knowledge; table settings and arrangements; proper service techniques; staff supervision and safety.

Saturday: 9:00 a.m.-12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Saturday: 9:00 a.m.-12 noon — Jan. 12
Term 2 (12 weeks) — *Unit:* 1.0 $70

18.909 Restaurant Planning

Purpose — To allow persons to gain theoretical and simulated practical experience in planning a food-service operation from the initial concept to the eventual opening. Experience at the operation or supervisory level in the food service industry is required. This course is primarily aimed at persons who expect to be involved in the planning of a new operation or alteration to existing facilities.

Objective — On completion of the course a participant can expect to understand and be able to initiate a thorough planning procedure for the establishment of a restaurant or similar food-

** Credit for this course gives exemption from lectures in day school course 18.102/202 Food and Beverage Management.

service operation.

Outline — The participants will work in groups for assigned in-class projects. Through small classes and close consultation with the instructor, active participation of all participants will be possible and expected. Topics include development of concept; management; location, menu development; staffing; equipment; buildings; layout; financing; promotion and operational planning.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

***18.313 Food and Beverage Cost Control**

Purpose — To allow persons who are interested in the catering field to gain an understanding of internal control procedures and information systems. The course will deal particularly with the interpretation of data obtained through such procedures/systems to allow for the making of corrective management decisions. Participants should enjoy working with figures and basic arithmetic calculations. Previous experience or related course work would be helpful, though not necessary.

Objective — To teach the fundamentals of internal control and information systems for food and beverage operations of all types. Emphasis will be given to the interpretation of information supplied by the control systems in order that meaningful and appropriate decision-making and action can be taken in sufficient time to correct undesirable results or trends.

Outline — The following are the major control points that will be covered: sales, ordering and purchasing, receiving; storeroom and inventory, production (costing). Lectures and problem-solving exercises will be used; some take-home assignments will be given.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3

18.901 Bartending — Introduction (formerly Cocktail Lounge Management)

Purpose — An introductory session in the fundamentals of bartending for those individuals wishing to work in the restaurant industry or who wish to upgrade themselves in the knowledge and expertise in the field of bartending.

Objective — The seminar will include: practical experience behind a cocktail lounge bar for each student with emphasis on mixing, glassware, service and knowledge of wines, spirits, beers and liqueurs.

Outline — Upon completing the session, the student will have a good understanding of the mixing of drinks and their recipes. Coupled with a course in waiter/waitress training or practical experience the student should be capable of working in an operation selling alcoholic beverages.

Times:	Dates:
Friday: 7-10 p.m.	Jan. 11, 12 and 13 *or*
Saturday: 9-4 p.m.	Jan. 18, 19 and 20
Sunday: 9-4 p.m.	
Term 2	*Unit:* 1.0 $95

* Has Day School equivalency

18.913 Understanding Wines and Spirits

Purpose — To create an understanding of the origins, manufacture, service, compatability with food and selling aspects of wines and spirits in restaurants. Specific reference will be made to products available in B.C. The course is primarily aimed at personnel in the hotel and food service industry, but would also be of interest to the general public.

Objective — At the conclusion of the course a student could expect to be capable of *(a)* describing the characteristics of popular wines and spirits, *(b)* describing the growing and manufacturing process of wines, *(c)* listing the requirements for storing and handling of wines, *(d)* distinguishing basic types of wine using acceptable tasting procedures, *(3)* conducting staff training session on the merchandising aspects of wines in restaurants, *(f)* specify types of spirits and liqueurs.

Outline — Through lectures, film and slide presentations, discussions, field trip, guest presentations, samplings and student projects, the following topics will be covered: The wine growing process, wine making, geographical and grape differences, government regulations, label terminology, storage, and selling techniques, serving procedures, staff training.

Wednesday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

18.907 Marketing and Sales Promotion for the Hospitality and Tourism Industry

Purpose — To serve as basic material for an individual wishing to advance into a sales and marketing capacity, broaden his existing managerial skills, or enter the hospitality or tourism field by operating one's own business.

Objective — To give individuals an understanding of the uses, sales and marketing skills. Although the course is primarily theoretical, weekly in-class and take home assignments will be given.

Outline — Major topics include: defining a product and the consumer, the feasibility study, developing a marketing plan, establishing prices, the elements of advertising, sales, promotion and merchandising, marketing tools and sales agents, internal promotion, brochure planning and incentive schemes.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

TRAVEL AGENTS COURSES

Purpose — The courses in this Travel Agents group are designed for people who are planning to enter this field or who are relatively new to the work and wish to improve their knowledge and skills.

Objective — On completion of these courses students will be able to handle, under supervision, the services performed by a travel agency or to act in a referral capacity. They will understand terminology, booking and reservation procedures, the structuring of itineraries and the fundamentals of air, steamship, rail and bus transportation, tours and hotels.

***18.331 Introduction to Tourism**

Purpose — This course provides an introduction to travel and tourism for persons who are newly involved or anticipate employment in the field.

Objective — To study tourism as a discipline and its function as a National and International industry as well as to understand the economics and sociological and environmental aspects of this important and rapidly developing field. On completion of this course students should have a good grounding for pursuing further training towards a career in this area.

Outline — Topics will be covered through lectures, films, group discussions and presentations. Course content includes: the components of the tourism industry; impact of tourism on the economy; why people travel; why they prefer certain destinations; travel marketing and the future of the tourism industry.

Monday: 6:45-9:45 p.m.	Sept. 10 *or*
Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13		

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	March 31
Tuesday: 6:45-9:45 p.m.	April 8
Term 3 (12 weeks)	*Unit:* 1.0 $70

18.916 Tours and Hotels — Travel Agents

Outline — Through lectures, slides, films and sales materials students will: become familiar with terminology related to the sale of tours and land packages; achieve a knowledge of the basic types of tour packages; be aware of geography and trends in travel motivation; develop sales techniques and basic skills in handling reservations, reporting procedures and reference sources.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Wednesday: 6:45-9:45 p.m. *or*	Sept. 12
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

* Has Day School equivalency

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Wednesday: 6:45-9:45 p.m. *or*	Jan. 9
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	March 31
Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

Please indicate a preference of day you wish to attend and an alternative.

18.917 Rail, Bus and Ship — Travel Agents

Outline — This section of training for travel agents will include lectures, illustrations and materials covering:

Rail: International and domestic rail transportation, fares and ticketing.

Bus: Domestic and international schedules and fares.

Steamship: Passenger transportation, cruises and freighter travel.

Other: Car rental, travel documents required for trips abroad, travel insurance, preparation of sales reports, etc.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m. *or*	Sept. 11
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m. *or*	March 31
Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

Please indicate a preference of day you wish to attend and an alternative.

18.918 Domestic Air — Travel Agents

Outline — Working with the Consolidated Passenger Air Tariff and the Official Airline Guid, students will receive training in the fundamentals of domestic (within Canada and the U.S.A.) passenger air travel. The course includes construction of normal and special fares, terminology, schedules, ticketing procedures, etc. related to today's world of travel. Approximately 3-5 hours per week of home study will be required.

Monday: 7:00-10:00 p.m. *or*	Sept. 10
Tuesday: 7:00-10:00 p.m. *or*	Sept. 11
Wednesday: 7:00-10:00 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 7:00-10:00 p.m. *or*	Jan. 7
Tuesday: 7:00-10:00 p.m. *or*	Jan. 8
Wednesday: 7:00-10:00 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 7:00-10:00 p.m. *or*	March 31
Tuesday: 7:00-10:00 p.m. *or*	April 8
Wednesday: 7:00-10:00 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

NOTE: — A deposit of $25.00 will be required on the second night of class in exchange for Tariff and Schedule Books. Fifteen dollars of this is refundable upon return of the materials to the course instructor(s).

Please indicate a preference of day you wish to attend and an alternative.

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	*(2 nights a week for 7 weeks) Mon./Thurs./April 21*

18.919 International Air — Basic

Purpose — To provide instruction in transatlantic and transpacific passenger rules, regulations and fares. This course is designed for persons with previous direct sales experience in the industry or for those who have completed Domestic Air-18.918.

Objective — To familiarize students with the terminology and fundamentals of transatlatic and transpacific fare construction and to have them able, under supervision, to handle all facets of such air travel sales for travel agencies.

Outline — The material will include: the Air Tariff (passenger) Book 1 general rules; fare construction rules (fare construction units, the mileage system, HIP's, backhauls, etc.); special fare rules for fare types which are generally saleable from Canada and/or the U.S.A. Lectures and prescribed itineraries will be used. Approximately 2-6 hours per week of home study will be required.

Ticketing will be limited to discussions of specific ticket entries and students must have a sound knowledge of general ticketing procedures before enrolling in this course.

Prerequisite — Previous direct sales experience in the industry or completion of 18.918 Domestic Air.

Monday: 7:00-10:00 p.m.	Sept. 10
Wednesday: 7:00-10:00 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 7:00-10:00 p.m.	Jan. 7
Wednesday: 7:00-10:00 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 7:00-10:00 p.m.	March 31
Wednesday: 7:00-10:00 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

NOTE — A deposit of $25.00 will be required on the FIRST NIGHT of classes in exchange for tariff and schedule books. Ten dollars of this is refundable upon return of the materials to the course instructor. However, on no account may the tariff materials be retained by the student.

18.921 International Air — Advanced

Purpose — To provide detailed instruction in passenger rule, regulations and fares on a world-wide basis. This course is designed for persons who have completed 18.919 International Air-Basic and/or for those currently involved and experienced in direct passenger sales.

Objective — To familiarize students with the terminology and fundamentals of fare construction and world-wide currency regulations as related to PTA's (fare and equivalency AMT paid procedures), rerouting (fares, additional collections/refunds).

Outline — The material presented will include the air tariff, lectures and prescribed itineraries, etc. Illustrating fare construction and rerouting examples for fare types which are generally saleable to, from or via Canada. Approximately 3-6 hours per week of home study will be required.

Ticketing and fare construction to/from TC1 will be extremely limited and students must have a sound knowledge in these areas before enrolling in this course.

Prerequisite — Completion of 18.919-International Air-Basic.

Tuesday: 7:00-10:00 p.m.	Sept. 11 *or*
Wednesday: 7:00-10:00 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 7:00-10:00 p.m.	Jan. 8 *or*
Wednesday: 7:00-10:00 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 7:00-10:00 p.m.	April 8 *or*
Wednesday: 7:00-10:00 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

NOTE: A deposit of $25.00 will be required on the FIRST NIGHT of classes in exchange for tariff and schedule books. Ten dollars of this is refundable upon return of the materials to the course instructor. However, on no account may the tariff materials be retained by the student.

18.920 Automated Reservations — Travel Agents

Purpose — This course is designed for persons who have completed the Domestic or International Air courses and/or those who have had at least one year's experience in the Air Travel Industry and are familiar with city codes, terminology, etc. Although not mandatory, basic typing skills will be beneficial. A pre-course booklet will be supplied to each student to provide them with some basic knowledge of the computer system.

Objective — Upon course completion, students will be able to activate a reservations computer terminal, as have been installed in many Travel agency offices, and to perform all functions relative to booking airline reservations, tours, hotels, and/or car rentals.

Outline — This course will consist of "hands-on" training in the use of a CRT terminal. The building, queing, changing and cancelling of PNRs (Passenger Name Records) booking of automated hotel, car rental and tour reservations and the relevant transactions will be explained and practised.

Fees — The fee is payable upon registration, no refunds before the class starts unless a replacement is obtained or the course is cancelled. Exactly 8 students are required. This course is worth 1.0 unit of credit.

Special fee (see page 22)

NOTE: This course will be offered upon demand only. If you are interested phone the Continuing Education office at B.C.I.T. and leave your name and address.

18.928 Automated Ticketing — Travel Agents

Purpose — This course is designed for persons fully conversant with the operation of reservations computer terminals as have been installed in many Travel Agency offices and/or those who have successfully completed the "Automated Reservations" course.

Objective — Upon course completion students will be able to activate a Ticket Printer linked to a reservations computer terminal and to perform all functions relative to producing a computer generated ticket.

Outline — The course will consist of "hands-on" training in producing computer generated tickets, both computer and manually priced. All relevant transactions will be explained and instruction in loading, changing and minor trouble-shooting of a ticket printer will be given.

Prerequisite — It is absolutely mandatory that the student be fully conversant with IATA ticketing procedures (Domestic Air and International Air and/or at least two years in the industry working international itineraries). This is in addition to "Purpose" above.

The course will be held in the downtown area of Vancouver.

The course will be scheduled on demand.

14-16 hours (two successessive weekends)

Special fee (see page 22)

18.922 Tourism Geography

Purpose — The course is designed for persons wishing to enter the travel and tourism industry as travel counsellors, travel agents, or ticket agents and for those who are interested in travel destinations.

Objective — To study the countries of the world where the tourism industry plays a significant part in the economy and to develop a good foundation of knowledge of tourism geography.

Outline — The course concentrates on the following areas: geographic location, tourism regions, climate, population, culture, language natural and man-made touristic resources, currency and transportation. The course will be presented through film, guest speakers, student participation, presentations, and maps. Major tourism destinations to be studied will be selected from: North, Central and South America, Europe, Asia, the South Pacific and the Far East.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	

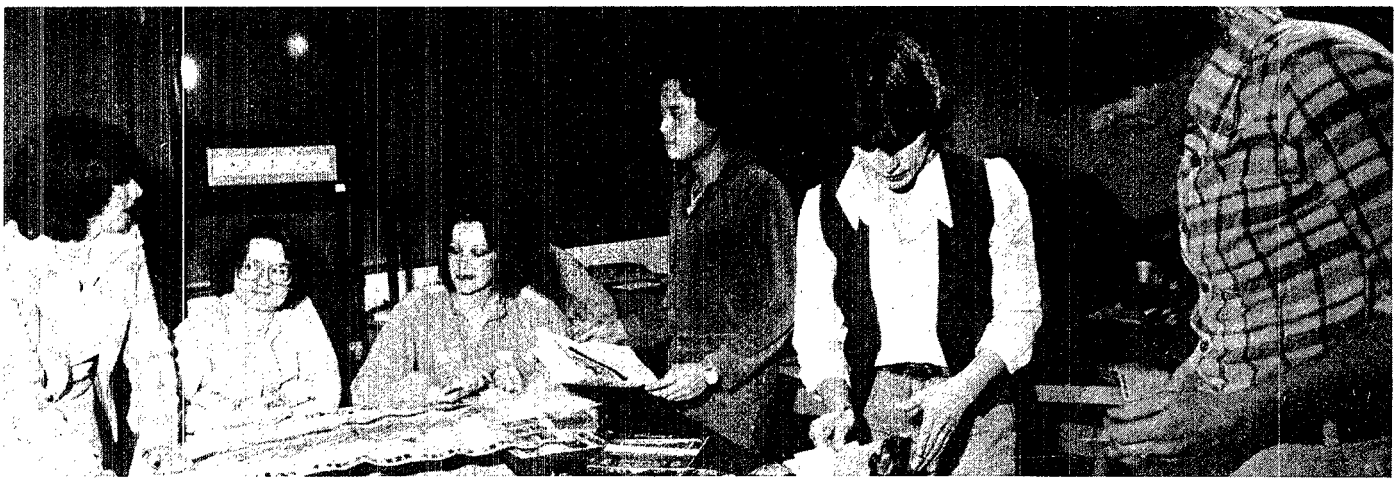
18.927 Communication Skills in Hospitality Customer Service

Purpose — A course for those who come into contact with the public as customers or clients, or who are seeking this type of employment, e.g. travel clerks; ticket agents, desk clerks and others who serve the travelling public.

Objective — Persons completing this course will be able to speak confidently and clearly to customers, use good telephone techniques, deal with a variety of unusual situations effectively, demonstrate and practice good communication skills (attending, listening, responding) and analyse their personal grooming and professional appearance.

Outline — Course content includes: mini-lectures, demonstration by instructor; practice by students; evaluations; role-playing; student presentations, group discussions and guest speakers. Two full days will be spent practicing and evaluating participant's own communication skills through the use of the CCTV.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (8 weeks plus two Saturdays (6 hours each)	*Unit:* 1.0 $70
Begins Again:	
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (8 weeks plus two Saturdays (6 hours each)	*Unit:* 1.0 $70



BUILDING SERVICES MANAGEMENT PROGRAM

(formerly Executive Housekeepers)

B.C.I.T. in co-operation with the Canadian Building Servicing Association of British Columbia is pleased to present the following certificate program relative to this important and expanding field.

Business Certificate in Building Services Management

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three years period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Supervisory Skills (10.904)	1.0	Purchasing (22.901)	1.0	Elective	1.0
Maintenance and Control (19.902)	1.0	Safety and Sanitation (19.905)	1.0	Elective	1.0
				Elective	1.0
Year 2					
Labor Relations 1 (10.325)	1.0	Labor Relations 2 (10.425)	1.0		
Accounting for the Manager (16.904)	1.0	Selection Interviewing (10.913)	1.0		
Year 3					
Management Psychology 1 (10.221)	1.0	Organizational Behavior (10.906)	1.0		
Work Study 1 (22.941)	1.0	Discussion Leadership (10.907)	1.0		

See *page 83* for the list of electives and substitute corners.

Electives

Courses which may be used as electives or substitutes where appropriate for the Certificate Program in Building Services Management Technology.

Electives may be selected in consultation with a Program Consultant from the courses listed in the various technologies that are considered appropriately related such as:

19.903	Interior Design — Basic	1.0
10.918	Occupational Safety and Health	1.0
10.131/232	Management in Industry 1 and 2	2.0
22.942	Work Study 2	1.5
10.910	Personnel Management	1.0
22.902	Inventory Planning and Control	1.0

Other courses listed in the Business Management Technology selected by the student and approved in writing by a Program Consultant.

COURSES IN BUILDING SERVICES MANAGEMENT

19.902 Maintenance and Control

Purpose — To prepare candidates for a supervisory role in the Building Management field and to assist people in this line of work who have not had formal training.

Objective — Students will acquire considerable depth of understanding of maintenance from a supervisory viewpoint and in particular of the chemicals involved in the various types of maintenance.

Outline — Lectures, demonstrations, visual aids and viewing equipment will provide knowledge of chemicals, disinfectants, equipment and techniques for maintaining floors, carpets, windows, blinds, etc., with particular attention to hotel, hospital, and institutional maintenance.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

19.903 Interior Design — Basic

Purpose — This course is of value to people who are merchandising home furnishings, architectural students, people in industry, institutions and other with a general interest in the field. Also, recently graduated students seeking a career find it a useful means of evaluating the field as a possible career.

Objective — Students completing these 12 weeks have a good understanding of the interior design art form.

Outline — Through lectures, slides, class projects, assignments, and practical exercises the instructor covers the principal elements of design as they relate to the interior environment — balance, emphasis, rhythm, and proportion. It includes how to influence the home through effective colour schemes, lighting arrangements, space planning, form or shape relationship, linear effects, and interesting textural compositions.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10	*Mon./Jan. 7*	

19.905 Safety and Sanitation

Purpose — This presentation is for building managers, those persons who are desirous of achieving such a position, and anyone who may benefit from knowledge in this area of expertise.

Objective — The student will acquire a sound understanding of the causative factors of diseases and the methods available to control its incidence. The student will be able to identify physical and chemical safety hazards and utilize established methods to protect himself and others.

Outline — Presentation will be made from a composite of lectures, visual aids, demonstrations, and discussion sessions. Specific topics that will be covered are: Sanitation — terminology, related bacteriology, behavior control via physical and chemical agents, cleaning techniques, waste-material handling, insect and rodent control, plumbing, and case studies. Safety — ergonomics, chemical hazards, ventilation, protective equipment, flowable and corrosive liquids, tools and machinery, accident prevention, safety training, radioactive materials, fire hazards, disaster planning, evacuation, and case studies.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

MARKETING MANAGEMENT TECHNOLOGY

Six Certificate programs are listed in this Technology including one in Traffic and Transportation Management.

Suggested programs and a variety of courses available to students pursuing a career in these areas are set out on the following sections.

BUSINESS CERTIFICATE IN MARKETING

The following is a suggested program for the basic Certificate (15 units) attainable over 3 years. The three year period is flexible. Students may amend this program to suit their personal career requirements with the approval of a Program Consultant

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Marketing 1 (20.180)	1.0	Marketing 2 (20.280)	1.5	Elective	1.0
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Elective	1.0
Year 2					
Accounting for the Manager (16.904)	1.0	Marketing and Customer Behavior (20.389)	1.0		
Salesmanship (20.275)	1.0	Business Report Writing (31.912)	1.0		
Year 3					
Oral Communication and Public Speaking 1 (20.502)	1.0	Marketing Research (20.903)	1.0		
Sales Management (20.323)	1.0	Elective	1.5		

See *page 88* for a list of elective and substitute courses

Business Certificate in Industrial Marketing

This program has been withdrawn. A suggested list of alternative programs are:

Business Certificate in Marketing or

Business Certificate for Technical Sales Representatives or

Technical Marketing Certificate

Business Certificate for Technical Sales Representative

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Marketing 1 (20.180)	1.0	Marketing 2 (20.280)	1.5	Elective	1.0
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Elective	1.0
Year 2					
Salesmanship (20.275)	1.0	Marketing and Customer Behavior (20.389)	1.0		
*Technical Elective	1.0	*Technical Elective	1.5		
Year 3					
Business and Tech. Correspondence (31.910)	1.0	Business Report Writing (31.912)	1.0		
Oral Communications and Public Speaking 1 (20.502)	1.0	Marketing Planning (20.387)	1.0		

* Students may select the Technical Electives from any approved course taken from the Engineering Section.

See page 88 for the list of electives and substitute courses.

Business Certificate in Advertising and Public Relations

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Marketing 1 (20.180)	1.0	Marketing 2 (20.280)	1.5	Copywriting — Radio & T.V. (12.905)	1.0
Advertising 1 (20.371)	1.0	Advertising 2 (20.471)	1.0	Elective	1.0
Year 2					
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0		
Public Relations (20.906)	1.0	Advertising Creative Print (20.930)	1.5		
Year 3					
Accounting for the Manager (16.904)	1.0	Marketing and Customer Behavior (20.389)	1.0		
Oral Communications and Public Speaking 1 (20.502)	1.0	Oral Communications and Public Speaking 2 (20.602)	1.0		

See page 88 for the list of electives and substitute courses.

Business Certificate in Retail Merchandising

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Marketing 1 (20.180)	1.0	Marketing 2 (20.280)	1.5	Elective	1.0
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Elective	1.0
Year 2					
Retailing (20.384)	1.0	Merchandising (20.411)	1.5		
Advertising 1 (20.371)	1.0	Marketing Planning (20.387)	1.0		
Year 3					
		Marketing Research (20.903)	1.0		
Salesmanship (20.275)	1.0	Marketing and Customer Behavior (20.389)	1.0		
Elective	1.0				

See *page 88* for the list of electives and substitute courses.

Business Certificate in Traffic and Transportation

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Transportation Regulations 1 (20.434)	1.0	Transportation Regulations 2 (10.444)	1.5	International Marketing (20.442)	1.0
Transportation Economics (20.432)	1.0	Distribution Management (20.435)	1.5		
Year 2					
International Documentation Importing (20.333)	1.0	International Documentation Exporting (20.441)	1.0		
General Marketing (20.914)	1.0	Accounting for the Manager (16.904)	1.0		
Year 3					
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0		
Economics Micro (10.135)	1.0	Economics Macro (10.235)	1.5		
		Purchasing (20.901)	1.0		

See *page 88* for the list of electives and substitute courses.

Business Certificate in Real Estate

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

This Certificate *does not* qualify the student for a Real Estate Sales licence. To qualify for a licence the student must have successfully completed either the University of British Columbia's Salesmen's Pre-licencing Course or the course Real Estate Management (20.350) and (20.450) through BCIT's day school program. NOTE *Special Electives below.*

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Marketing 1 (20.180)	1.0	Marketing 2 (20.280)	1.5	Salesmanship (20.275)	1.0
Management in Industry 1 (10.131)	1.0	Management in Industry 2 (10.232)	1.0	Elective	1.0
Year 2					
Principles of Property Management (20.351)	1.0	Sales Management (20.323)	1.0		
Appraising Real Property SREA — Introduction (20.452)	1.5	Elective	1.0		
Year 3					
Advertising 1 (20.371)	1.0	Accounting for the Manager (16.904)	1.0		
Oral Communication and Public Speaking 1 (20.502)	1.0	Elective	1.0		

See *page 88* for the list of elective and substitute courses.

Note *Special Electives* below.

Successful completion of BCIT's day school course 20.350/450 Real Estate Management or the University of British Columbia's Salesman's Pre-licencing course will qualify for 2½ units of transfer credit towards this certificate program.

Electives

Courses which may be used as electives or substitutes when appropriate for Certificate Programs in the Marketing Management Technology.

Selections should be approved in advance in writing by a Program Consultant to ensure that they are appropriate and will be accepted as an elective or substitute.

1. Courses listed in the Marketing Management Technology (Prefix 20. . .) when approved as above.

or

2. Such courses as:

		Units
10.135/235	Economics 1 and 2	2.5
10.221	Management Psychology 1	1.0
10.325/425	Labor Relations 1 and 2	2.0
10.360/460	Business Law 1 and 2	2.0
10.906	Organizational Behavior	1.0
10.907	Discussion Leadership	1.0
10.924	Management by Objectives	1.0
14.050	Data Processing — Introduction	1.0
16.140/240	Accounting 1 and 2	2.5
16.904	Accounting for the Manager	1.0
16.145	Credit and Collections	1.0
22.951	Systems Analysis	1.0
22.951/952	Materials Handling 1 and 2	2.0
22.902	Inventory Planning and Control	1.0
22.901	Purchasing	1.0
22.963	Mathematics for Management	1.5
22.903	Operations Planning	1.5
31.910	Business and Technical Correspondence	1.0
31.912	Business Report Writing	1.0
31.914	Technical Report Writing	1.0

and

Other courses listed in the Business Management Technology selected by the student and approved in writing by a Program Consultant.

COURSES IN MARKETING MANAGEMENT TECHNOLOGY

***20.180 Marketing 1**

This is a basic course required in a number of Certificate Programs under Marketing Management Technology.

Objective — The objective of the course is to introduce to the student some of the broader concepts and principles in Marketing such as the Marketing Concept, Consumer Behavior, Market Segmentation, etc. Marketing Research methods and Sales Forecasting Methods also will be introduced. Students will be exposed to the decision-making process in Marketing Management.

Monday: 6.45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m. *or*	Sept. 11
Thursday: 6:45-9:45 p.m. *or*	Sept. 13
Saturday: 9:00 a.m. to 12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0 $70

Please indicate a preference of day you wish to attend and an alternative.

***20.280 Marketing 2**

This course is a continuation of Marketing 20.180.

Objective — The main objective is to teach the elements of the Marketing Mix-Product, Price, Promotion and Distribution. The course will also briefly introduce to the student some of the other areas of Marketing such as Industrial Marketing, International Marketing and marketing of Services.

The secondary objective is to further expose the student to the decision-making process.

Prerequisite 20.180 Marketing 1

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8
Thursday: 6:45-9:45 p.m. *or*	Jan. 10
Saturday: 9:00 a.m. to 12 noon	Jan. 12
Term 2 (18 weeks)	*Units:* 1.5 $105

20.914 General Marketing

Purpose — To provide an introductory course in marketing for persons who wish to have a short 12 week course rather than the longer combined Marketing course. This course will be useful to persons concentrating their studies in areas other than marketing who wish limited exposure to the field of marketing. It also may be used by persons employed in the field of marketing or studying that area who, because of the nature of their work, can only commit a shorter period of time. Students who complete the course may go on to take, at some future date, the Marketing 20.280 portion of the Marketing Course. In this case, however, there will be some overlap.

Objective — The students will be given many concepts in the general field of marketing and asked to relate these to their own business situation and thereby see how the theory does apply to a situation to which they are familiar. Hopefully this will provide the students with a conceptual framework of marketing in their own firm as well as a theoretical understanding of the discipline.

Outline — The course will cover: market analysis, market concept, uncontrollable factors, total product, market segmentation, product differentiation, packaging, branding, product classification for consumer and industrial goods, product life cycle, style and fashion, place utility objectives and channels of

* Has Day School equivalency

distribution, retailing, wholesaling, promotion blending, pricing policies. Students will be expected to answer questions on examination on the readings from the textbook as assigned and to prepare out of class assignments relating to their own company or some business situation in various topics of the course.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

* Has Day School equivalency.

Begins Again:
Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* $70

Begins Again:
Monday: 6:45-9:45 p.m. — March 31
Term 3 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
June 23		*XXX*

20.387 Marketing Planning

Purpose — This course is for people who can benefit from understanding the highly important principles and techniques of planning in a marketing situation.

Objective — To provide students with an understanding of the need for planning how to plan in both strategic and operational time frames and to see the benefits of an organized approach to marketing a product or service more effectively.

Outline — A combination of class lectures, discussions, case studies and a term project will be used to provide a comprehensive range of knowledge in this important marketing area. Specific topics covered include: analysing and reaching present and potential markets, improving various aspects of the product mix, applying marketing research methods and techniques, determining marketing objectives, and utilizing advertising, promotion, distribution, and price strategies.

Students should have some marketing background through experience or training and the course Management in Industry and Management by Objectives taken prior will be helpful.

Prerequisite: 20.180/280 Marketing 1 and 2 or equivalent.

Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Unit:* 1.0

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Mon./Sept. 10		

*20.389 Marketing and Customer Behavior

Purpose — This course is designed to broaden the students understanding of the "people aspects" in marketing and to introduce the various research findings which relate to customer behavior. Whether new to the marketing field, planning to enter it or an "old hand", all will benefit from a better understanding of the ever-important customer.

Objective — On completion of this course the student can expect to *(a)* be knowledgeable about the characteristics of various consumer publics and simple demographic variables such as age, sex and socioeconomic level; *(b)* be able to understand how and why consumers act individually and in mass; *(c)* be able to understand purchase and postpurchase behavior; *(d)* understand the behavior of people as buyers and users of goods and services; and *(e)* be able to understand "product image" and "product personality" and the progress and changes being made toward a discipline of customer behavior.

Outline — A mixture of lectures, discussions, seminars, projects and assignments will provide an interesting course. Topics include the importance of customer behavior, problems relating to customer behavior, mass communications, foundations of customer behavior, consumer economic theory, contributions of the behavior sciences, and customer behavior present and future.

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (12 weeks) — *Unit:* 1.0 $70

20.442 International Marketing

Purpose — The course will be of interest to those who are involved (or who want to be involved in export marketing. This course will illustrate not only how to locate an export market, but will also inform the student how to hold an export market once one has been fortunate enough to establish an export market.

Objective — To give a general understanding of International Marketing dimensions from a management point of view and to illustrate the sources and methods in International Marketing research.

Outline — The international marketing environment will be examined considering Canada as a major world trader. Areas of study will include: tariff barriers; non-tariff barriers; international marketing research; organization for exports; marginal cost pricing; social, cultural and political problems; and other related topics.

Monday & Wednesday: 6:45-9:45 p.m. — May 19
Term 3 (6 weeks) — *Unit:* 1.0 $70

20.903 Marketing Research

Purpose — A fundamental course designed to assist persons who are or will be involved in the marketing research function or its application, to understand better the theoretical and operational aspects of this important area of marketing.

Objective — To provide interested persons with the knowledge and ability to apply basic marketing research methods and techniques to a wide variety of marketing problems.

Outline — A combination of class lectures, discussions, case studies, and a field project will be used to provide a comprehensive knowledge of this integral marketing function. Specific topics covered are sampling theory and practice, questionnaire design and field interviewing, consumer behavior, media, advertising, product, and industrial marketing research.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

* Has Day School equivalency.

***20.384 Retailing**

Purpose — This course is for students who are relatively new in the retail field and who wish to prepare themselves for advancement or for students seeking a career in retail merchandising who have completed the course Marketing 20.180/280.

Objective — On completing this course students should have an understanding of sound retailing management principles and the strategies of retailing in a competitive environment.

Outline — Both small-scale and large-scale retailing will be dealt with in covering such areas as — principles of retail location and layout; trading area analysis; principles of retail gravitation; retail strategies and trends; shrinkage problems; productivity, sales promotion and consumerism.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

***20.411 Merchandising**

Purpose — To prepare persons with limited experience in retailing to gain an understanding of basic concepts and practices in merchandising. Specifically, this course will deal with the techniques of establishing, procuring, maintaining, evaluating, and promoting a merchandise assortment.

Objective — On completion of the course a student can expect to be conversant with assortment planning, factors in selection of resources, buying plans, characteristics of fashion and staple operations, fundamentals of budgets, standards, assortment maintenance, selection techniques, vendor relations, merchandise presentation, and basics of sales promotion. With such training the student would be in a position to seek advancement in specialty retail and department store employment.

Outline — Lectures and problem-solving exercises will be used; some take-home assignments will be given.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 1.5 $105

***20.371 Advertising 1**

Purpose — This course is carefully designed to help creatively inclined persons assess their potential and abilities for careers in the advertising field; to assist newcomers to advertising in expanding their knowledge of the craft and exposing them to the newest trends and up-to-date changes taking place in advertising.

Objective — On completion of Advertising 1 a student will be able *(a)* to be a competent critic of advertising; *(b)* to measure his or her own abilities and talents in one of the phases of advertising; *(c)* to have a deeper understanding of advertising in the marketing picture; *(d)* to understand better the problems and challenges of advertising; *(e)* t get valuable insights into the factors affecting creative endeavours; and *(f)* to make a more effective contribution if involved in an advertising career.

Outline — History of advertising — the field today and tomorrow. Definitions of local and national advertising. The media and media mix — newspapers, radio, TV, magazines, direct mail, and transit. Classroom projects and field visits. Copy writing, layout design, graphics, typography and art techniques. Production of effective advertising.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13	*Thurs./Jan. 10*	

20.471 Advertising 2

Purpose — To put into sharp focus the subject material covered in Advertising 1; to enable persons holding junior advertising positions to advance to more responsible areas; to show the inter-relationship between marketing and advertising.

Objective — On completing this course the student should expect *(a)* to possess a fair grounding in aspects of measuring advertising effectiveness; *(b)* to differentiate between advertising and sales promotion; *(c)* to understand media planning and budgets; *(d)* to know the make-up of advertising campaigns; *(e)* to know how an advertising agency operates; *(f)* to implement marketing planning, co-ordination, controls, and measurements; and *(g)* to take on greater responsibilities in an advertising operation.

Outline — A blend of active learning lectures; assignments, competitive team projects (backed up by analysis and performance critiques) provides a unique learning experience in advertising and marketing planning. Media, sales promotion, radio and TV writing, film productions, creative processes, the principles and practices of marketing planning, co-ordination, controls and measurements.

Prerequisite — Advertising 1

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	*Tues./Thurs./April 8*

20.930 Advertising Creative Print

Purpose — To teach students, who have a basic knowledge of advertising planning, the development of creative print advertising.

Objective — On completion of this course the students will have a practical knowledge of layout design, typography, and their applications to advertising. They will understand the bases of effective copywriting. They will be familiar with those print production processes which are necessary to transform rough art concepts to the final publication-read form.

Outline — Workshops will be used to provide as much individual attention as possible to cover the creative topics. These will be supplemented by lectures, projects and field visits. Topics include: design, colour, layout, typography, headlines, copywriting, production processes and the role of graphic design houses.

Suggested prerequisite — Advertising 1 or practical experience in the field of advertising.

* Day School equivalency

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Tues./Jan. 8	

20.906 Public Relations

Purpose — This course is designed for people in business, government, municipalities, associations, and organizations who have a responsibility for communicating with the public and within the organization.

Objective — Students completing this course will be able to carry out their information and communication assignments with increased confidence and competence.

Outline — Through lectures, examples, case studies, and discussion sessions the course material covers planning and executing a public relations program, communication techniques, principles of news writing, and preparation of news photographs, utilizing the various media, press and community relations, external and internal communications, and meetings.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Thursday: 6:45-9:45 p.m. — April 10
Term 3 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 13	*Wed./Jan. 9*	

WEEK LONG COURSES

9:00-5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning		*The week Beginning*
Mar. 10		*XXX*

***20.275 Salesmanship**

Purpose — To provide basic training for the sales aspirant and to give those already in the sales field who have had no formal training an understanding of the mechanics of salesmanship. It is also suitable for those who are employed in an "inside sales position" and who wish to move up into the sales representative category.

Objective — To provide the trainee with sufficient knowledge and skills to seek a career in the sales field. For those already in sales and who have had no formal training an opportunity to make an in-depth study of the mechanics of salesmanship and develop their skills to a professional level.

Outline — Through a series of lectures, reading assignments, and the use of training film the student covers the pre-approach, demonstration/presentation, handling of objections and closing techniques.

Students will develop selling skills through practical application of the various sales techniques to a product or service of their choice. Sales practice (role-playing) with the use of video tape and discussion proves to be of great assistance to the student.

Wednesday: 6:45-9:45 p.m. *or* — Sept. 12
Thursday: 6:45-9:45 p.m. *or* — Sept. 13
Saturday: 9:00 a.m. to 12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. *or* — Jan. 9
Thursday: 6:45-9:45 p.m. *or* — Jan. 10
Saturday: 9:00 a.m. to 12 noon — Jan. 12
Term 2 (12 weeks) — *Unit:* $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Tues./Jan. 8*	

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.	Downtown	
The week Beginning		*The week Beginning*
Jun. 2		*XX*

20.907 Salesmanship — Salesmen

Purpose — This course is designed for men and women who are already employed as salesmen. It is also suitable for those who are employed in an "inside sales position" and who wish to move up into the sales representative category.

Objective — To give those persons already in the sales field an opportunity to develop further their sales skills and eliminate the costly "trial and error" method of learning.

Outline — A study of the mechanics of salesmanship covering the pre-approach, approach, demonstration, objection-handling, and closing techniques. Emphasis will be placed on selling practice, role-playing using video tape and group-evaluation techniques. A number of sales training films are employed.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — March 31
Term 3 (12 weeks) — *Unit:* 1.0 $70

WEEK LONG COURSE

9:00 a.m. to 5:00 p.m.	Monday through Friday	1.0 unit of credit $70
At B.C.I.T.		Downtown
The week Beginning	*The week Beginning*	
Jun. 16	*XXX*	

***20.323 Sales Management**

Purpose — This course will provide students with a basic overview of the sales management process as well as a close examination of selected topics such as: selection, assimilation, training, supervision and performance appraisal techniques. The course content emphasizes the human resources. Supplementary topics include: sales, research, planning, organization and sales management problems. Students should be able to demonstrate the basic "sales management skills.

* Has Day School equivalency

* Has Day School equivalency

Outline — Format includes: lectures, discussion, case studies, role plays, and reading.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12	*Wed./Jan. 9*	

20.502 Oral Communication and Public Speaking 1

20.602 Oral Communication and Public Speaking 2

Purpose — To improve oral communications in business and social situations. Those people who lack self confidence generally and who specifically lack confidence in communication situations should find this course very profitable. Class instructor is flexible enough to allow for individuality in the class.

Objective — Each student will develop increased skill and confidence in all speaking situations.

Outline — Various types of communications situations are examined-telephone, conversation, social and business speaking, communication breakdown and how to avoid it.

Training films, buzz groups, along with wide use of video will be utilized. Every night each student will be required to make some sort of public presentation.

Part 1 is a prerequisite for Part 2.

20.502 (Part 1)

Tuesday: 6:45-9:45 p.m. — Sept. 11 *or*
Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Thurs./Sept. 13		

20.602 (Part 2)

Tuesday: 6:45-9:45 p.m. — Jan. 8 *or*
Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (12 weeks) — *Unit:* 1.0 $70

Begins Again:
Monday: 6:45-9:45 p.m. — March 31
Term 3 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	

---

* Has Day School equivalency

20.980 Public Speaking 3 Advanced

Purpose — To provide a forum for students who have successfully completed Oral Communications and Public Speaking 1 and 2 and to advance their public speaking skills.

Objective — A more comprehensive study is made of the principles of speech making including techniques of explanation, amplification, structure, organization and sequence in public deliberation. Particular emphasis is placed on the dynamics of persuasion, the use of reasoning, evidence and motives.

Outline — Lecture, discussion, example are the methods used. Close circuit T.V. is used as an evaluative tool. Emphasis is placed on class involvement particularly the skills of critical listening and evaluation.

Tuesday: 6:45-9:45 p.m. — April 8
Term 3 — *Unit:* 1.0 $70

20.432 Transportation Economics

Purpose — To provide the student with the understanding of the relationship of economic concepts and the applied economics of transportation; specifically the economic aspects of the costing of transportation.

Objective — The students will be provided with an understanding of the various procedures used to cost transportation.

Each mode of transportation will be analyzed to show the specific importance of economics in relation to the movement of goods and people.

Outline — Many outside factors must be considered by the transport operator and not just the costs that can be controlled by them. Many points of interest to both public and private carriers will be included in the course.

The material will also be of interest to the user of the transport service as it will give them an understanding of the many facets of transport costing.

Topic Headings — The need for accurate costing in transportation; economic considerations that directly or indirectly effect costing patterns of transport modes; geographic considerations that directly or indirectly effect costings patterns of transport modes; a concept approach to costing transportation; practical examples of transport costing (ship, airline, pipeline, highway, railroad, transport terminals); the relationship of freight and passenger rates to costs; economic aspects of transport development; cost-benefit analysis and its use in transport costing; marginal cost pricing and its use in transport costing; the significance of the operating department of the transport cost.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

*20.434 Transportation Regulation 1

Purpose — This course is designed to assist those people who will have or who now have employment in Traffic Departments, Distribution Departments, Shipping and the Transportation industry itself to understand the complexities of Transportation in Canada and the international transport regulation that affects Canadian trade.

Objective — The objective of this course is to provide the student with an understanding of the regulations regarding Canadian Transportation.

This course will relate to transportation law and its application regarding B.C. first; Canada second; the Pacific Rim Trading Community third; and the world-trade fourth.

Outline — The students will study the various relations and their application to the carriage of goods and people as a service and how it affects the user of the service. The duties, liabilities and responsibilities of the carrier and the shipper will be outlined. The primary purpose is to relate how transportation regulation has a bearing on the economics of a firm, and the relationship to a firm's printing policy and service.

Topic Headings — Introduction; a definition of economic regulation; the reasoning for economic regulation; contracts of carriage, viz; rail and truck bills of lading through bills of lading, operating authorities, ocean bills of lading, contracts of affreightment, charter party agreements; carrier liability; embargoes; shipper liability.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

***20.444 Transportation Regulation 2**

Purpose — To provide a continuation of the subject matter covered in Transportation Regulation 1.

Objective — The course will provide material that is necessary for both the buyer and the seller of transportation. This course involves the factors that are required for a comprehensive practical knowledge of transportation.

Outline — The students will be introduced to the various types of freight tariffs, how to overcome problem areas of freight claims, an introduction to marine insurance, the various agencies involved in transport regulation, and the trend to de-regulation in the United States and the implications to Canadian shippers and receivers.

Topic Headings — Freight tariffs (how to use a freight tariff, types of tariffs, important tariff provisions, special services and ancillary services tariffs, routing and misrouting); freight claims (loss and damage, undercharge, overcharge, subrogation, misrouting, reparation); the economic regulation of transport; making proposals to regulatory bodies; national policies and economic regulation; international agencies and economic regulation; and the trend to de-regulation of transport in the U.S. etc.

Prerequisite — Transportation Regulation 1

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

20.333 International Documentation Importing (formerly International Trade 1)

Purpose — The presentation is aimed at those in industry who are interested in the facets, functions and documentation of importing.

Objective — Ability to handle details of import procedures; to understand just what happens to shipments and the paperwork concerning the goods, costing, financing, insurance, transportation, documentation, and Customs clearance.

Outline — The course content will be geared to the needs and interests of the attending students. Class discussions will be encouraged.

The practical approach is emphasized. The intent of this course is to assist those in industry to understand the complexities of international trade, the terminology of international trade, and the activities involved within international trade on the local and foreign scenes, especially as it affects the importer in Canada.

Topic Headings — Introduction, Customs History, Customs Act, Customs Tariff Act, Countervailing Duty, countries and their tariff status, marking and labelling, import pricing, importers and their requirements for Customs, an introduction to Customs valuation, Customs Brokers and their relationship to importers, tariff classification, Customs invoices, Customs import entries, temporary importations, Collector's permission, Import Surveillance Program, import permits, Federal Sales and Excise taxes, bonded warehouse, refund claims, Federal Sales and Excise Tax Claims.

A combination of International Documentation Importing and International Documentation Exporting equals the course given as International Trade in Day School.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

20.441 International Documentation Exporting (formerly International Trade 2)

Purpose — The presentation is aimed at those in industry who are involved in or are interested in the facets, functions and documentation of exporting.

Objectives — Ability to handle details of export procedures; to understand just what happens to shipments and the paperwork concerning the goods, costing, financing, insurance, transportation, documentation, and many other details.

Outline — The course content will be geared to the needs and interests of the attending students. Class discussions will be encouraged.

The practical approach is emphasized. The intent of this course is to assist those in industry to understand the complexities of international trade, the terminology of international trade, and the activities involved within international trade on the local and foreign scenes, especially as it ffects the exporter in Canada.

Topic Headings — Introduction, why export? foreign trade analysis, export pricing, export documents, export permits, export sales order contract, government agencies to assist the exporter, duty drawbacks, banking and export financing, the Brussels Nomenclature, Carnet and trade fats, free trade zones, and trade terminology.

A combination of International Documentation Importing and International Documentation Exporting equals the course given as International Trade in Day School. (Students do not require Importing in order to take Exporting.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

* Has Day School equivalency

20.351 Principles of Property Management

Purpose — This course lays the foundation for a sound education in property management. It thoroughly familiarizes the student with the basic theories and techniques of managing investment real estate and is a wise investment for any person interested in Property Management.

Objective — On completion of the course, the student will have an insight into the long range welfare of the investment property and be familiar with the day to day skills necessary to manage residential and commercial properties. Students can obtain credit points for this course toward the designation of Certified Property Manager with the Institute of Real Estate Management as well as credit in the B.C.I.T. Administrative Management Program.

Outline — The course will discuss all responsibilities of the property manager such as management agreements, merchandising rental space and leasing, controlling the physical investment and maintenance, real estate economics, finance and valuation, neighbourhood analysis, property analysis and apartment management. Students will gain an overall view of the many types of property in which management opportunities abound. A textbook will be used with assigned reading.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
	Thurs./Jan. 10	

20.452 Appraising Real Property — SREA — Introduction

Purpose — The course is designed for beginners in the fields of appraiser, real estate broker, lender, builder, and assessor. It assumes no particular background for the student other than an interest in appraising and ability to learn.

It may also serve as a refresher for experienced appraisers who feel a need to refresh and update their knowledge and skills.

Objective — On completing this introductory course, the student will not be an appraiser, but will have learned how to apply the principles and techniques to actual residential appraisal problems. To become a professional appraiser, the student completing this course must add meaningful practical appraisal experience and further advanced training.

Outline — Through lectures, discussion groups, reading assignments, and practical case problems, the material covered will include such topics as principles of real estate, elements or urban land economics, nature and principles of real estate value, appraising as applied economics analysis, the appraisal framework, area analysis, neighborhood analysis, site analysis, site valuation, improvements analysis, direct sales comparison approach, gross rent multiplier analysis. Cost approach: reproduction cost of new improvements, estimation of accrued depreciation (diminished utility). Summary of the cost approach: correlation analysis and final value estimate, writing the appraisal report; professional ethics and standards of practice.

Saturday: 9:00 a.m. to 4:00 p.m.	Nov. 17
Term 1 (9 weeks)	*Unit:* 1.5 $105

NOTE There will be an orientation session for all students enrolled in this course on Saturday, November 3 at 9:00 a.m.

In addition to the B.C.I.T. course fee, students will be required to pay an identical fee to the Society of Real Estate Appraisers on the first morning of the class.

OPERATIONS MANAGEMENT TECHNOLOGY

Business Certificate in Operations Management

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Work Study 1 (22.941)	1.0	Work Study 2 (22.942)	1.5	Elective	1.0
Basic Mathematics of Finance (22.100)	1.0	Management Psychology 1 (10.221)	1.0	Organizational Behavior (10.906)	1.0
Year 2					
Statistics for Business and Industry 1 (22.535)	1.0	Statistics for Business and Industry 2 (22.635)	1.0		
Management in Industry 1 (10.131)	1.0	Management in Industry 2 10.232)	1.0		
Year 3					
Project Planning and Scheduling (22.953)	1.0	Systems Analysis (22.951)	1.0		
Inventory Planning and Control (22.902)	1.0	Operations Planning (22.903)	1.5		

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Electives

Courses which may be used as electives or substitutes when appropriate for Certificate Program in the Operations Management Technology.

Electives or substitutes may be selected for this Certificate Program from the following list.

Selections should be approved in advance in writing by a Program Consultant to ensure that they are appropriate and will be accepted as an elective or substitute.

1. Courses listed in the Operations Management Technology (Prefix 22. . .) with approval as stated above.
2. Such courses as:

		Units
10.907	Discussion Leadership	1.0
10.360/460	Business Law 1 and 2	2.0
10.135/235	Economics 1 and 2	2.5
14.050	Data Processing-Introduction	1.0
14.909	FORTRAN IV-Basic	1.0
16.904	Accounting for the Manager	1.0
31.910	Business and Technical Correspondence	1.0
31.912	Business Report Writing	1.0
31.914	Technical Report Writing	1.0
49.900	Draughting	1.0

and

Other courses listed in the Business Management Technologies selected by the student and approved in writing by a Program Consultant.

COURSES IN OPERATIONS MANAGEMENT TECHNOLOGY

****22.535 Statistics for Business & Industry 1**

Purpose — To provide a comprehensive understanding of the techniques of elementary statistical methodologies used as aids to objective decision-making. The course is generally suitable for persons requiring statistics for initiating research in the fields of marketing, audit sampling, quality control, inventory control, and business forecasting.

Content — Descriptive Statistics and Probability

Outline — Introduction to the use of statistics in business and industry; descriptive statistical techniques involving collection and treatment of data and a review of elementary set theory and probability.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

****22.635 Statistics for Business & Industry 2**

Purpose — To provide a comprehensive understanding of the techniques of elementary statistical methodologies used as aids to objective decision-making. The course is generally suitable for persons requiring statistics for initiating research in the fields of marketing, audit sampling, quality control, inventory control, and business forecasting.

Content — Inferential Statistics and Forecasting

Outline — Inferential Statistics topics include: sampling, hypothesis testing, goodness of fit, regression analysis, correlation, and time series analysis.

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (12 weeks) — *Unit:* 1.0 $70

** Provided students complete both 22.535 and 22.635 credit may be granted for any one of the following day school courses: 22.200, 22.210, 22.214, 22.216, 22.220 or 22.318

22.901 Purchasing

Purpose — This course is for people preparing to enter the purchasing field, for those who are given buying responsibilities in a small operation along with other responsibilities, for people newly appointed to a purchasing department, and for those in related fields who will benefit from knowing the fundamentals of purchasing, for example, housekeepers, maintenance personnel, etc.

Objective — Students will gain a fundamental knowledge of the principles and practices of purchasing.

Outline — In the 12 weeks this course will include the functions of a purchasing unit, the relationship and responsibilities to management; centralized purchasing; negotiating controls; buying for quality, quantity, and price; timing and sources of supply; receiving and warehousing; and inventory control. (See 22.902) for a supporting course in Inventory Planning & Control.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	*14 weeks (1 night a week)*	*1:0 unit of credit ($70)*
Term 1	*Term 2*	*Term 3*
Thurs./Sept. 13		

WEEK LONG COURSES

9:00 a.m.-5:00 p.m.	*Monday to Friday*	*1.0 unit of credit ($70)*
At B.C.I.T.		*Downtown*
The week Beginning		*The week Beginning*
Jun. 16		

22.951 Systems Analysis

Purpose — This course is designed for students entering system analysis field and for those who desire to use the systematic techniques of problem solving in administration, manufacturing, sales and technical fields.

Objective — To provide a basic training in theory and practice of systems quantitative analysis in such manner to enable students to practice these in their own particular field of endeavour.

Objective — The course will offer drawing in system theory, problem selection, organization, definition; use of system charts and quantitative methods for data gathering and analyses; development of alternatives, reporting and followup; and cost benefit analysis. In addition to lectures and exercises students will be expected to complete a term project as a part of the course.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

*** Provided students complete both 22.941 and 22.942 credit may be granted for any one of the following day school courses 22.342, 22.247, 22.310, 22.218, 22.320, 22.334, 22.346, 22.349.

22.953 Project Planning and Scheduling

Purpose — This course is designed for those who have a limited knowledge of the Critical Path Method or who wish to acquire a basic grounding in the CPM technique and its application to the management of projects.

Objective — To introduce the fundamentals of the Critical Path technique, especially in the area of planning, scheduling, resource allocation, and project management.

Outline — Through lectures, case studies, and a simulated construction project, the course material covers introduction to planning and scheduling techniques; Gantt charts; arrow diagrams; precedence diagrams; PERT; time-cost relationships; resource allocation; bid determination; project management; and the role of the computer.

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

22.941 Work Study 1

Purpose — This course is the fundamental course in Operations Management and is designed to create a systematic approach to problem-solving.

Objective — To create a plan for solving problems and to give the student the ability to apply this technique to his daily environment.

Outline — Principles of systematic scientific problem-solving as related to business and industry; selection of study areas, including economic feasibility; recording techniques, including assembly and display of data for analysis and dissemination; critical examination and development of alternative solutions for design and production problems; installation and maintenance of preferred solutions; importance and implications of human factors related to method study; motion economy and workplace design, supplemented by application of all topics to practical situations, intended as Part 1 of a two-part program leading to a basic knowledge of Work Study.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

***22.942 Work Study 2

Purpose — To proceed from Work Study 1 into the area of time analysis and relating costs of time.

Objective — (1) To familiarize the student with various systems of recording time and establishing standard times for work.

(2)To allow the student to do a complete work study exercise through to final report.

Outline — The course will cover historical times, work sampling and techniques, predetermined time systems, and the development of standard times from these techniques.

It will present a case problem requiring the student to apply the knowledge gained in both Work Study 1 and 2 as a final assignment.

Prerequisite —22.941 Work Study 1

Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (18 weeks) — *Unit:* 1.5 $105

****22.961 Materials Handling 1**

Purpose — This course will be of particular interest to people in the fields of warehousing, purchasing and stores and traffic and transportation. It provides the basis for proceedings to Materials Handling 2.

Objective — To introduce an organized approach to the study of materials handling problems. The course is designed to allow the person with little or no analytical background to develop a basic awareness of materials handling problems and to become familiar with techniques of analysing and developing solutions to those problems.

Outline — Lectures, films and working sections coupled with home assignments develop a basic working knowledge of how to solve materials handling problems. The course will provide an introduction to the materials handling environment, methods study techniques, classification of problems, layout planning (both over-all and detailed) for plant and office; introduction to economic justification for change.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

****22.962 Materials Handling 2**

Purpose — To give the person who has been introduced to the materials handling field a detailed method of analysing problems and determining alternative materials handling systems.

Objective — To enable the student to develop and sell a materials handling system.

Outline — Detailed handling analysis, development of integrated handling systems, economic justification of change, and comparison of current systems and equipment.

Prerequisite —Materials Handling 1.

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

22.902 Inventory Planning and Control (formerly part of Production Control Management)

Purpose —This course is designed for people preparing to enter the inventory planning field and for those who interface with an inventory system and would benefit from knowing the fundamentals of inventory planning.

It will be of particular interest to people intending to enter the Operations Planning field and others such as Purchasing Agents, buyers, maintenance planners, production schedulers, sales managers, warehouse managers, mill storekeepers and partsmen.

Objective — On completion of the course students will have a basic knowledge of the techniques used in the design and control of inventory systems.

Outline — Material covered will include: forecasting inventory requirements (the need and the techniques); the A.B.C. classification to material requirements planning; the role of the computer; inventory information flow and inventory control system design.

Prerequisite — Students enrolling in this course should have some understanding of basic algebra.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS

5:00-7:15 p.m.	*14 weeks (1 night a week)*	*1.0 unit of credit ($70)*
Term 1	*Term 2*	*Term 3*
Wed./Sept. 12		

DOWNTOWN CAMPUS

7:30-9:45 p.m.	*14 weeks (1 night a week)*	*1.0 unit of credit ($70)*
Term 1	*Term 2*	*Term 3*
Mon./Jan. 7		

WEEK LONG COURSES

9:00 a.m. to 5:00 p.m.	*Monday through Friday*	*1.0 unit of credit ($70)*
At B.C.I.T.		*Downtown*
The week Beginning		*The week Beginning*
Jun. 9		*XXXXX*

22.903 Operations Planning

Purpose — This course is for people preparing to enter the production control management field, for those who are presently working in a production environment such as production schedulers, production foremen shippers, etc., and for those working in related fields, for example — salespersons, stores personnel, or systems analysts.

Objective — On completion of Operations Planning the student should expect (a) to have a fundamental knowledge of techniques used in the design and control of raw material production and sales co-ordinating systems, (b) to be able to analyze an existing system and recommend changes to the information flow.

Outline — The course through lectures, case studies and a factory simulation will cover the following materials: types of production environments; production information flow, inventory/production/sales relationships, forecasting production requirements, production planning, manpower and machine loading, scheduling, analyzing and controlling performance, the role of the computer and Production Control System design.

Students will operate a factory for several weeks of consecutive plant operation through the facilities of a computerized production system simulator. This simulation will provide the student with a means of gaining experience in controlling and designing a total production system.

Prerequisite — Inventory Planning and Control or permission of the co-ordinator.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

** Students taking both Materials Handling 1 and 2 may be granted credit for the day school course 22.306 Industrial Engineering.

22.904 Quality Control Methods 1

Purpose— To provide people who would benefit from a knowledge of quality control with a basic understanding of the principles of modern methods.

Objective— On completing this course students will have an insight into the problems encountered in achieving quality levels and an understanding of the important techniques used to solve problems of product quality in Industry.

Outline— Main topics are: development of quality, planning for quality, organizing for quality, engineering a quality product, reliability and maintainability assurance,material control system, inspection and test, non-destructive testing, metrology and quality costs.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

22.905 Quality Control Methods 2

Purpose— This course is a continuation of Quality Control Methods 1 and is designed to enable the student to handle some of the advanced techniques for quality control.

Objective— On completing this course students will have been prepared to write the American Society for Quality Control exams for Quality Technicican and/or Quality Engineer.

Outline— Main topics covered are: Quality Control Management, Engineering Technology of Quality Control, Statistical Technology of Quality Control, Motivational Methods, Applying Total Quality Control in the Company.

Prerequisite—Quality Control Methods 1.

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

**22.100 Basic Mathematics of Finance

Purpose—An introductory course for those who wish an understanding of the earning power of money and its changing value over time as it applies to commercial transactions, as well as the personal financial planning of everyday activities.

Objective— Since the concept of interest is universally applicable to both business and personal transactions, the primary objective of this course is to give the student a sound background in the basic mathematical principles used in computations.

Outline— Through lectures and supervised class exercises the course material covers note discounting, interest, the concept of present value, instalment plans, annuities, mortgages, sinking funds, depreciation methods, and techniques of evaluation investment alternatives.

Wednesday: 6:45-9:45 p.m. *or*	Sept. 12
Saturday: 9:00 a.m. to 12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	*14 weeks (1 night a week)*	*1.0 unit of credit ($70)*
Term 1	*Term 2*	*Term 3*
Mon./Sept. 10	*Mon./Jan. 7*	

22.963 Mathematics for Management

Purpose— To provide a solid foundation in the type of mathematics fundamental to many of the quanitatively oriented business subjects, techniques, or formal programes of study (BCIT Bus. Cert., M.B.A., B.Comm., R.I.A.)

Objective— In the past two decades, new techniques such as linear programming, simulation, discounted cash flow, and inventory control models have been widely applied in a variety of business situations. However, persons wishing to learn about these new techniques are often hampered by a deficient mathematical background. Also, persons seeking full competency in such subject areas as economics, finance, marketing research, etc., often feel restricted by an inadequate grounding in the quantitative skills relevant to these subjects. The object of this course is to provide the necessary mathematical background.

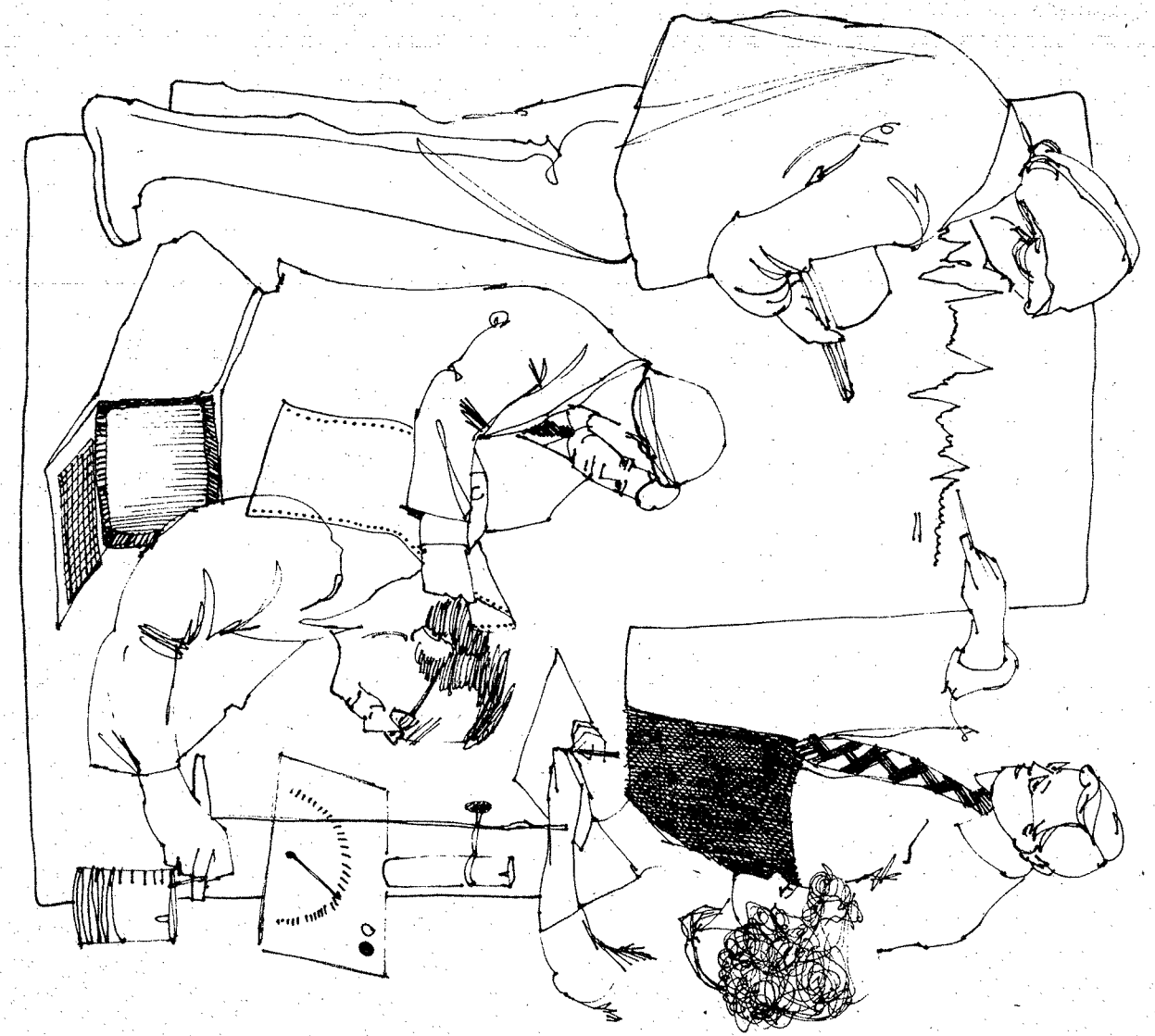
Outline— The course is application-oriented, with the applications being chosen from the real business world. After an initial period of reviewing some necessary high school algebra, new theory will be introduced as it is required in the context of solving a real-life problem.

Some topic-problem area associations will be mathematics of finance-mortgages, depreciation, etc.: linear algebra — break-even analysis of business operations; matrices and determinants — material and labour constraints; linear inequalities — available resource constraints; linear programming — optimum resource allocation.

As a point of interest, the student will get some computer experience in solving the linear programming problems just mentioned.

Monday: 6:45-9:45 p.m. *or*	Jan. 7
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (18 weeks)	*Unit:* 1.5 $105

** Students may be granted credit for any one of the following day school courses: 22.110, 22.114, 22.116, 22.118, 22.120



CORE CONTINUING EDUCATION

ENGINEERING AND CORE CONTINUING EDUCATION ADMINISTRATION

Allan Willcox, B.A.Sc., P.Eng. ..... Head, Engineering & Core Continuing Education
Gordon Kenyon, P.Eng. ..... Assistant Head, Engineering & Core continuing Education
Terry Francis. ..... Program Assistant

****

Telephone (604) 434-5734, local 582

B.C.I.T. PREPARATORY PROGRAM

B.C.I.T. offers to individuals seeking entrance to full-time or part-time technology programs a number of non-credit preparatory courses through Continuing Education. This academic upgrading program provides students the opportunity to meet B.C.I.T. entrance requirements and thus become eligible for their admission application to be considered by taking one or more courses. The program is of particular interest to mature students, students who are missing specific prerequisites and students who have weak backgrounds or have had marginal success in Chemistry, English, Mathematics and Physics.

Courses in this program are usually offered during three time periods:

January-April	Evenings
May-August	Evenings
June-August	Days and Evenings

Courses may be taken individually or as a package. Since all courses may not be available in each time period, students should consult the Continuing Education course offerings for exact dates and times.

It is recommended that students indicate which B.C.I.T. preparatory courses they plan to complete when applying for admission to day school programs.

Advice on course selection is available through Continuing Education.

The following courses are designed as prerequisites to B.C.I.T. level technological courses and satisfy specific course entrance requirements as outlined in the B.C.I.T. calendar:

a) Pre-Entry Chemistry 30:909
- An upgrading course for individuals whose background in Chemistry is weak and a refresher for those who have not studied chemistry for several years.
- 78 hours
- satisfies Chemistry 11 entrance requirement.

b) Reading and Study Skills 31:998
- This course deals with the skills a student needs to be successful in learning situations.
- 24 hours

c) Comprehensive Reading, Writing & Study Skills 31:996
- Provides extensive coverage of reading, writing & study skills necessary for successful completion of technology programs.
- 80 hours

d) Effective Writing 31:997
- This course develops the basic skills of effective writing and uses them in a variety of paragraph forms related to technical writing.
- 24 hours.

e) English As A Second Language 31:999
- Preparatory course for students with English as a second language. Enables them to deal more effectively with post-secondary demands.
- Equivalent to 098-099 at Vancouver Community College Special Programs Division. Satisfies TOEFL entrance requirement.
- 14 weeks
- 20-25 hours per week.

f) Pre-Entry Mathematics 32:950
- An upgrading course for students who have not completed high school mathematics.
- 90 hours
- satisfies Math 12 or Algebra 12 entrance requirement
- prerequisite: Math 11 or Algebra 11 or equivalent.

g) Refresher Mathematics 32:951
- A refresher course for mature students and for students with weak backgrounds in mathematics.
- 80 hours
- satisfies Algebra 12 or Math 12 entrance requirement.
- prerequisite: Math 12 or Algebra 12 or equivalent.

h) Remedial Mathematics 32:X95
- A self-study course for students whose background in mathematics is weak or who have not studied mathematics for several years.
- home study
- satisfies Algebra 12 or Math 12
- prerequisite: Math 11 or Algebra 11

i) Preparatory Business Mathematics 22:900
- An upgrading and refresher course for students entering Business programs
- 48 hours
- satisfies Math 11 or Algebra 11 entrance requirement.

j) Pre-Entry Physics 33:909
- An upgrading course for individuals whose background in Physics is weak and a refresher for those who have not studied Physics for several years.
- 78 hours
- satisfies Physics 11 entrance requirement.

More detailed course information is available in the various department sections of this calendar.

FOR SPECIFIC DATES, PLEASE CHECK THE APPROPRIATE CORE DEPARTMENT OR WITH THE DIVISION OF CONTINUING EDUCATION

On campus and off-campus housing is available June through August from the B.C.I.T. Housing office.

CHEMISTRY DEPARTMENT

30.902 Chemical Principles 1

30.903 Chemical Principles 2

Objectives — To allow persons with little chemical background to understand the basic concepts and operations of chemical analysis. Emphasis is placed on the practical application of chemical theory to laboratory problems.

Outline — Topics studied are chemical symbols, molarity, normality, balancing of equations, acid-based reactions, redox reactions, theory of volumetric analysis, acid-base equilibria in solution (pH and pOH, buffers, hydrolysis), solubility equilibrium (precipitation reactions and solubility product calculations, colligative properties (vapour pressure lowering and depression of freezing point), electrochemistry (electrolytic and voltaic cells, electromotive series, standard and nonstandard cell potentials, Nernst equation, corrosion). Organic chemistry recognizing the more common functional groups, nomenclature of both common and IUPAC names, some chemical and physical properties, reactions, preparations, and uses of some of the more common commercially available organic chemicals.

Part 1 (30.902)

Mon. & Wed.: 6:45-9:45 p.m.	Sept. 10.
Term 1 (12 weeks)	*Units:* 2.0 $140

Part 2 (30.903)

Mon. & Wed.: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 3.0 $210

30.510/610 Analytical Chemistry

Purpose — To introduce the student to basic concepts, methods, and techniques used in "wet" and common instrumental analysis. The course should be of interest to individuals working in a variety of chemical laboratories, and who wish a basic understanding of common methodology and techniques.

Outline — Topics covered in lectures include sample decomposition, data treatment, precipitation and complexometric titrations, solvent extraction, ion exchange, and fire assaying.

Laboratory exercises include the wet analysis of Fe, Cr, Sn, Cu, As, S, SiO_2 and fire assaying for Au and Ag.

This course will not be offered in 1979/80.

30.905 Organic Chemistry 1

30.906 Organic Chemistry 2

Purpose and Objectives — To allow individuals with little or no background in chemistry an opportunity to obtain a basic knowledge of organic chemistry. Persons wishing to prepare for the pre-registration examination for the Association of Professional Engineers would find this course useful.

Outline — Course covers nomenclature, physical properties, reactions, and preparations of the major classes of organic compounds — aliphatic, aromatic, halides, alcohols, ethers, carboxylic acids, esters, aldehydes, ketones, amines, and amides. Attention will be focused on the uses of organic chemicals in industrial preparations and applications, e.g., oil refining, the petrochemical industry, polymers, etc.

Discussions of infrared, nuclear magnetic resonance, mass spectrometry, and ultraviolet spectroscopy are included. Attempts are made to give a working knowledge of interpretation of spectra. Theory of chromatography; column, paper, thin-layer, and its application to organic qualitative analysis.

This course will not be offered in 1979/80.

30.913 Gas and Liquid Chromatography

Purpose — This course is to introduce students to the use of Gas Chromatography (GC) and high performance liquid chromatography (HPLC) for solving organic analysis problems. Applications of GC and HPLC are found in energy, chemical, food and forest industries as well as laboratories concerned with environmental and clinical work.

Outline — This twelve week course will consist of both lectures and laboratory. The lectures will cover topics such as: separation theory, instrument operation and trouble shooting, quantitative and qualitative analysis, columns, detector applications and sample preparation. Laboratory experiments will demonstrate the principles covered in lectures.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

30.918 Laboratory Safety and Organization

Objective — To enable people in the following categories to manage science laboratories efficiently and safely using a scientific approach to overcome inherent problems and dangers; *(a)* laboratory assistants, technicians, teaching assistants, and science support staff employed in educational establishments; *(b)* stores personnel employed in industry, research organizations, schools, hospitals, colleges, and universities; *(c)* laboratory assistants and technicians employed in industrial and research laboratories *(d)* secondary school students, graduates, or anyone interested in categories *(a)* to *(c)*, inclusive.

This course will consist of lectures, laboratory instruction and open discussion as the material to be covered dictates.

Outline — General rules, dangers, and precautions from general operations, chemicals, poisons, and explosions. Fire precaution, classes, extinguishers, fire-fighting; dangers from electricity, precautions; dangers from gas cylinders, precautions; dangers from radioactivity, precautions; dangers, precautions, design in planning chemical stores, storage of chemicals, hazardous combinations; storage by scientific approach; function, control, records, documentation; the ordering process, stock movement and control; solving special organizational and management problems.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Units:* 1.0 $70

30.305 Chemical Instrumentation 1

Objective — To allow persons engaged in chemical and related industries to understand and to perform the simpler aspects of servicing and maintenance of common chemical instruments.

Outline — Electrodes and transducers, electrical components, power supply modules; pH meters, potentiometric recorders, colorimeters, gas chromatographs. Laboratory work consists of examination of components, calibration, and fault-finding on instruments.

This course has no special prerequisites and has been designed for persons involved in a diverse range of industries.

Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (12 weeks) — *Unit:* 1.0 $70

30.405 Chemical Instrumentation 2

Objective — To allow persons with some background in instrumental analysis to understand basic signal-processing techniques and to construct some useful auxiliary circuits.

Outline — Fundamentals of operational amplifiers, methods used in detecting equivalence points in potentiometric titrations, coulometric titrators, integrators in polarography, and gas chromatography. Uses of logarithmic amplifiers. Analogue to digital convertors. Laboratory work consists of construction and evaluation of instruments described in lectures.

Wednesday: 6:45-9:45 p.m. — April 9
Term 3 (12 weeks) — *Unit:* 1.0 $70

Preparatory Courses

B.C.I.T. offers to individuals seeking entrance to full-time technology programs a number of non-credit preparatory courses. This academic upgrading provides students the opportunity to meet entrance requirements.

30.909 Pre-entry Chemistry

An upgrading course for people whose background in chemistry is weak and a refresher course for those who have not studied chemistry for several years. Meets the Chemistry 11 program entrance prerequisite for B.C.I.T. Day School.

Mondays and Wednesdays — May 12 to Aug. 13, 1980
6:45-9:45 p.m. each evening

ENGLISH DEPARTMENT

31.900 English Fundamentals

Purpose — To review the fundamentals of writing, emphasizing development of practical language skills.

Objective — Students will improve their ability to write correct and effective English.

Outline — This course operates mainly on a tutorial basis to diagnose and correct individual weaknesses. Students will do written exercises at every session. Topics include organization techniques, sentence structure, word choice, coherence, grammar, spelling, punctuation and use of dictionaries.

NOTE — This course requires a level of English language proficiency approximately equivalent to completion of Grade 12. It is not designed to diagnose and remedy serious English language difficulties.

Thursday: 6:45-9:45 p.m. *or*	Sept. 13
Saturday: 9:00 a.m. to 12 noon	Sept. 15
Term 1 (12 weeks)	$70
Begins Again:	
Thursday: 6:45-9:45 p.m. *or*	Jan. 10
Saturday: 9:00 a.m. to 12 noon	Jan. 12
Term 2 (12 weeks)	$70
Begins Again:	
Thursday: 6:45-9:45 p.m.	April 10
Term 3 (12 weeks)	$70

31.902 Introduction to Business and Technical Communication

Purpose — To survey the major types of communication skills needed in business, industry and public service.

Objective — Students will learn the concepts and skills necessary to understand how to communicate effectively.

Outline — The course will cover the following topics: basic principles of effective style and organization, appropriate formats for letters, memos and reports, oral reporting, telephone and interview techniques.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m.	April 8
Term 3 (12 weeks)	*Unit:* 1.0 $70

31.905 Reading Improvement and Study Skills

Purpose — To teach purposeful and flexible reading and study skills.

Outline — This course emphasizes development of flexible reading rates and comprehension. Major skills taught are skimming and scanning, pre-reading, chapter survey, note taking, and exam preparation.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Tues. & Thurs.: 6:45-8:45 p.m.	Sept. 11
or	
Tues. & Thurs.: 6:45-8:45 p.m.	Oct. 23
Term 1 (6 weeks)	$47
Begins Again:	
Tues. & Thurs.: 6:45-8:45 p.m.	*Jan. 8*
or	
Tues. & Thurs.: 6:45-8:45 p.m.	Feb. 19
Term 2 (6 weeks)	$47

31.910 Business and Technical Correspondence

Purpose — To teach effective business and technical letter and memo writing.

Objective — Students will improve their memo and letter writing ability.

Outline — Topics include sales letters, collection letters, inquiries and others, credit letters, claim and adjustment letters, application letters and resumes, and a variety of memoranda.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Thursday: 6:45-9:45 a.m. *or*	Sept. 13
Saturday: 9:00 a.m.-12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0
Begins Again:	
Monday: 6:45-9:45 p.m. *or*	Jan. 7
Thursday: 6:45-9:45 p.m. *or*	Jan. 10
Saturday: 9:00 a.m.-12 noon	Jan. 12
Term 2 (12 weeks)	*Unit:* 1.0
Begins Again:	
Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11		

31.911 Business and Technical Report Writing

Purpose — This course is designed to improve the report writing skills of persons presently employed, or intending to be employed, in business or industry.

Scope — The organization and presentation of a variety of reports will be considered, discussed, and practised. Particular attention will be given to those types of reports selected by the students as best meeting their vocational needs. Some aspects of letter writing will be discussed, but emphasis will be placed on report writing.

DOWNTOWN CAMPUS (see page 31)

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Wed./Sept. 12		

31.912 Business Report Writing

Purpose — To teach the fundamentals of effective business report writing.

Objective — Students will learn to report business information clearly and effectively.

Outline — Topics include collecting and using data, organizing report format and structure, summarizing, using graphics and developing an effective business writing style.

NOTE Students with basic English language difficulties will be referred to other, more appropriate courses.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

31.914 Technical Report Writing

Purpose — To teach the fundamentals of effective technical report writing.

Objective — Students will learn how to report technical information clearly and effectively.

Outline — Topics include collecting and using data, organizing report format and structure, summarizing, using graphics and developing an effective technical writing style.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

31.920 Business & Technical Report Writing — Advanced

Purpose — To teach the principles of business and technical report writing. This is an advanced course designed to be of interest to those who have the basic skills and knowledge necessary to write literate English and who already occupy middle or upper management positions in business, government or industry.

Objective — Students will improve their ability to organize material into logical written forms.

Outline — Through lectures, seminars and case studies, the course will cover report format, logic, summarization, problem solving and topic development. Where possible, emphasis will be placed on improving examples of written work students are actually doing for their employer.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

31.922 Business and Technical Editing

Purpose — This course is intended for those who are responsible for editing business or technical material. Those who edit others' writing, newsletters or house journals, and who supervise or co-ordinate preparation of reports will benefit from this course.

Objective — Students will learn the fundamentals of editing including: supervision of writing assignments, rewriting and layout.

Outline — All aspects of business and technical editing will be covered, including: audience analysis, effective format and layout, and supervising writers.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (6 weeks)	*Unit:* 0.5 $35
Begins Again:	
Thursday: 6:45-9:45 p.m.	April 10
Term 2 (6 weeks)	*Unit:* 0.5 $35

31.930 Oral Reporting

Purpose — To help participants develop confidence and ability in the preparation and delivery of oral reports.

Objective — Students will improve their ability to prepare and present clear and effective oral reports.

Outline — Topics include: planning the oral report, finding, organizing and structuring support material, preparing effective introductions and conclusions, preparing and using audio-visual aids, delivery techniques.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m.	April 8
Term 3 (12 weeks)	*Unit:* 1.0 $70

31.934 Telephone Communication Techniques

Purpose — To teach techniques for effectively using the telephone as a communication tool.

Objective — Students will learn effective telephone techniques.

Outline — The course will cover the following areas: how to plan, make and follow-up the call; how to use the telephone to find prospective clients; how to set up meetings; how to answer inquiries; and how to use the telephone to manage time effectively. The course will also show how telephone techniques can be used for other communication tasks.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Tuesday: 6:45-9:45 p.m.	April 8
Term 3 (12 weeks)	*Unit:* 1.0 $70

WEEKEND SPECIALS

31.970 Writing For Results

Purpose — This 18 hour weekend presentation is designed for the student who wishes to improve skills and explore techniques in effective business writing.

Objective — Students will return to the office after this weekend with a better understanding of the writing process and with the ability to function more effectively in business writing.

Outline — The presentation will deal primarily with letters, memos and reports which are normal to a business office. Material covered will include analyzing the readers' needs and expectations, using appropriate formats and producing clear, concise communication.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Friday: 6:00-10:00 p.m. Oct. 12
Saturday: 9:00 a.m.-5:00 p.m.
Sunday: 9:00 a.m.-5:00 p.m. *Unit:* 0.5 $45

Begins Again:
Friday: 6:00-10:00 p.m. Feb. 8
Saturday: 9:00-5:00 p.m.
Sunday: 9:00-5:00 p.m. *Unit:* 0.5 $45

Begins Again:
Friday: 6:00-10:00 p.m. May 30, 1980
Saturday: 9:00-5:00 p.m.
Sunday: 9:00-5:00 p.m. *Unit:* 0.5 $45

31.972 Writing Reports

Purpose — This 18-hour workshop is designed to teach the practical skills and techniques necessary for writing effective business and technical reports.

Objective — Participants will return to work better able to write clear, effective reports.

Outline — The workshop will cover how to define the objective of the report and how to use appropriate formats, organizational structures, style and graphics. It will make specific application to both long and short reports.

Friday: 6:00-10:00 p.m. Nov. 23
Saturday: 9:00-5:00 p.m.
Sunday: 9:00-5:00 p.m. *Unit:* 0.5 $45

Begins Again:
Friday: 6:00-10:00 p.m. Feb. 29
Saturday: 9:00-5:00 p.m.
Sunday: 9:00-5:00 p.m. *Unit:* 0.5 $45

31.976 Writing Effective Letters

Purpose — This 18-hour workshop is designed to teach effective letter writing for business, government and industry.

Objective — Participants will learn to design and write the major types of letter and to judge what type of letter is required in a given situation.

Outline — Topics will include: sales letters; collection letters; inquiries and general letters; claim and adjustment letters and application letters; also letter format; style and organization.

Friday: 6:00-10:00 p.m. Oct. 26
Saturday: 9:00-5:00 p.m.
Sunday: 9:00-5:00 p.m. *Unit:* 0.5 $45

Begins Again:
Friday: 6:00-10:00 p.m. Jan. 25
Saturday: 9:00-5:00 p.m.
Sunday: 9:00-5:00 p.m. *Unit:* 0.5 $45

31.978 Improving Organizational Communication

Purpose — This 7 hour course is designed for managers who are responsible for the writing of others. It will cover organizational systems and managerial methods required to produce more effective staff writing and reduce communication breakdowns.

Objective — Managers will return to the job with a better understanding of the goals of good organizational communication and with the techniques to encourage clear effective writing from their employees.

Outline — The course will cover: 1. methods for setting up efficient systems for written communication in an organization 2. techniques for improving employees' written communication 3. effective methods for supervising and editing employees' written work.

NOTE — Students with basic English language difficulties will be referred to other, more appropriate courses.

Saturday: 9:00-5:00 p.m. Oct. 20

Begins Again:
Monday: 9:00-5:00 p.m. March 10

Preparatory Courses

B.C.I.T. offers to individuals seeking entrance to full-time technology programs a number of non-credit preparatory courses. This academic upgrading provides students the opportunity to meet entrance requirements.

31.998 Textbook Reading and Study Skills (24 hours,)

Purpose — To teach the skills students need to be successful in learning situations.

Outline — Topics will include textbook reading, note taking, exam writing, and time management skills.

NOTE: Students with basic English language difficulties will be referred to other, more appropriate courses.

START DATES/80	*DAYS*	*TIMES*
June 3-26	*Each Tues, Wed, Thurs*	*9:00 a.m.-11 a.m. or*
July 1- 24	*Each Tue, Wed, Thurs*	*1:30-3:30 p.m. or*
July 29-Aug 21	*Each Tue, Wed, Thurs*	*7-9 p.m.*

31.997 Effective Writing (24 hours,)

Purpose — To develop basic skills of effective writing.

Outline — Topics will include: paragraph development, sen-

tence construction, work choice, and the mechanics of punctuation, spelling, etc.

NOTE: Students with basic English language difficulties will be referred to other, more appropriate courses.

START DATES/80	*DAYS*	*TIMES*
June 3-26	*Each Tue, Wed, Thurs*	*7-9 p.m. only*
July 1-24	*Each Tue, Wed, Thurs*	*9-11 a.m. or*
July 29-Aug. 21	*Each Tue, Wed, Thur*	*1:30-3:30 p.m. or*
		7-9 p.m.

31.996 Comprehensive Reading, Writing and Study Skills
(80 hours, $80)

Purpose — To develop all the basic learning skills necessary for successful learning.

Outline — Topics will include: reading skills (reading for speed and comprehension, reading textbooks); study skills (listening, notetaking, exam writing); writing skills (paragraph development, sentence construction, word choice, punctuation).

START DATES/80	DAYS	TIMES
July 30 thru Aug. 24	*Monday thru Friday*	*8:30 a.m.-12:30 p.m.*
July 28 thru Aug 22		

31.999 English as a Second Language (280 hours, $135)

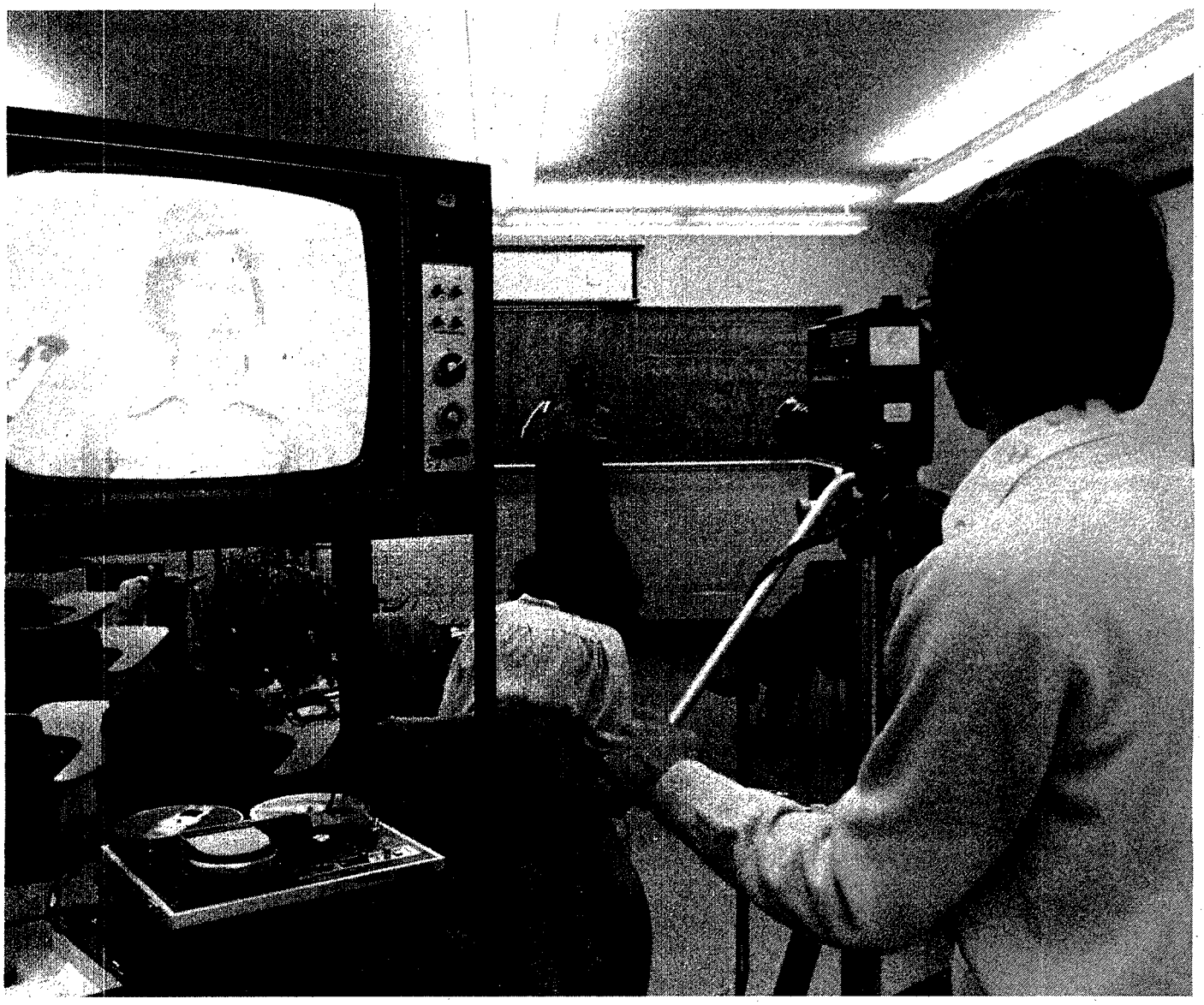
Purpose — To help students deal more effectively with B.C.I.T. English language requirements.

Outline — The course will include writing, reading, listening, speaking and study skills.

NOTE: This course is equivalent to 098-099 at Vancouver Community College, Special Programs Division. Successful completion satisfies the B.C.I.T. English language entrance requirement.

START DATES	*DAYS*	*TIMES*
January 7 to April 18/80	*Monday through Friday*	*8:30 a.m.-2:30 p.m.*

Prerequisite —Students may be required to take the English Language Assessment at Vancouver Community College, Special Programs Division". A score of 95 or better is required.



MATHEMATICS DEPARTMENT

Students who require program consultation should read Section 3 on "Program Consultation" on page 21 of this calendar.

Students taking Mathematics — Algebra 1, 2, Logarithms or Trigonometry will require a calculator. Consult with the instructor on the first night of classes as to the most appropriate model to acquire.

32.900 Mathematics — Algebra 1

A review of appropriate mathematical topics designed especially as a preparation for Mathematics — Algebra 2. The course is tailored to meet the individual needs of the students in the class.

TEXT — "Introduction to Technical Mathematics" A. J. Washington (Cummings).

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	$70
Begins Again:	
Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	$70
Begins Again:	
Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	$70

DOWNTOWN CAMPUS

5:00-7:15 p.m.	14 weeks (1 night a week)	$70
Term 1	Term 2	Term 3
Tues./Sept. 11		

TO ASSIST IN THE CORRECT PLACEMENT OF STUDENTS IN EITHER 32.900 or 32.901, A DIAGNOSTIC TEST BASED ON THE CONTENT, 32.900 WILL BE GIVEN TO ALL STUDENTS IN THE FIRST MEETING OF 32.900 and 32.901.

32.901 Mathematics — Algebra 2

A course in the application and theory of algebraic equations and functions as used in engineering technologies. Such equations and functions will be considered from an analytical as well as a graphical point of view. The program will include an introduction to right triangle trigonometry.

TEXT — "Basic Technical Mathematics with Calculus" A. J. Washington (Cummings).

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m. *or*	*Sept. 11*
Saturday: 9:00 a.m. to 12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Monday: 6:45-9:45 p.m. *or*	Jan. 7
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11		

Prerequisite: 32.900 Mathematics — Algebra 1 or recent Math 12.

32.902 Mathematics — Logarithms and Analytic Geometry

A study of the theory and applications of common and natural logarithms. Emphasis will be placed on the plotting of logarithmic and semilogarithmic graphs and their interpretation and use.

An introduction to analytic geometry; in particular a study of the geometrical and practical properties of the conic sections. A brief consideration of quadratic surfaces will be included.

Prerequisite: 32.901 Mathematics — Algebra 2.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again	
Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Wednesday: 6:45-9:45 p.m.	April 9
Term 3 (12 weeks)	*Unit:* 1.0 $70

32.903 Mathematics — Trigonometry

A course for students in Engineering Technologies in the application and theory of functions. The role of trigonometry in the solution of vector and triangle problems is emphasized. In addition, special consideration is given to the use of trigonometric identities in the solving of trigonometric equations.

Prerequisite: 32.901 Mathematics — Algebra 2.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70
Begins Again:	
Monday: 6:45-9:45 p.m.	Jan. 7
Term 3 (12 weeks)	1.0 $70

32.505/605 Mathematics (Calculus 1)

An introductory course in calculus and its technical applications involving the differentiation and integration of algebraic functions. Some of the topics included are related rates, curve sketching, applied maxima and minima, areas, volumes, centroids, and moments of inertia.

Prerequisite: 32.901, 32.902 and 32.903.

TEXT — "Basic Technical Mathematics with Calculus" A. J. Washington (Cummings).

Monday: 6:45-9:45 p.m.	*or*	Sept. 10
Saturday: 9:00-12 noon		Sept. 15
Term 1 (12 weeks)		$70
Continues:		
Monday: 6:45-9:45 p.m.	*or*	Jan. 7
Saturday 9:00-12 noon		Jan. 12
Term 2 (12 weeks)		*Unit:* 2.0 $70
Begins Again:		
Tues. & Thurs.: 6:45-9:45 p.m.		Jan. 8
Term 2 (12 weeks)		*Units:* 2.0 $140
Begins Again:		
Mon. & Wed.: 6:45-9:45 p.m.		March 31
Term 3 (12 weeks)		*Units:* 2.0 $140

32.506/606 Mathematics (Calculus 2)

Further calculus and technical applications involving differentiation and integration of trigonometric, logarithmic, and exponential functions. Included in the course are the conics, power series, partial differentiation, and an introduction to differential equations.

Prerequisite: 32.505/605 or equivalent.

TEXT — " Basic Technical Mathematics with Calculus" A. J. Washington (Cummings).

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	$70
Term 2 (12 weeks)	*Units:* 2.0 $70

32.516/616 Mathematics (Calculus 3)

A course in differential equations, with emphasis on technical applications throughout. First order differential equations; variables separable homogeneous, linear, and Bernouilli's. Second order differential equations with constant coefficients; complementary functions and particular integrals. The D operator. Miscellaneous methods of solving differential equations.

Prerequisite: 32.506/606 or equivalent.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	$70
Continues:	
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 2.0 $70

This course will be offered in odd-numbered years only.

32.507/607 Probability and Statistics 1

An introduction to statistical methods and their application to technological problems. Topics studied are: organization and graphical representation of data; frequency distributions; measures of central tendency — the arithmetic mean, the median, the mode, quartiles, deciles, percentiles; measures of variation — the mean deviation, the standard deviation, quartile deviation, standard scores; introduction to probability; the rules of addition and multiplication; mathematical expectation; theoretical distributions; the binomial distribution; the normal curve and use of tables to obtain normal curve areas; populations and samples; sampling techniqus; sampling distributions; problems of estimation; small samples and Student's t-distribution; confidence intervals; tests of hypotheses; types of error; significance; linear regression; method of lease squares; correlation.

NOTE — This course requires a working knowledge of mathematics at the Grade 12 level.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	$70
Continues:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 2.0 $70

32.508/608 Probability and Statistics 2

Further hypothesis testing; the chi-square distribution; analysis of variance and experimental design; non-parametric statistics, non-linear and multiple regression; introduction to quality control.

Prerequisite: Statistics 1, 32.507/607

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	$70
Continues:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 2.0 $70

32.509/609 Mathematics (Introductory Numerical Methods and Computer Programming)

These units cover a course on introductory numerical methods, together with computer-programming techniques. The topics included are the nature of numerical methods algorithms, iterative methods in the solution of algebraic and transcendental equations: matrix methods, systems of linear equations and their solutions; the Gauss-Jordan method; numerical integration trapezoidal and Simpson's rules; Taylor's series and the numerical solution of elementary differential equations. The emphasis is on technical problems and computer programming methods are presented which allow numerical solutions to be processed on the IBM 370 system.

Prerequisite: 32.506/606 or equivalent.

This course will not be offered in 1979/80.

32.522/622 Mathematics (for Electrical & Electronics Technology)

A course on the theory and application in the Electrical and Electronics fields of the following topics: Solution of systems of linear equations by the methods of elimination, substitution, determinants and matrices, the trigonometry necessary for solving steady state a.c. circuit problems, radian measure, trigonometric functions, graphing of $yZA \sin(2\pi ft+c)$, and complex numbers.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Tuesday: 6:45-9:45 p.m. *or*	*Sept. 11*
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	$70
Continues:	
Monday: 6:45-9:45 p.m. *or*	Jan. 7 *or*
Tuesday: 6:45-9:45 p.m. *or*	Jan. 8 *or*
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 2.0 $70

Please indicate a preference of session you wish to attend.

32.524/624 Mathematics (for Electrical and Electronic Technology)

A course on the theory and application in the electrical and Electronics fields of the following topics: A continuation of trigonometric functions and complex numbers applied to solving a.c. circuit problems. The use of the complex conjugate, Sine Law, Cosine Law, trigonometric identities, technical mathematics of logarithms and exponential functions and their use in transient circuit and signal power problems; introductory calculus dealing with differentiation and integration of basic algebraic functions.
Prerequisite: 32.522/622 or equivalent.

Thursday: 6:45-9:45 p.m. Sept. 13
Term 1 (12 weeks) $70

Continues:
Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (12 weeks) *Unit:* 2.0 $70

32.526/626 Mathematics (for Electrical and Electronic Technologies)

A course in calculus and its application in the Electrical and Electronic fields, covering the following topics: Functions and graphs; rates of change and the derivative; higher derivatives; maxima and minima; the differential and small changes; the differentiation of algebraic products, quotients, and composite functions; integration, the indefinite and definite integrals involving algebraic functions; the differentiation and integration of trigonometric, exponential, and logarithmic functions.
Prerequisite: 32.524/624 or equivalent.

Monday: 6:45-9:45 p.m. Sept. 10
Term 1 (12 weeks)

Continues:
Monday: 6:45-9:45 p.m. Jan. 7
Term 2 (12 weeks) *Units:* 2.0 $70

32.528/628 Mathematics (for Electrical and Electronic Technologies)

A course in further calculus and its application in the Electrical and Electronic fields, covering the following topics: Brief review of essential calculus items offered in courses 32.526/626; calculus of hyperbolic functions; special integration techniques; partial derivatives; first and second order differential equations.
Prerequisite: 32.526/626 or equivalent.

Monday: 6:45-9:45 p.m. Sept. 10
Term 1 (12 weeks) $70

Continues:
Monday: 6:45-9:45 p.m. Jan. 7
Term 2 (12 weeks) *Units:* 2.0 $70

32.530/630 Laplace Transform Methods for Electrical, Electronic, and Control Engineering.

Development of a table of Laplace transform pairs for functions and operations. Finding inverse transforms, tables of transforms, partial fractions, simple order, double order, and complex poles; poles and zeros; circuit problems; single loops with d.c. inputs; R-L, R-C, and R-L-C; initial condition voltage generators; s-domain circuit diagrams; analysis of circuits in the s-domain (a.c. and d.c.); review of determinants and Cramer's Rule; self and mutual impedances; driving point and transfer impedances, transients in multimesh circuits; transfer functions and frequency responses; as well as selected topics from control engineering.
TEST — " Transform Circuit Analysis for Engineering and Technology" by Stanley.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) $70

Continues:
Tuesday: 6:45-9:45 p.m. Jan. 8
Term 2 (12 weeks) *Units:* 2.0 $70

32.540/640 Mathematics (for Electrical and Electronics Technology)

An accelerated course (presupposing a strong Mathematics background) based on the material covered in 32.522/622 and 32.524/624, and open only to students currently registered in 43.529/629 (Electrical Circuits AC/DC) & 32.522/622 Mathematics (for Electrical and Electronics).

Wednesday: 6:45-9:45 p.m. Oct. 24
Term 1 (6 weeks) $70

Continues:
Wednesday: 6:45-9:45 p.m. Jan. 9
Term 2 (18 weeks) *Units:* 2.0 $105

NOTE — Students should register in 32.522/622 and transfer will be arranged after 6 weeks.

32.957 Statistical Quality Control With Industrial Applications

Applications of statistical methods to quality control of industrial product, quality control charts; acceptance sampling.
Prerequisite: 32.507/607 Statistics 1 or equivalent.
TEXTS — " ASTM Manual on Quality Control of Materials," "ASTM Military Standard 105D-Sampling Procedures and Tables for INspection by Attributes" (U.S. Government Printing Office).

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (15 weeks) *Unit:* 1.0

32.990 Linear Algebra and Numerical Analysis Association of Professional Engineers of British Columbia Engineering Fundamental Tutorials (79-Fund-3)

Linear transformations; matrices and matrix operations; determinants; simultaneous linear algebraic equations; eigenvalues and eigenvectors. Nonlinear algebraic equations; interpolation and numerical approximations or curve fitting; numerical integration and differentiation; solution of ordinary differential equations.

32.994 Vector Analysis and Differential Equations (79-Fund-2)

Vector algebra, vector functions and operators; orthogonal curvilinear coordinates; applications of partial derivatives, multiple integrals, line and surface integrals; integral theorems. Ordinary differential equations; series solution of differential equations; Laplace transformation; Fourier series.

32.997 Probability and Statistics (79-Fund-5)

Concepts of probability, events and populations, probability theorems, concept of a random variable, continuous and discrete random variables, probability distributions, moments, skewness, kurtosis, estimation of moments, joint distributions, probability plotting and testing of distributional assumptions, distribution of functions of a random variable, sampling and statistical estimation theory, hypothesis testing, simple regression analysis, the design of experiments.

32.993 Computer Science (79-Fund-4)

Candidates must develop familiarity with the FORTRAN language and develop facility in writing and flow charting computer programs. Organization and characteristics of stored-program computers; basic programming and data representation; program testing; algorithms; computer solution of numerical problems.

32.998 Calculus (79-Fund-1)

Limits, continuity; differentiation and methods of definite and indefinite integration of elementary functions; applications of differentiation and integration to geometric and physical problems; numerical integration including Simpson's rule; indefinite forms; infinite series including Taylor series; partial differentiation of a function in two variables; parametric equations with application to arc length and curvature; differentiation of a complex valued function of a real variable; multiple integrals and their application.

Preparatory Courses

B.C.I.T. offers to individuals seeking entrance to full-time technology programs a number of non-credit preparatory courses. This academic upgrading provides students the opportunity to meet entrance requirements.

32.950 Mathematics — Pre-Entry (90 hours)

A review of appropriate mathematical topics for students lacking a Math 12 or Algebra 12 prerequisite, this course is designed especially as a preparation for first term or quarter B.C.I.T. Mathematics courses.

Start Dates/80	Days	Times
Jan. 29-May 9	*Tues. & Thurs.*	*6:45-9:45 p.m.*
May 13-Aug. 21	*Tues. & Thurs.*	*6:45-9:45 p.m.*
July 14-Aug. 22	*Mon. thru Fri.*	*9 a.m.-12 noon*

TEXT — "Introduction to Technical Mathematics"
A. J. Washington (Cummings)

Prerequisite — Mathematics 2 or Algebra 2 or equivalent.

32.951 Refresher Mathematics (80 hours,)

A review of appropriate mathematical topics designed especially as a preparation for Basic Tehnical Mathematics. This course is offered only to those students who are recommended by the technology of their choice.

Start Dates/8	Days	Times
July 28-Aug. 22	*Mon. thru Fri.*	*9-12 noon*

TEXT — "Introduction to Technical Mathematics"
A. J. Washington (Cummings)

Prerequisite — Math 12 or Algebra 12 or equivalent.

PHYSICS DEPARTMENT

33.508/608 Physics 1

Objective — This course, along with 33.509/609, is designed to satisfy the background knowledge required in the various engineering and related technologies.

Outline — Course content includes kinematics, linear and rotational dynamics, statics, properties of matter, heat, thermodynamics, and waves. Mathematical treatment requires only algebra and trigonometry.

Course presentation is arranged to fit into the Certificate Program schedules.

TEXT — Smith & Cooper, *Elements of Physics,* 8th Edition, McGraw-Hill, 1922.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

33.509/609 Physics 2

Objective — This course completes the sequence designed to satisfy the background knowledge required in the various engineering and related technologies.

Outline — Course content includes waves, sound, light and optics, basic electricity and magnetism, and atomic and nuclear phenomena.

Mathematical treatment requires algebra and trigonometry and possibly some calculus.

Course presentation is arranged to fit into the Certificate Program schedules.

Prerequisite — 33.508/608 Physics 1 or equivalent.

Text — Smith & Cooper *Elements of Physics,* 8th Edition, McGraw-Hill, 1972.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 3 (12 weeks)	*Unit:* 1.0 $70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

NOTE — Courses 33.508/608, 33.509/609 Physics 1 and 2 may be taken for credit in any of the following BCIT physics courses:

33.101/201	General Physics
33.102/202	Physics for Biological Science Technology.
33.219/319	Physics for Building Technology.
33.107/207	Physics for Civil and Structural Technology.
33.110/210	Physics for Medical Laboratory Technology.
33.115/215	Physics for Survey Technology.
33.212	Physics for Environmental Technology.
33.114/214	Physics for Chemical and Metallurgical Technology.
33.216	Physics for Mechanical Technology.
33.117/217	Physics for Operations Management Technology.
33.118/218	Physics for Forestry Products Technology.

33.404 Mining Geophysics

Objective — This course is designed to give a broad understanding of the use of geophysics in mineral exploration to prospectors, geologists and other mining company personnel. The subject is presented from the following viewpoints: *(a)* the theory behind the uses of each geophysical method; *(b)* instrumentation and field procedures; *(c)* interpretation.

Outline — The various topics covered are general survey planning; S.P. resistivity and I.P. methods; magnetic and gravity methods; electromagnetic methods; radiometric methods; seismic methods; and down-hole methods.

Prerequisite: First year university physics and geology desirable but not essential.

Wednesday: 6:45-9:45 p.m.	Nov. 7
Term 2 (15 weeks plus four three hour Saturday field sessions)	*Unit:* 1.5

Preparatory Courses

B.C.I.T. offers to individuals seeking entrance to full-time technology programs a number of non-credit preparatory courses. This academic upgrading provides students the opportunity to meet entrance requirements.

33.909 Pre-entry Physics

Objective — This course is designed for students entering the day school program who lack the Physics prerequisite or who anticipate difficulty passing the day school Physics course given to their chosen technology. The purpose of the course is to provide these students with sufficient skills in basic mechanics, heat, optics and problem solving to allow them to approach the regular day school course with confidence and success.

Outline — Course content includes basic measurements, motion, laws of motion, work, energy, power temperature, heat, and geometrical optics.

Prerequisite: Nil. Math 12 or equivalent desirable.

Mon. through Fri.: 1-4 p.m.	*July 21, 1980*

ASSOCIATION OF PROFESSIONAL ENGINEERS OF BRITISH COLUMBIA

Fundamental Examinations

To assist people studying for these examinations, B.C.I.T. has arranged to offer Tutorials for a number of the fifteen examinations as follows:

B.C.I.T. Course No.	Page No.		Course Name
Not offered		0	Algebra, Analytic Geometry & Trigonometry
32.998	—	1	Calculus
32.994	—	2	Vector Analysis and Differential Equations
32.999	—	3	Linear Algebra and Numerical Analysis
32.995	—	4	Computer Science
32.997	—	5	Probability and Statics
33.998	—	6	Physics
Not offered		7	Chemistry
33.996	—	8	Statics and Dynamics
Not offered	—	9	Mechanics of Fluids
33.990	—	10	Thermodynamics
Not offered		11	Engineering Materials
Not offered		12	Theory of Circuits and Power Engineering
Not offered		13	Strength of Materials
Not offered		14	Organic Chemistry

Every effort will be made to cover the topics listed in the Associations description of examination topics using a problem solving format.

In addition to the eight tutorials offered above, B.C.I.T. is prepared to attempt any of the tutorials for fundamentals if sufficient numbers of students contact us.

Please phone the Division of Continuing Education and Industry Services for specific dates and times when the above courses will be offered, or direct inquires to:

J. Gordon Kenyon, Assistant Head Engineering & Core
Division of Continuing Education and Industry Services
Phone 434-5734, local 759

Fundamental Tutorials

33.996 Physics P.Eng. Tutorial

Objective — This tutorial is designed to cover the material required for the APEBC examination 70-Fund-6, Physics.

Outline — Sound -- Simple harmonic motion, superposition and interference, reflection, standing waves, resonance, propagation and speed of longitudinal waves, sound and acoustics, intensity.

Electricity and Magnetism — Electric charge, Coulomb's law, electric field, Gauss' law, electric potential, capacitance, dielectrics, electric current, resistance, D.C. circuits, magnetic force and field, electromagnetic induction, inductance, electric oscillations, Maxwell's equations, electromagnetic waves.

Light — Nature and propagation of light, speed of light, reflection and refaction of light waves, interference, coherence, thin films, interferometer, diffraction, polarization, scattering.

Modern Physics — Relativistic kinematics, relativistic dynamics, electromagnetic radiation, wave aspects of material particles, atomic structure, nuclear structure, elementary particles.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (24 weeks)	$140

33.990 Thermodynamics P.Eng. Tutorial

Objective — This tutorial is designed to cover the material required for APEBC examination 79-Fund-10, Thermodynamics.

Outline — Thermodynamic states of simple systems; the fundamental relation of thermodynamics; the first law of thermodynamics; the entropy postulates; equilibrium, PVT-diagrams; energy of state; compressibility charts and steam tables; calculation of property changes; enthalpy; Helmoltz and Gibbs function; the Maxwell equations; application of thermodynamics, cycles, reversibility; thermodynamics of phase changes, the Clapeyron equation; Gibbs phase rule.

Prerequisite: 33.996 Physics P.Eng. Tutorial or equivalent.

The course will be offered in September, 1980 (24 weeks)

33.998 Engineering Fundamentals Tutorial — Statics and Dynamics

Objective — This tutorial is designed to cover the material required for APEBC examination 79-Fund-8, Statics and Dynamics.

Outline — Resultant of two and three dimensional concurrent force systems; equilibirum of two and three dimensional non-current force systems; centroids, centres of gravity; second moment of area, moment of inertia; truss, frame and cables analysis; friction; methods of virtual work. Planar kinematics of particles and rigid bodies; work and energy, impulse and momentum for particles and rigid bodies; mechanical vibrations of single degree of freedom systems.

Prerequisite: First year post secondary physics.

This course will be offered in September, 1981. (24 weeks).

COMBINED BUSINESS AND ENGINEERING CERTIFICATE PROGRAMMES

The Division of Continuing Education & Industry Services will award combined Business and Engineering Certificates to students who successfully complete 15 units of study drawing courses from both areas. The object of these certificates is to provide a course of studies which provides a general business base but flexible in the branch of engineering, of interest to each individual. For example:

Industrial Management Certificate (Branch of Engineering)

	Units
Management in Industry 1 and 2	2.0
Work Study 1 and 2	2.5
Business & Technical Correspondence	1.0
Business Report Writing	1.0
Engineering Courses and Business Electives	8.5
Total	15.0

Technical Marketing Certificate (Branch of Engineering)

Marketing	2.5
Salesmanship	1.0
Business & Technical Correspondence	1.0
Business Report Writing	1.0
Engineering Courses and Business Electives	9.5
Total	15.0

In both the above certificates the main branch of engineering would be stated. For example:

Industrial Management Certificate—Food Processing.

Technical Marketing Certificate—Forest Products.

The electives can be drawn from the main branch of engineering chosen or from approved related areas. In some cases 2 or 3 units will be devoted to technical Mathematics.

ENGINEERING CONTINUING EDUCATION

ENGINEERING AND CORE CONTINUING EDUCATION ADMINISTRATION

Allan Willcox, B.A.Sc., P.Eng. . . . . Head, Engineering & Core Continuing Education
Gordon Kenyon, P.Eng. . . . . Assistant Head, Engineering & Core Continuing Education
Terry Francis. . . . . Program Assistant

****

Telephone (604) 434-5734, local 582

ENGINEERING
CERTIFICATE PROGRAMS AND COURSES

Courses and programs in this section of the Calendar are in the following order.

BIOLOGICAL SCIENCES TECHNOLOGY

44.904 Food Processing

Purpose — To provide an overview of the basic methods of food preservation to persons already employed in food manufacturing or government inspection services or to those wishing to explore the food industry as a possible career field.

Outline — An introduction to the processes of canning, freezing, fermenting, concentrating, and dehydrating of foods. Experimental lots of foods will be preserved by these methods during laboratory periods.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

44.906 Quality Control for Food Processing

Purpose — The course is designed primarily for persons associated with the food manufacturing industry or allied Government inspection services or for those wishing to explore this career area. It provides an introduction to the most frequently used quality control methods and emphasizes their importance in food processing.

Outline — General principles of quality control; inspection forms; acceptance sampling; control charts; evolutionary operations; instrumental measurement and specification of food quality; Government standards and grades; sensory panel tests, including consumer tests; equipping a quality control laboratory.

This course will not be offered in 1979/80 term.

44.909 Landscape Irrigation

Purpose — This course has been instituted to provide technical information and basic training for persons associated with or interested in turf and landscape irrigation.

Outline — Lectures, demonstrations, problem sessions, and product displays will be used to provide an understanding of turf and landscape irrigation. Topics discussed will include basic hydraulic theory, system design, and construction fundamentals. The scientific and practical aspects of water application on various surfaces and plants will be covered, together with the equipment required to apply water effectively. Installation, operating, and maintenance procedures for major types of irrigation systems (manual, automatic, etc.) will also be discussed.

Wednesday: 6:45-9:45 p.m. Sept. 12
Term 1 (12 weeks) *Unit:* 1.0 $70

44.910 Sports Turfgrass Management 1

Purpose — The course is designed for persons who are associated with golf courses or municipal parks and recreational facilities. It provides an introduction to turfgrass management as applied to sports areas.

Outline — Turfgrass botany, classification, nomenclature identification and utilization. The main weed, disease and insect problems of turfgrass and the strategy for their control. Soils, introduction, textural classes, soil amendments and fertilizers. Tillage and cultivation systems. Irrigation principles in turfgrass, irrigation equipment design and construction.

This course will not be offered in the 1979/80 term.

44.916 Pesticides for Retail & whole sale Dispensers

Purpose — This course is designed for persons engaged in retail or wholesale sales, who intend to write examinations under the Pharmacy Act to obtain certification as Pesticide Dispensers.

Objective — To provide a background and knowledge of pesticides used in British Columbia. Candidates will have the opportunity to write the Pesticides Act examinations under the direction of the British Columbia Ministry of the Environment in the sixth week of the course.

Outline — The course emphasis is on lectures and problem sets with legislation, pesticide safety, pesticide formulations, storage and handling, prescribed uses and interpretation of the data in the various bulletins.

Thursday: 6:45-9:45 p.m. Sept. 13
Term 1 (6 weeks) *Unit:* 0.5 $35

44.917 Pesticides for Landscape and Nursery

Purpose — The course is designed for persons engaged in commercial landscape maintenance and nursery crop production who intend to write examinations (under the Pharmacy Act) to become Certified as Landscape Pest Abatement Applicators.

Objective — To provide a background and knowledge of pesticides used in British Columbia. Candidates will have the opportunity to write the Pesticides Act examination under the direction of the British Columbia Ministry of the Environment in the sixth week of the course.

Outline — The course emphasis is on lectures and problem sets dealing with legislation, pesticide safety, pesticide formulation, prescribed uses and interpretation of the data in the various bulletins, and the responsibilities of pesticide applicators.

Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (6 weeks) *Unit:* 0.5 $35

44.918 Alternatives in Plant Protection

Purpose — The course is designed for holders of Pesticide Applicator or Pesticide Dispenser Certificates who wish to broaden and extend their knowledge of pest control.

Objective — To provide an in-depth review of pestology which will lead to the concept of control strategies, integrated control and the judicious use of pesticides in conjuntion with other appropriate methods.

Outline — Representative weeds, insects and disease pests of ornamental and agricultural plants in British Columbia will be described. Emphasis on the principles of their life habits leading to suitable control measures, whether chemical or otherwise; the principle of biological control. Laboratory sessions will include the identification of the representative weeds, insects and diseases.

Prerequisite — Certification under the Pharmacy Act and/or 44.916 or 44.917.

Thursday: 6:45-9:45 p.m. Feb. 21
Term 2 (6 weeks) *Unit:* 0.5 $35

BUILDING TECHNOLOGY

Engineering Technician Certificate in Building Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for the certificate.

September (Term 1)	Units	*January (Term 2)*	Units	*April (Term3)*	Units
Year 1					
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms & Analytical Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Year 2					
Drafting and Design (40.901)	2.0	Drafting & Design (40.902)	2.0	Drafting and Design (40.903)	2.0
Year 3					
Building Construction 1 (40.512)	2.0	Building Construction 1 (40.612)	3.0		
Elective	1.0				

List of Suggested Electives

		Units
40.522/622	Building Construction 2	2.5
49.927	Plumbing System Design 1	1.0
49.520/620	Heating, Ventilating and Air Conditioning	2.0
40.543/643	Building Services — Electrical	2.0
42.103	Statics	1.0
42.205	Strength of Materials (Civil & Structural)	2.0
51.540/640	Engineering Surveying	2.5
40.914	Introduction to Construction Estimating and Specifications	1.0
40.934	Construction Specifications	1.5
40.915	National Building Code	1.0

NOTE — Fifteen (15) units from the above courses including the three Math courses are required for a Certificate.

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

COURSES IN BUILDING TECHNOLOGY

40.901 Drafting and Design — Introduction to Architectural Drafting and Design.

Purpose — To provide an introduction to architectural drafting and the history of architectural design for those persons with little or no experience in the subject. Provides training in most aspects of architectural drafting operation and will familiarize students with the technical vocabulary. It also serves as preparation for advanced drafting, presentation and design courses.

Objective — On completion of the course a student can expect to, *(a)* be knowledgeable of the specific aspects of architectural design, *(b)* be capable of performing a simple graphical presentation by utilizing most drafting equipment; (c) be able to present ideas, through free-hand sketching technique, lettering and drafting.

Outline — Lectures, discussions and lab assignments, covering the following topics: historical evolution of structural systems; materials used through the ages; analysis of functional and visual aspects of design, covering the period from 4000 B.C. up to the 19th century; free-hand sketching technique; lettering and draughting.

Tues. & Thurs.: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Units:* 2.0 $140

NOTE — Technical vocabulary will be built by a comparative method through lectures on history of architecture. Drafting assignments will concentrate on building element description rather than on geometrical subjects.

40.902 Drafting and Design — Architectural Drafting & Design Presentation

Purpose — To allow persons with drafting experience outside an architectural office to explore advanced drafting technique to improve their comprehension of two and three dimensional graphical presentation. To develop student's understanding of various constraints affecting the design.

Objective — On completion of the course students will, (a) be familiar with the systematic approach to drawing presentation, *(b)* be capable of explaining a design three-dimensionally, *(c)* be aware of various design restrictions, and *(d)* be familiar with design services offered in industry.

Outline — Mixture of lectures, discussions and lab assignments on subjects relating to: descriptive geometry and its use in design presentation; description of building elements through isometric and axonometric drawing; presentation in one and two-point perspectives; preliminary and design drawings; application of regulations in design draughting and presentations.

Tues. & Thurs.: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Units:* 2.0 $140

NOTE — This course will be a guide to restriction in design and existence of approving authorities through all levels. Examination in this subject may be necessary to obtain credit.

40.903 Drafting and Design — Fundamentals of Architectural Design

Purpose — An introduction to architectural design as it relates to functional aspects, based on problems in residential buildings. Planning and construction. It also provides an opportunity to improve manual techniques and to become conversant with the vocabulary of design. This course will prepare students for advanced courses in design.

Objective — On completion students can expect to, *(a)* be knowledgeable of the specific aspects of design principles, *(b)* be able to take simple design problems and to bring them to a satisfactory form for further design development, *(c)* be able to understand client's statement of needs, *(d)* cope with basic design vocabulary and *(e)* be capable of taking directions from a superior and delegating to a junior.

Outline — Mixture of lectures, discussions and lab assignments on aspects of design such as: site determinants; program planning; living, dining, sleeping, dressing, kitchen and utility facilities, planning multiple dwellings, student residence, and others in the residential field.

Tues. & Thurs.: 6:45-9:45 p.m.	April 8
Term 3 (12 weeks)	*Units:* 2.0 $140

40.512/612 Building Construction 1

Purpose — To improve the comprehension of good construction practise on the part of designers, draftsmen, builders, inspectors, and appraisers, as well as beginners. In addition, to provide an opportunity to develop professional standards in the preparation of working drawings.

Accreditation may be claimed in 40.102/202 Building Construction in the day program, if marks are satisfactory.

Objective — To give those with a minimum background an understanding of the basic principles of construction, a knowledge of standard practices, and the ability to prepare working drawings for residential and small commercial work.

Outline — Detailed examination of light wood systems — stud and joist, post, beam, and plank; of masonry systems — brick, concrete, block, hollow tile. Introduction to characteristics of materials and application to interior and exterior finishing. Detailing of doors, windows, stairs, cabinet work, fireplaces. Application of the above to preparation of typical working drawings for residential construction.

Mon. & Wed.: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Units:* 2.0 $140

Continues:

Mon. & Wed.: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 3.0 $210

40.522/622 Building Construction 2

Purpose — A continuation from Construction 1, this portion deals with fire-resistive construction.

Objective — As well as dealing with construction systems and details, deals with building science — the effect of natural forces on the building envelope relative to weathering, deterioration, heat transfer.

Outline — Principles of building construction in fire-resistive structures. Standard assembly of materials in industrial post and beam, masonry bearing, steel frame, and concrete structures. Curtain walls, panel walls, partitions. Exterior and interior finishing materials and detailing. Building science. Assignments include free-hand preliminary working drawing sketches.

Monday: 6:45-9:45 p.m. Sept. 10
Term 1 (12 weeks) $70

Continues:
Monday: 6:45-9:45 p.m. Jan. 7
Term 2 (18 weeks) *Units:* 2.5 $105

40.520/620 Heating, Ventilating and Air Conditioning

Purpose — To provide a fundamental understanding of the principles and practices of heating, ventilating and air conditioning for technicians engaged in design, contract, and sales fields.

Outline — Comfort criteria; properties of water, steam, refrigerants and air, flow in pipes and ducts; building thermal loads.

Function and performance of pumps, boilers, fans, heat exchangers, compressors, condensers, filters and heat distributing units; equipment component selection and balancing; integrated component assemblies; piping and duct material and system controls.

Planning, design, and drafting of warm air and hot water heating systems; vapour compression refrigeration systems for air conditioning; air conditioning systems embodying multi-zone terminal reheat, induction and variable volume principles.

Thursday: 6:45-9:45 p.m. Sept. 13
Term 1 (12 weeks) *Unit:* 1.0 $70

Continues:
Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (18 weeks) *Units:* 1.5 $105

40.543/643 Building Services — Electrical

Purpose — An introductory course in illumination and wiring as applied to buildings. Recognized for accreditation purposes for Building Technology Courses.

Objective — To give instruction and practice in fixture selection and arrangement and in the attendant wiring necessary to provide a complete system.

Outline — Single, and three-phase alternating current, including power, reactive power, power factor, load factor, elementary short-circuit analysis, and theory of lighting. Equipment commonly encountered in building services. Application to actual design of industrial and commercial building services. Economic factors.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

Continues:
Tuesday: 6:45-9:45 p.m. Jan. 8
Term 2 (12 weeks) *Unit:* 1.0 $70

40.914 Introduction to Construction Estimating and Specifications

Purpose — To introduce construction contracting procedures to persons already acquainted with building construction.

Objective — To provide students with a working knowledge of how construction constracts are made; to provide students with the prerequisite knowledge for other courses in estimating and construction specifications, described elsewhere.

Outline — Basis of real property development by construction work; the persons and functions involved. Design, bidding and contracting procedures. Types of construction contracts. Principles of measurement. Measurement and specification of construction work. The basis of construction costs. The course comprises lectures, discussions, and practical measurement of construction work.

Wednesday: 6:45-9:45 p.m. Sept. 12
Term 1 (12 weeks) *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. Jan. 9
Term 2 (12 weeks) *Unit:* 1.0 $70

Begins Again:
Wednesday: 6:45-9:45 p.m. April 9
Term 3 (12 weeks) *Unit:* 1.0 $70

40.924 Measurement of Construction Work

Purpose — To assist estimators to recognize and solve advanced problems in measurement of construction works, and to teach reliable techniques of measurement, mensuration and arithmetic based on modern practises.

Objective — To assist students to improve their speed, accuracy and confidence in their own work; also to assist students to study for the CIQS Examination entitled Quantities 2.

Outline — Discussion of the general principles of measurement advocated by the CIQS and others; particular methods of measuring excavation, concrete and formwork, reinforcing steel, carpentry work, and roofing and sheet-metal work; a general approach to the measurement of structural steelwork, metal doors and windows, and various finishes.

Prerequisite — Extensive knowledge and experience of building construction will be necessary to adequately understand the content of this course. A second class standing in 40.914 Introduction to Construction Estimating and Specifications, or a Diploma in Building Technology from a recognized Institute of Technology or permission of the Instructor. An entrance test may be given at the Instructor's discretion.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

40.934 Construction Specifications

Purpose — To develop the student's understanding and use of specifications as bidding and contract documents and to further develop a specific knowledge of construction materials and methods.

Objective — To compile and interpret specifications of work in the structural and architectural trades; to develop judgment in the selection and specification of construction materials; to develop the use of technical language.

Outline — Writing and organizing specifications according to the uniform system. Sources and use of data on selected structural and architectural materials. Office organization and selected contractual procedures.

Monday: 6:45-9:45 p.m. Jan. 7
Term 2 (18 weeks) *Units:* 1.5 $105

40.944 Pricing of Construction Work

Purpose — To assist estimators to learn the techniques necessary to develop and assemble valid unit prices for various items of construction work and to introduce reliable sources of construction cost data to students.

Objective — To assist students to improve their pricing and cost-accounting skills to reduce errors in estimates of cost; also to assist students to prepare for the CIQS Examination entitled Estimating.

Outline — General principles of pricing; specific aspects of pricing overhead costs, excavation, concrete and formwork, reinforcing steel, masonry, carpentry, structural steelwork, roofing and sheet-metal and lath and plaster work.

Prerequisite — Extensive knowledge and experience of Building construction will be necessary to adequately understand the content of this course. A second class standing in 40.924 Measurement of Construction Work or permission of the instructor. An entrance test may be given at the Instructor's discretion.

Tuesday: 6:45-9:45 p.m. Jan. 8
Term 2 (18 weeks) *Units:* 1.5 $105

40.954 Construction Administration

Purpose — To learn the basic procedures of the various departments engaged in the practical day to day functions of a construction company.

Objective — To prepare advanced students in building construction, C.I.Q.S. and others, experienced in the building industry, for middle management positions. Examination pass is approved by the C.I.Q.S. as a credit for subject No. 14 "Construction Administration".

Outline — Companies, partnerships and organization: Basic and contract accounting, estimating, scheduling, purchasing and general office departments (including computer processing); Labor relations, yard and equipment control; Interim financing and business development.

Prerequisite — Extensive knowledge and experience of building construction will be necessary to adequately understand the content of this course. A second class pass in 40.914 Introduction to Construction Estimating and Specifications, or a Diploma in Building Technology from a recognized Institute of Technology, or permission of Instructor. An entrance test may be given at the Instructor's discretion.

Wednesday: 6:45-9:45 p.m. Oct. 3
Term 1 (12 weeks) *Unit:* 1.0 $70

40.964 Project Management

Purpose — To learn the fundamentals of construction project management employing the instruction of human skills in concert with the basics of advanced planning and cost control systems which are necessary to manage large commerical and institutional projects.

Objective — To prepare advanced students in building construction CIQS and others experienced in the building industry, to meet the challenge of the "Management Contract" and the "Phased Construction Process". Examination pass is approved by the CIQS as a credit for subject No. 16 "Construction Project Management".

Outline — Principles of management, planning, sub-contract administration, E.P.M. and computer processing, cost control and related topics.

Prerequisite — Extensive knowledge and experience of building construction will be necessary to adequately understand the content of this course. A second class pass in 40.914, Introduction to Construction Estimating and Specifications, or a Diploma in Building Technology from a recognized Institute of Technology or permission of the Instructor. An entrance test may be given at the Instructor's discretion.

Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (18 weeks) *Units:* 1.5 $105

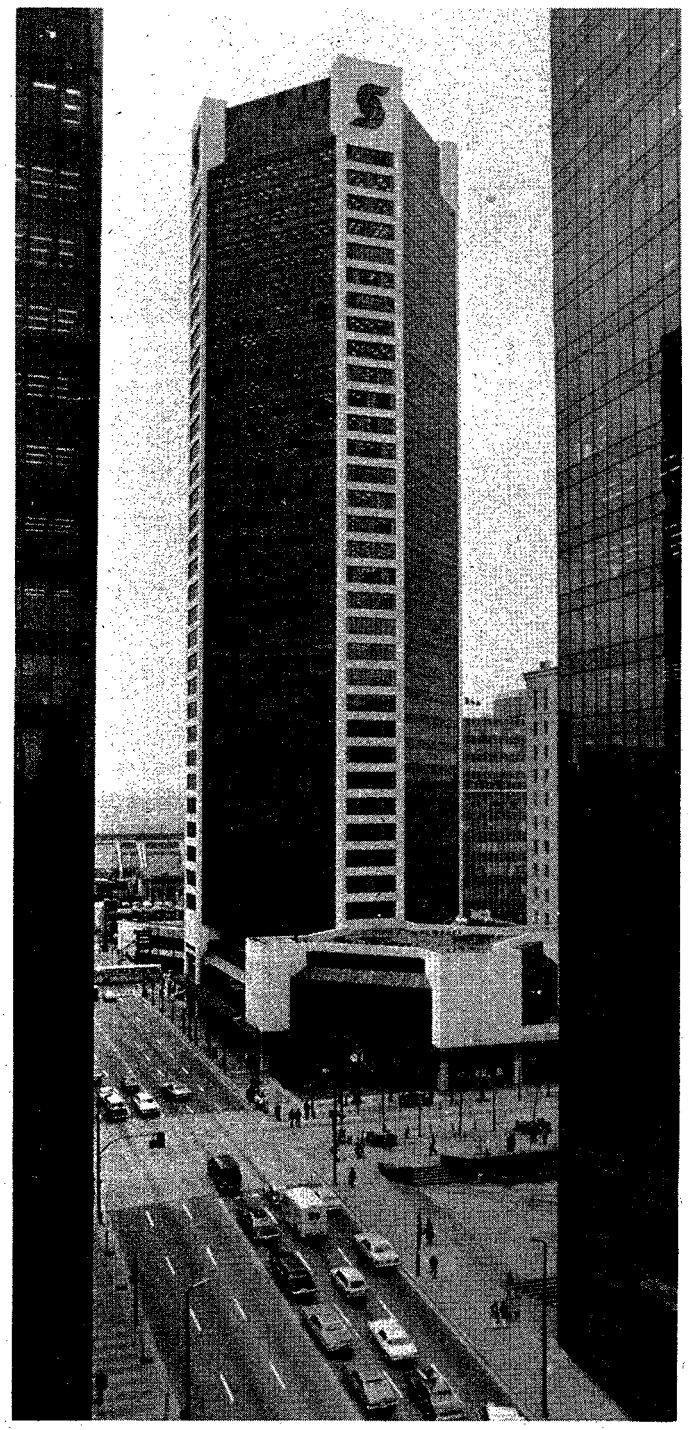
40.915 National Building Code

Purpose — To enable students to become familiar with the purpose, scope, and contents of the current National Building Code of Canada.

Objective — This will be of use to architects, draftsmen, building inspectors, contractors, mortgaging authorities, and those in similar areas of the construction industry who are designing, approving, or carrying out projects. This Code is now in force in British Columbia as a result of Provincial Statute.

Outline — Short history of the Code. General review of contents by section. Detailed consideration of Part 3 Use and Occupancy and Part 9 Housing and Small Buildings.

Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (12 weeks) *Unit:* 1.0 $70



CHEMICAL & METALLURGICAL TECHNOLOGY

Engineering Technician Certificate Chemical Laboratory Technology

Students who complete fifteen units of appropriate courses may qualify for the above certificate. The certificate is intended for individuals working in a variety of chemical related laboratories. Electives may be chosen to meet personal requirements. On completion of a first level certificate, the student may progress to a Senior Engineering Technician Certificate.

The following is a suggested program for a first level and a Senior Engineering Technician Certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Chemical Principles (30.902)	2.0	Chemical Principles 2 (30.903)	3.0		
Mathematics — Algebra 2 (32.901)	1.0	Mathematics Logarithms and Analytic Geometry (32.902)	1.0		
Year 2					
* Laboratory Workshop (41.202)	1.0	Chemical Laboratory Techniques (30.920)	1.5		
Business & Technical Correspondence (31.910)	1.0	Technical Report Writing (31.914)	1.0		
Year 3					
Organic Chemistry 1 (30.905)	2.0	Organic Chemistry 2 (30.906)	3.0		

* This is a day school course which can only be attended with the permission of the Department Head.

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Senior Engineering Technician Certificate in Chemical Laboratory Technology

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year	Units		Units		Units
Analytical Chemistry (30.510)	2.0	Analytical Chemistry (30.610)	3.0	Chemical Instrumentation 2 (30.405)	1.0
Probability and Statistics 1 (32.507)	1.0	Probability and Statistics 1 (32.607)	1.0		
Year 2		Chemical Instrumentation 1 (30.305)	1.0		
Introduction to Biochemistry (30.901)	2.0	Gas Chromatography (30.913)	1.0		
Year 3					
Mineral Analysis (41.505)	2.0	Mineral Analysis (30.605)	2.0		
or		*or*			
* Environmental Anal. Methods (41.413)		* Environmental Anal. Methods (41.413)	2.0		

* This is a day school course which can only be attended with the permission of the Department Head.

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Engineering Technician Certificate in Metallurgical Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms and Analytic Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Metallurgy 1 (41.502)	1.0	Metallurgy 1 (41.602)	1.0	Elective	1.0
Year 2					
Physics 1 (33.508)	1.0	Physics 1 (33.608)	1.0	Elective	1.0
Elective	1.0	Elective	1.0		
Year 3					
Metallurgy 2 (41.503)	1.0	Metallurgy 2 (41.603)	1.0		
Elective	1.0	Elective	1.0		

List of Suggested Electives

41.505/605	Mineral Analysis	4.0
30.510/610	Analytical Chemistry 1 and 2	5.0
48.511/611	Process Instruments 1	1.0
48.512/612	Process Instruments 2	1.0
48.513/613	Process Instruments 3	1.0
30.305	Chemical Instrumentation 1	1.0
30.405	Chemical Instrumentation 2	1.0
32.507/607	Probability and Statistics 1	2.0
42.103	Statics	1.0
42.205	Strength of Materials (C.& S.)	2.0
49.900	Drafting — Fundamentals	1.0

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Paint Technician Certificate

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Paint Technology (41.902)	1.0	Mathematics — Logarithms & Analytic Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Mathematics — Algebra 2 (32.901)	1.0	Elective	1.0	Elective	1.0
Year 2					
Chemical Principles 1 (30.902)	2.0	Chemical Principles 2 (30.903)	3.0	Elective	1.0
Paint Technology — Part 1 (41.903)	1.0				
Year 3					
Business and Technical Correspondence (31.910)	1.0	Technical Report Writing (31.914)	1.0		
		Elective	1.0		

List of Suggested Electives

		Units
30.905	Organic Chemistry 1	2.0
30.906	Organic Chemistry 2	3.0
30.908	Lab Safety and Organization	1.0
32.507/607	Probability and Statistics 1	2.0
30.913	Gas Chromatography	1.0
41.904	Paint Technology Part 2	.05
41.905	Paint Technology Part 3	0.0
30.510/610	Analytical Chemistry 1 and 2	5.0

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Courses in Chemical and Metallurgical Technology

41.502/602 Metallurgy 1

Purpose — To acquaint students with the concepts of basic physical metallurgy and with metallurgy testing methods.

Objective — Those completing the course should have an understanding of metallurgical principles relating to the casting, forming, heat-treatment, and welding of metals. They should also be acquainted with methods of physical testing and metallography.

Outline — An introductory course in physical metallurgy covering casting and forming of metals, heat treatment, physical testing, nondestructive testing, and metallurgy of welding.

Laboratory work involving metallography, heat treatment and corrosion constitutes approximately half of the course. Field trips to material processing plants will be arranged.

Monday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

41.503/603 Metallurgy 2

Purpose — To develop the subject areas covered in Basic Metallurgy 1 to a more advanced level.

Outline — Iron and steel-making processes, solidification of metals and alloys, casting methods and defects, foundry technology, metal-forming operations, review of phase diagrams for binary alloy systems, isothermal transformations in steels, heat-treating techniques, nonferrous metals and alloys, welding metallurgy, principles of nondestructive testing. Laboratory sessions supplement the lectures by field trips to industrial plants and emphasize physical testing of materials, metallography service failure investigation and nondestructive testing.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

41.505/605 Mineral Analysis

Purpose — To provide a course which deals specifically with chemical methods of ore analysis.

Objective — To provide students with a working background in analytical chemistry or assaying with an opportunity to develop laboratory skills. Students are encouraged to attempt the Provincial examination for the British Columbia Government licence to practice assaying in British Columbia.

Outline — Review of general methods of ore analysis. Laboratory work includes principles and practice of fire assaying for gold and silver, gravimetric and volumetric analysis. Students should have taken basic chemistry and some analytical chemistry previously.

Tues. & Thurs.: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Units:* 2.0 $140

Continues:

Tues. & Thurs.: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Units:* 2.0 $140

41.506/606 Introduction to Chemical Engineering

Purpose — This evening course offered by BCIT in Unit Operations should be of special interest to mechanical, civil, and electrical engineers who are employed or associated with chemically based industries, but who do not have a formal background in Unit Operations of the Chemical Process Industries.

Objective — Unit Operations is the study of the fundamental operations or "building-blocks" which comprise all chemical engineering processes. These units of operation cross both industry and process lines, and include such areas as heat transfer, evaporation, materials transfer, and distillation. The traditional curricula of non-chemical engineers do not usually include Unit Operations, yet many engineers find themselves in industries such as pulp and paper, refining, and food processing, or with consulting firms, in which a sound knowledge of basic Unit Operations would contribute greatly in the performance of their work and in continuing professional development.

To supplement the theory of the course, BCIT possesses the newest and one of the best-equipped Unit Operations laboratories of its type in the West for demonstration and experimental purposes. This course would also be suitable for those persons who intend to study toward their professional engineering examinations.

Outline — First and second law of thermo-dynamics; enthalpy, entropy, thermodynamic diagrams, and tables; fluid flow and measurement in pipes and channels, piping, pipe-fittings and valves; filtration, flow of heat, conduction, convection, radiation, film, and over-all transfer of coefficients, heat exchangers; principles and application of equipment for evaporation distillation, absorption, extraction; humidification and dehumidification; drying; ion exchange.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Units:* 1.0 $70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Units:* 1.0 $70

41.907 Air Pollution: Chemistry and Sampling Techniques

Purpose — To provide a broad range of material which will enhance the student's experience in the study of air pollution. Lectures are designed to supply an up-to-date knowledge of air pollution chemistry, and this is coupled to laboratory exercises consisting of methods currently used in the analysis of air pollutants. This course is suitable for people with varied experience in air pollution, or those interested in the pollution monitoring field. Portions of the course content may be changed depending on participants' interests.

Outline — The chemistry of the major air pollutants and their interactions in the atmosphere will be covered. The formation and subsequent transformation of the oxides of sulphur, the oxides of nitrogen, carbon monoxide, carbon dioxide, hydrocarbons particulates (including heavy metals), chlorocarbons and fluorocarbons, are among the topics to be discussed. The effect of air pollutants on human health and on the environment will also be covered. Laboratory work will include the collection of air pollutants by several methods, and the analysis of samples by various techniques including infra-red, gas chromatography, and atomic absorption.

Prerequisite — Chemistry 12 or equivalent.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Units:* 1.0 $70

This class will be limited to 20 students due to lab space.

41.908 Water Pollution: Chemistry & Sampling Techniques

Purpose — This course is designed to provide an understanding of the processes that take place in water systems when pollutants are present, and to familiarize the student with the various techniques used for the detection and control of these pollutants. Portions of the course content may be changed on request of the participants.

Outline — The chemistry and microbiology of the major water pollutants will be covered. Lecture material will include the major sources of pollutants, their interactions in the environment, and methods of control and/or treatment. Laboratory exercises will include methods currently used for the analysis of water.

Prerequisite — Chemistry 12 or equivalent.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Units: 1.5 $105*

This course will not be offered in January 1980.

41.448 Pollution Control Equipment and Techniques

Purpose — To familiarize the student with the engineering methods currently used for the control and/or treatment of the major air and water pollutants.

Outline — Topics to be covered will be selected among the following: electrostatic precipitators, scrubbers, cyclone collectors, fabric filters, control of motor vehicle emissions, stack sampling, cooling towers, industrial and municipal wastewater treatment processes, oil spill recovery techniques, solid waste disposal methods, and treatment of radioactive wastes.

Tuesday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

41.902 Paint Technology

Purpose — This 12-week presentation is designed to assist those personnel who are actively engaged in paint and coatings manufacture, in the technical field, as well as the production side. It is also of vale to those catering to the coating industry, such as new material suppliers, along with architects, professional decorators, paint salesmen, etc.

Specifically, the course is designed to provide a basic background for those students intending to continue to further studies in Paint Technology, and serves as preparation for 41.903. Paint Technology — Part 1 — Latex Paints.

Objective — On completion of the course students can expect to have an understanding of the raw materials used in the coatings industry, the methods by which coatings are manufactured, along with application methods and formulating techniques.

Outline — Lectures and discussions will cover the following topics:

1. Introduction. History of surface coatings, leading to recent developments.
2. Vehicles used in the coatings industry: Oils, resins, lattices, etc.
3. Pigments: White and inert pigments, organic and inorganic cold pigments, corrosion-inhibiting pigments.
4. Agents and additives: Driers, antiskin agents, flow-control agents.
5. Solvents: Petroleum solvents, esters, ketones, alcohols, etc.
6. Formula calculations: Bulking value, pigment volume. W.P.G., etc.
7. Trade sales finishes: Solvent and latex types.
8. Industrial finishes: Corrosion and corrosion-resistant coatings, baking enamels.
9. Manufacturing methods.
10. Paint testing.
11. Application methods.

This course will not be offered in 1979/80.

41.903 Paint Technology — Part 1 — Latex Paints

Purpose — This 6-week presentation consists of lectures and laboratory presentations, and is designed to complement the basic course in Paint Technology.

Objective — On completion of the course, students can expect to be knowledgeable on all aspects of polymer emulsion manufacture, and to be well versed in the formulation and manufacture of latex paints.

Outline — This course will cover:

1. Monomers used in latex manufacture.
2. Emulsifiers, additives, etc.
3. Formulation of lattices.
4. Manufacturing methods and techniques.
5. Raw materials used in latex paints, and their function.
6. Formulation of latex paints.
7. Testing of latex paints.
8. Practical laboratory demonstrations showing the manufacture of a typical latex, a latex finish, and testing of same.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (6 weeks)	$35

41.904 Paint Technology — Part 2 — Alkyd Resins

Purpose — This 6-week presentation consists of lectures combined with plant visits, and is designed to complement the basic course in Paint Technology.

Objective — On completion of the course, students can expect to be knowledgeable regarding the raw materials, formulative and manufacturing techniques of alkyd resins.

Outline — Lectures and discussions will cover the following subjects:

1. Raw materials used in alkyd manufacturing.
2. Formulation of alkyd resins.
3. Manufacture of alkyd resins.
4. Use of Alkyd resins.
5. Test methods.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (6 weeks)	$35

41.905 Paint Technology — Part 3 — Modern Coating Resins

Purpose — This six-week presentation is designed to acquaint the student with modern surface-coating resins used in the production of present-day finishes. It is intended to complement the basic course in Paint Technology.

Objective — On completion of the course, students can expect to have a good understanding of the resins used in modern finishes, and will be acquainted with their end use.

Outline — Lectures and discussions will cover the following subjects:

1. History and development.
2. Epoxy resins.
3. Urethane resins.
4. Vinyl resins.
5. Acrylic resins.
6. Silicone resins.
7. Powder Coatings.
8. Electro deposition.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (6 weeks)	$35

41.906 Glassblowing

Purpose — To develop skills in the heat working of glass tubing.

Outline — Laboratory practice sessions will cover the following: identification of glasses; preparation and cutting of glass; procedures for working with tubing; pulling points, seals, straight tubes, round and flat bottom tubes; sealing, bands, blowing bulbs, ring seals, side arms, small condensers, flask joints, columns and coil winding.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

41.314/414 Mineral Processing

Purpose — To provide a course dealing specifically with mineral processing as it is applied to the B.C. mining industry.

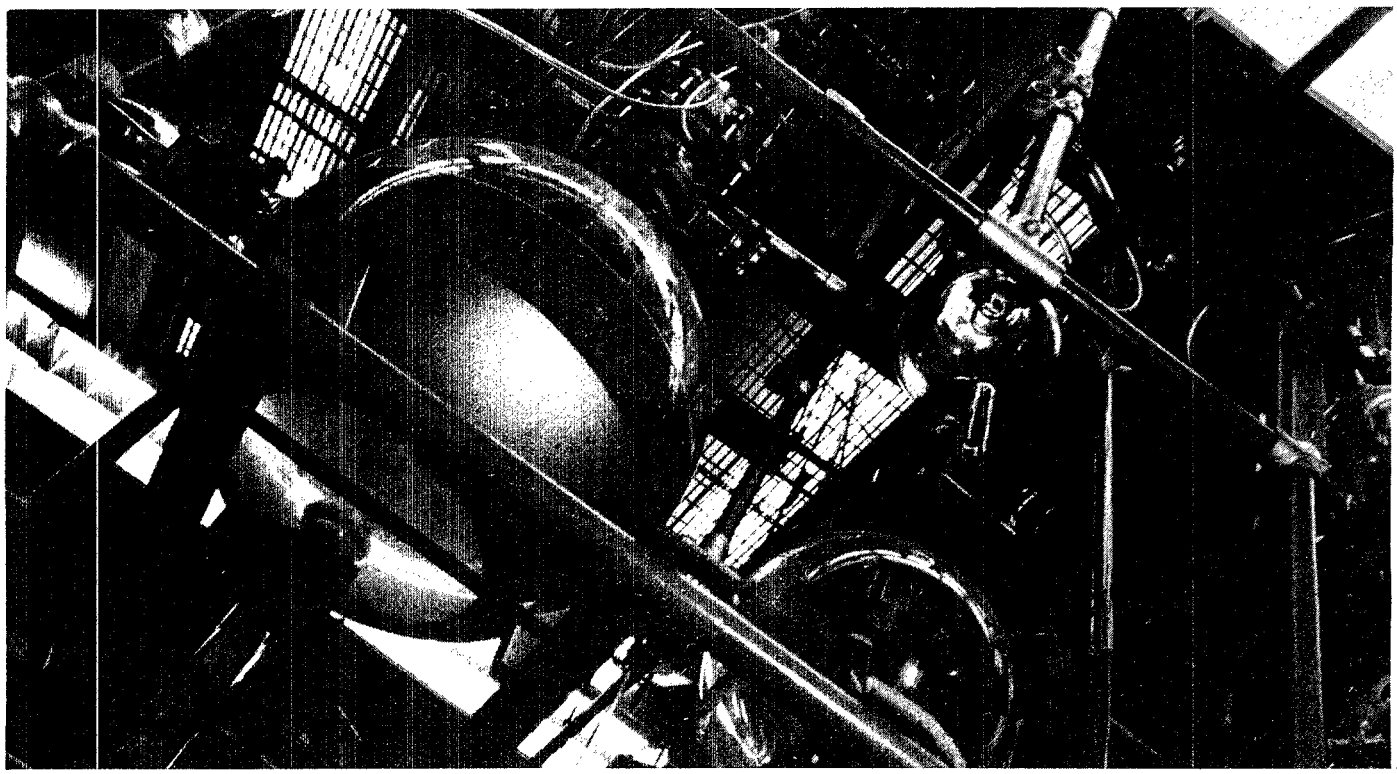
Objective — The course covers the essential unit operations of applied mineral processing, i.e., crushing, grinding, screening, gravity separation, cyclone classification; flotation, sedimentation, thickening, filtration.

Outline — Solution of design and operating problems is emphasized. Some laboratory work will be performed.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70



CIVIL AND STRUCTURAL TECHNOLOGY

Engineering Technician Certificate in Civil & Structural Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)	Units	*January (Term 2)*	Units	*April (Term 3)*	Units
Year 1					
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms & Analytic Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Statics (42.103)	1.0	Strength of Materials (42.205)	2.0	Elective	1.0
Year 2					
Business and Technical Correspondence (31.910)	1.0	Technical Report Writing (31.914)	1.0		
Elective	1.0	Elective	1.5		
Year 3					
Elective	1.0	Elective	1.5		
Elective	1.0				

List of Suggested Electives

		Units
42.901	Structural Analysis	1.0
42.102	Hydrology	1.0
42.202	Hydraulics	1.5
42.905	Soil Mechanics 1	1.0
42.906	Soil Mechanics 2	1.5
42.507/607	Structural Detailing	2.0
42.912	Estimates & Contracts for Heavy Construction 1	1.0
42.913	Estimates & Contracts for Heavy Construction 2	1.0
42.914	Transportation Engineering (Roads & Streets 1)	1.0
42.915	Highway Design and Construction (Roads & Streets 2)	1.5
42.918	Subdivision Planning and Design	1.5
42.916	Municipal Services	1.5
42.917	Computer Methods of Structural Analysis	1.0
42.104	Concrete Technology	1.0
42.902	Structural Design in Steel and Timber	1.5
42.903	Structural Design in Reinforced Concrete	1.5
51.540/640	Engineering Surveying	2.5
49.905	Drafting Civil & Structural	1.0
49.903	Mechanical Drafting 1	1.5
49.900	Drafting-Fundamentals	1.0
22.941/942	Work Study 1 and 2	2.5
51.505/605	Photogrammetry	2.5

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Courses in Civil and Structural Technology

42.103 Statics

Purpose — This course, along with its follow-up 42.205 Strength of Materials, provides the basic background for all civil engineering courses, especially those in the structural field.

Outline — Historical development and relation to structural design; vectors; force systems; graphical representation; resultants and components; moments and couples; conditions of equilibrium; force polygon; funicular polygon; co-planar systems; three-dimensional systems; frames and trusses; stress diagram and Bowes notation; chains and cables; vertical shear force and bending moment diagrams; related problems and experiments, with emphasis on bridge and building structures and retaining walls.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

DOWNTOWN CAMPUS

5:00-7:15 p.m.	14 weeks (1 night a week)	1.0 unit of credit $70
Term 1	Term 2	Term 3
Tues./Sept. 11	*Jan. 10*	

42.900 Statics

This course covers the same material as in 42.103 Statics but at a slower rate, to suit the student who needs more personal attention or has not taken the math prerequisite in recent years. During the term three extra sessions will be scheduled on evenings to suit the group.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks, 15 sessions)	*Unit:* 1.0 $88

42.205 Strength of Materials (Civil and Structural)

Purpose — This course, along with 42.103 Statics, provides the basic knowledge for further study in civil engineering, especially in the structural field. Draftsmen and people in design offices will find this course work useful. Some opportunity for experience in materials testing is provided.

Outline — Simple stresses; stress, strain, elasticity; compound bars and columns; temperature stress; elastic limit; limit of proportionality; yield, ultimate; factor of safety; load factor, ductility; resilience, fatigue; shock. Properties of sections, bending moments, shear forces, theory of flexure, slope and deflection of beams, restrained and continuous beams. Strut theories, eccentric leading, lateral loading. Compound stress and strain, ellipse of stress, Poisson's ratio, principal stresses and strains, Mohr's circle. Testing techniques, machines, extensometers, strain gauges, photo-elasticity analysis of steel and timber beams and columns, evaluation of results.

Prerequisite — 42.103 or 42.900 Statics

* NOTE — This course will run 18 nights on Thursdays and 6 nights on Tuesdays

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (24 weeks)	*Unit:* 2.0 $140

42.901 Structural Analysis

Purpose — This course is designed to provide the student with a basic understanding of the behavior of simple structures and the methods used in their analysis.

Outline — The major aspects of the prerequisites for this course are reviewed and emphasized. Force diagrams for pinjointed frames; deflection of trusses using Williot Diagram; differences between statically determinate and statically indeterminate structures; methods of moment area and superposition as applied to slope and deflection; shear force and bending moment diagrams for beams and frames as derived from the method of moment distribution; influence lines as applied to statically determinate beams and trusses; portal frames including the effects of sidesways; a brief introduction to computer methods.

Prerequisite — 42.103 or 42.900 Statics and 42.205 Strength of Materials or permission of the instructor.

During the term, four extra sessions will be scheduled on evenings suitable to the group.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks, 16 sessions)	*Unit:* 1.0 $94

42.902 Structural Design in Steel and Timber

Purpose — To provide a good basic knowledge of structural design in steel and timber. The course is aimed primarily at people working in the design field.

Objective — At the end of the course students should be capable of designing any simple structure in steel and timber.

Outline — Loading, types and assumptions; flexure, shear and deflection; tension members, compression members; beams, girders and columns; simple connections, moment connections; trusses and frames; bearing and base plates; new concepts.

Prerequisite — Structural Analysis-42.901

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

42.903 Structural Design in Reinforced Concrete

Purpose — To provide a good basic knowledge of structural design in reinforced concrete. The course is primarily aimed at individuals working in the design field.

Objective — At the end of the course students should be capable of designing any simple structure in reinforced concrete using the ultimate strength design method.

Outline — Bending and shear in reinforced concrete; simple beams and one-way slabs, compressive reinforcement, tee-beams; two-way slabs, columns, concentric and eccentric loading; footings, retaining walls. Introduction to simple prestressed concrete beams.

Prerequisite — Structural Analysis-42.901.

DOWNTOWN CAMPUS

5:00-7:30 p.m.	21 weeks (1 night a week)	1.5 units of credit $105
Term 1	Term 2	Term 3
Wed./	*Jan. 9*	

42.507/607 Structural Detailing

Purpose — To provide a good basic knowledge of structural detailing as it applies to wood, steel and reinforced concrete structures.

Objective — At the end of the course, students should be able to solve most of the problems associated with designing and drafting of 1) joints in lumber structures; 2) joints and assembly in steel structures; 3) reinforcing details and Rebar Lists for reinforced concrete structures.

Outline — Students will be required to design and draw solutions to detailing problems taken from actual structures in wood, steel and R.C. including bill of materials and Rebar Lists. Although the practical aspects are emphasized, the theoretical side is investigated in some depth. The two text books will be complemented by handbook material in accord with the latest industrial standards.

Prerequisite — Drafting 49.900 and Drafting Civil and Structural 49.905 or permission of the Instructor.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

42.917 Computer Methods of Structural Analysis

Purpose — To introduce the student to computer methods of structural analysis and design, and in particular to the stiffness matrix method as applied to plane frames.

Objective — On completion of the course the student should be able to prepare and input data for frame analysis problems, understand what the computer does with the data, and obtain and interpret the results.

Outline — Applicable matrix methods and terminology; development of the stiffness matrix method as applied to the analysis of plane frames; elastic supports; influence lines; temperature stress analysis; three dimensional frames; symmetrical structures; the concept of finite elements; time-sharing systems; job control language, data files, output files; load cases and combinations; the concept of automatic member design.

Prerequisite — 42.103 Statics, 42.205 Strength of Materials and 42.901 Structural Analysis.

A knowledge of matrix methods and Fortran programming is desirable but not necessary.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

42.104 Concrete Technology

Purpose — This course will introduce the participant to the theory and practice used in the design, manufacture, construction and quality control of concrete. Contractors, foremen, concrete finishers, inspectors or potential inspectors, concrete plant personnel, ready-mix truck drivers and municipal inspectors of concrete are some of the people who find this course appealing.

Objective — To provide the participant with: *(a)* the knowledge required to select suitable materials for making quality concrete, to design a concrete mix for strength, workability and economy, to sample and to conduct quality control tests on concrete and aggregates; and *(b)* an understanding of the theory and practices used in concrete manufacturing and construction.

Outline — Cement: types, manufacture, reaction; water requirements; aggregates — properties, production, requirements, sampling and testing: admixtures; air entraining, water reducers, retarders; calcium chloride, pozzolans; Concrete properties: strength, durability, permeability, workability, sampling and testing; concrete mix design; production: batching, mixing, transporting, placing finishing, curing.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

42.102 Hydrology

Purpose — To introduce the basic concepts and techniques of small watershed analysis. The course will give an introduction to the type of work involved in the design, supervision and construction of drainage facilities.

Objective — To introduce the fundamental concepts of hydrologic analysis, from a practical viewpoint. This course is of interest to persons engaged in municipal, highways, agricultural, flood control, and other water resources work.

Outline — The course consists of lectures and design projects. The topics covered are the hydrologic cycle, weather, and hydrology, precipitation types and measurement, snowmelt, runoff, steamflows and stream gauging, evaporation and transpiration, infiltration, storage, flood estimation, frequency analysis, ground water movement and wells, sediment transport and deposition, and an introduction to open channel flow and culvert hydraulics. Projects and assigned problems illustrate the use of flood frequency analysis, runoff coefficients, rainfall intensity-duration-frequency curves, hydrographs, mass curves, and level pool flood routing techniques, and the two design projects involve the hydrologic design of conventional and detention-type storm-drain systems for small watersheds.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

42.202 Hydraulics (Civil and Structural)

Purpose — To introduce the fundamental concepts of hydraulics, from a practical viewpoint. While most example problems are drawn from civil and municipal engineering, the principles are equally applicable to plant or process hydraulics.

Outline — The course consists of lectures, laboratory sessions, and design projects. The topics covered are fluid statics, definitions of flow types, continuity, Bernoulli equation, energy/momentum relationship, flow in pipe networks, the function of storage in waterworks networks, open channel flows, surges, water hammer, hydraulic jumps, culvert flows, capacities, back water curves, nozzles, syphons, weirs, orifices, meters, valves, pumps, turbines, model testing. Certain of the more advanced topics are covered descriptively. The two laboratory sessions involve the use of venturis, nozzles, and weirs, and demonstrate flow characteristics in pipe network and the open channel hydraulic flume. The two design projects involve the hydraulic design of typical waterworks distribution and sanitary or storm sewage collection systems.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

42.905 Soil Mechanics 1

Purpose — To gain an introduction into some of the more basic principles of soil mechanics and soil-testing procedures. The course will provide a background for people in the engineering and construction field who have little or no theoretical or laboratory testing experience. It is also a preparation for, and prerequisite of, Soil Mechanics 2.

Objective — Successful completion of the course should enable the student *(a)* to conduct and calculate the results of the basic soil mechanics laboratory tests; *(b)* to have an appreciation and working knowledge of soil mechanics terminology and the more basic principles; *(c)* to be able to perform the duties of a junior employee in a commercial soil-testing laboratory.

Outline — The course will consist primarily of lectures and laboratory sessions. The specific topics will be the classification of soils; simple soil weight-volume relationships; soil shear strength; soil permeability; soil compressibility; permeability tests; shear strength tests; consolidation tests.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

This class will be limited to 20 students.

42.906 Soil Mechanics 2

Purpose — To apply the basic principles of soil mechanics to various design situations. The course should give an appreciation of how soil properties and principles influence design construction. The intention is to relate the importance of laboratory and field procedures in determining the final design as well as the understanding of some of the more common design procedures. Soil Mechanics 1 or its equivalent is a prerequisite.

Objective — On successful completion of the course the student should have *(a)* a better understanding of how field and laboratory inspection and testing influence design and hence should be able to conduct these activities more effectively and *(b)* the ability to perform and check simple design calculations.

Outline — The course will consist primarily of lectures, discussions, and design projects. The topics will include material from the following: seepage analysis, slope stability, earth pressures, earth-retaining structures, and foundation design.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 1.5 $105

This class will be limited to 20 students.

42.914 Transportation Engineering (Roads & Streets 1)

Purpose — To introduce the fundamental principles and theory of transportation engineering to the student wishing to become a technician or a technologist in Civil Engineering. This course is the prerequisite to Highway Design and Construction (Roads & Streets 2) and Subdivision Planning and Design.

Objective — On successful completion of the course the student will know the basic concepts of traffic engineering and geometric design theory and have a general knowledge of transportation systems.

Outline — The course will consist of lectures, problems and mini projects. It will include such topics as capacity, road classification, cross-section elements, horizontal and vertical alignment, intersections, traffic patterns, transportation modes, drainage and the fundamentals of construction methods and equipment for transportation systems.

Prerequisite — Technical Report Writing -- 31.914

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

42.915 Highway Design and Construction (Roads & Streets 2)

Purpose — The course is specifically designed to provide Civil Technicians and Technologists with a detailed knowledge of the principles and practices of location, design construction of highways, roads and streets.

Objective — On successful completion of the course students will have the working knowledge to locate and design highways, roads and streets in accordance with the R.T.A.C. standards. In addition students will be able to do the calculations for geometry, earthworks, drainage and pavement structure. Students will be expected to prepare tender documents and drawings for construction by unit price contract.

Outline — The course will consist of lectures, discussions and a design project. It will include detailed consideration of such topics as soil surveys, air photo interpretation, construction materials, drainage, earthwork, mass haul diagrams, pavement design; procedure for inspection and quality assurance on construction.

Prerequisite — 42.914 Transportation Engineering, 51.540/640 Engineer Surveying, 49.900 Drafting Fundamental, a working knowledge of engineering materials (soils, asphalt, concrete) or advance approval of the Civil and Structural co-ordinator.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

42.918 Subdivision Planning and Design

Purpose — This course is specifically designed to provide Civil Technicians and Technologists with a detailed knowledge of the principles of urban subdivision planning and design of major and minor streets.

Objective — On successful completion of the course the student will have a working knowledge of subdivision layout, and the design of the local streets within that subdivision in accordance with the R.T.A.C. standards. In addition students will be able to calculate density loading, geometry, moving crown, curb

return "stretch outs", intersection design and pavement structure. Students will be expected to prepare tender documents and drawings for construction by unit price or resident improvement contract.

Outline — The course will consist of lectures, discussions and a design project. It will include detailed consideration of such topics as drainage, frontage roads, greenbelts, curb and gutters, pavement design, street configuration (cul de sac, loop and crescent) procedure for inspection and quality assurance of construction.

Prerequisite — Transportation Engineering — 42.914, Engineer Surveying — 41.540/640, Drafting Fundamentals — 49.900, and a working knowledge of engineering materials (soils, asphalt, concrete) or advanced approval of the Civil and Structural co-ordinator.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

42.916 Municipal Services

Purpose — To provide an introduction to the various utilities required in any community.

Objective — On successful completion of the course the student should have a basic understanding of the function and terminology of the various services, and of the principles governing the design of water supply, sanitary sewer and storm drainage systems. He should have a working knowledge of the layout and design of water and sewer systems.

Outline — The course will consist of lectures, discussions and a design project. It will include such topics as water supply-determination of flows and design of a distribution system; sanitary and storm sewers; loads on buried conduits; locations of gas and electrical systems; construction practices; procedures for inspection and quality assurance of construction; testing of systems; organizations for operations and maintenance; problems commonly encountered in operations and maintenance. The collection and disposal of solid waste and pollution control regulations will also be considered.

Prerequisite — 42.102 Hydrology, 42.202 Hydraulics. It is recommended that 42.918 Subdivision Planning or 45.915 Highway Design and Construction also be studied.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Units:* 1.5 $105

42.912 Estimates and Contracts for Heavy Construction 1

Purpose — To introduce the basic concepts and techniques of the preparation of estimates and tenders for the construction of Civil Engineering projects by contract.

Objective — On successful completion of the course the student should have a working knowledge of the overall procedure from the calling for tenders through preparation of estimates, submission of tenders and the award of a contract for a heavy construction job. He should have a working knowledge of the estimating process.

Outline — The course will consist of lectures and the preparation of estimates for basic operations and components of a typical job. It will include such topics as an introduction to the heavy construction industry; contracts and specifications; preparation of estimates; estimate resources; estimates for various types of projects; overhead costs; estimate adjustments; cost accounting and job cost control.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

42.913 Estimates and Contracts for Heavy Construction 2

Purpose — To develop and expand on the basic concepts and techniques considered in course No. 42.912, to gain further experience in the preparation of estimates and to consider problems which arise in the administration of contracts for heavy construction jobs.

Objective — On successful completion of the course the student should understand the total process of estimating and tendering for a straight-forward heavy construction job and be able to work effectively as a member of an estimating team. He should have an understanding of the types of problems involving claims for additional time and/or money which are most commonly encountered in heavy construction, and have gained classroom experience and guidance on how to deal with them.

Outline — The course will consist of lectures and the preparation of an estimate for, typically, a highway construction job and possibly a small bridge using SI standards. It will include an expansion of the areas dealt with in course number 42.912 and such topics as labour agreements; equipment ownership/rental and operating costs; materials; subcontracts; use of cost reports in preparing estimates; financial and legal aspects and the administration of contracts.

Prerequisite — Estimates and Contracts for Heavy Construction 1 -- 42.912 or permission of the Civil and Structural co-ordinator.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

ELECTRICAL AND ELECTRONICS TECHNOLOGY

Engineering Technician Certificate in Electrical and Electronics Technology.

The following is a suggested first level certificate program attainable over three years.

Students may amend this program to meet their personal career requirements subject to department approval.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Shop Practice 1 (43.531)	1.5	Shop Practice 2 (43.631)	1.0		
Mathematics (for Electrical and Electronic Technologies) (32.522)		Mathematics (for Electrical and Electronic Technologies) (32.622)	2.0		
Year 2					
Circuit Analysis 1 (43.501)		Circuit Analysis 1 (43.601)	2.0	Circuit Analysis 2 (43.502/602)	2.5
Mathematics (for Electrical and Electronic Technologies) (32.524)		Mathematics (for Electrical and Electronic Technologies) (32.624)	2.0		
Year 3					
Electronic Circuits 1 (43.504)		Electronic Circuits 1 (43.604)	2.0		
Mathematics (for Electrical and Electronic Technologies) (32.526)		Mathematics (for Electrical and Electronic Technologies) (32.626)	2.0		

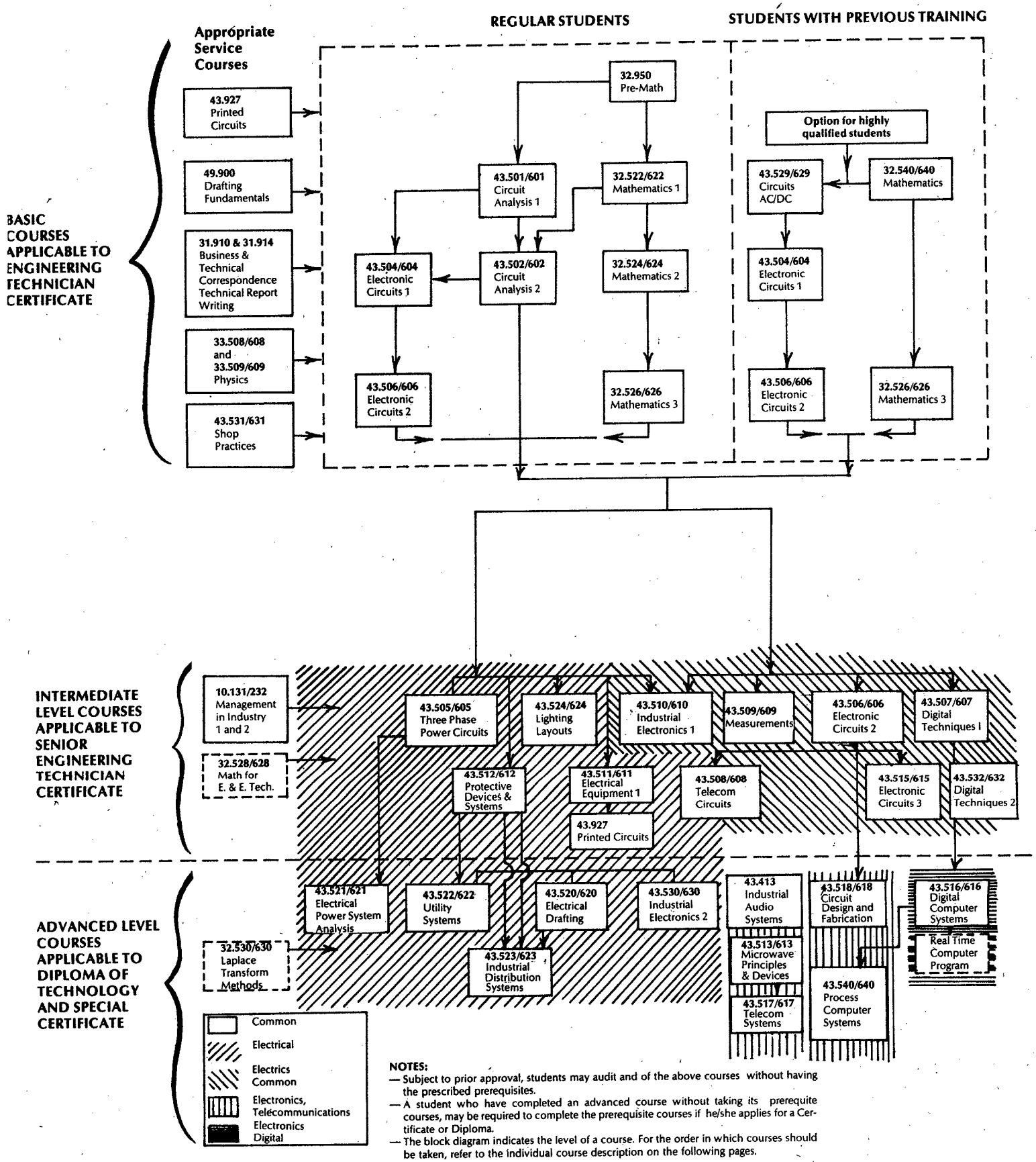
For students who have completed a first-level Certificate, further programs of study leading to Senior Certificates, Special Certificates, and Diplomas in Electrical and Electronics Technology may be designed to meet the needs of the individual student. Several specialty areas are available for advanced studies (refer to chart on following page).

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

TECHNOLOGY AND SUPPORT COURSES IN ELECTRICAL AND ELECTRONICS TECHNOLOGY

COURSE GUIDE ONLY

For details, see course descriptions on following pages



NOTES:

— Subject to prior approval, students may audit and of the above courses without having the prescribed prerequisites.

— A student who have completed an advanced course without taking its prerequite courses, may be required to complete the prerequisite courses if he/she applies for a Certificate or Diploma.

— The block diagram indicates the level of a course. For the order in which courses should be taken, refer to the individual course description on the following pages.

COURSES IN ELECTRICAL TECHNOLOGY

***43.501/601 Circuit Analysis 1 (43.102 Day School)**

Purpose — To introduce the basic principles of circuit analysis through classroom lectures and practical laboratory sessions.

Objective — On completion the student will be able to analyze circuits containing resistance elements and supplies from direct current voltage or current sources. The student will be able to use basic direct current electrical equipment such as power supplies and multimeters. The course is prerequisite to Circuit Analysis 2 and to Electronic Circuits.

Outline — The basic concepts of energy, work, current, voltage, resistance and power are thoroughly covered initially, proceeding to the analysis of series, parallel and series-parallel circuits utilizing circuit laws and techniques. The final portion of the course deals with techniques utilizing network theorems to analyze direct current, resistive networks.

Monday: 6:45-9:45 p.m. *or*	Sept. 10
Wednesday: 6:45-9:45 p.m.	Sept. 12
43.501 Term 1 (12 weeks)	$70
Continues:	
Monday: 6:45-9:45 *or*	Jan. 7
Wednesday: 6:45-9:45 p.m.	Jan. 9
43.601 Term 2 (12 weeks)	*Units:* 2.0 $70

Text Reference — Electric Circuits for Engineering Technology — Ridsdale, Chap. 1-7 inclusive.

***43.502/602 Circuit Analysis 2 (43.202 Day School)**

Purpose — To introduce to the students who have successfully completed 43.501/601 Circuit Analysis I or equivalent, the theoretical and practical study of the behavior of electrical circuits and networks when driven by a single-phase alternating current (a.c.) source.

Objective — On completion of this course the student will have gained the skills and knowledge required to analyse and design basic single-phase a.c. circuits; perform electrical a.c. measurements to determine current and voltage phase relationship, power-factor correction, apparent, reactive, and true power, resonant frequency; operate lab equipment such as multimeters, watt meters, a.c. power supplies; sine wave generators, amplifiers, and dual-trace oscilloscopes.

The student will also have the basic knowledge necessary to take more advanced electrical or electronic courses. For example, 43.505/605 Three-Phase Power Circuits.

Outline — The circuit theory presented in lectures will be verified with many projects conducted in well-equipped, supervised laboratories.

Topics include: the sine wave, average and effective values, power and power factor; resistance, capacitance, and inductance as elements in single-phase a.c. circuits; series, parallel, and series-parallel a.c. circuits; phasor diagrams, impedance, admittance, voltage, current and power diagrams, analysis of a.c. circuits with complex algebra; resonance and resonant circuits, high and low pass filters; the application of circuit laws and theorems to single-phase a.c. circuits; the analysis of two-port networks; coupled circuits.

* Has Day School equivalency.

Prerequisite — 43.501/601 Circuit Analysis 1 or equivalent.

Tuesday: 6:45-9:45 p.m.	Sept. 11
43.502 Term 1 (12 weeks)	$70
Continues:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
43.602 Term 2 (18 weeks)	*Unit:* 2.5 $105

43.529/629 Electric Circuits AC/DC

NOTE — This course is considered to be an accelerated program, implying that it is very demanding and dependent upon a strong mathematics background. A special mathematics course will be instituted on the sixth week after classes start to compliment this course. See 32.540/640 Mathematics (for Electrical & Electronic Technology) which is a combination of 32.522/622 and 32.524/624. This program is *not* intended for someone without previous training in this area.

Registration for this course requires the student to obtain approval by Department counselling or authorization from the instructors in Circuit Analysis 1.

Purpose — To enable persons with a strong background in the electrical industry or with some college or university training to cover and/or review those topics necessary to take the more advanced courses in the Electrical and Electronics Programs.

Objective — To give students a basic knowledge of how single phase a.c. and d.c. circuits work and how to analyze and design them for a particular situation.

Outline — For topics covered, refer to the outline of 43.501/601 Circuit Analysis 1 and 43.502/602 Circuit Analysis 2.

Thursday: 6:45-9:45 p.m.	Sept. 13
43.529 Term 1 (12 weeks)	$70
Continues:	
Thursday: 6:45-9:45 p.m.	Jan. 10
43.629 Term 2 (18 weeks)	*Unit:* 4.0 $105

***43.505/605 Three-Phase Power Circuits (43.323 Day School)**

Purpose — To further develop the electrical knowledge of persons involved with the electrical power industry, either with Hydro, consulting engineering offices, or with the maintenance of power electrics in industry.

Objective — To develop the ability to analyse three-phase electrical power circuits and determine their behavior under normal operating conditions.

This course is a highly desirable prerequisite for all further electrical equipment, industrial electronics, and electrical power courses.

Outline — The course consists of lectures and laboratory sessions, in well-equipped laboratories, to study the behavior of electrical quantities. Problem-solving sessions are part of the regular program and problems are assigned from time to time for home study and classroom discussion. A testing program and final exam assure continued stimulation.

The topics include review of single-phase a.c. circuits, with emphasis on graphical analysis, with respect to circuit quantities, electrical load, and power-factor correction. Other topics

include single-phase two and three-wire distribution, elementary transmission-line problems and corresponding voltage regulation, three-phase balanced and unbalanced systems, phase sequence determination, two-wattmeter methods for power measurement, three-phase transformer connections, and third harmonics.

Prerequisite — 43.502/602 Circuit Analysis 2 or 43.529/629 Electric Circuits AC/DC or equivalent.

Monday: 6:45-9:45 p.m.	Sept. 10
43.505 Term 1 (12 weeks)	$70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 7
43.605 Term 2 (18 weeks)	*Unit:* 2.5 $105

43.504/604 Electronic Circuits 1

Purpose — This course is the basic electronics course in this program and should be considered as a prerequisite to higher level electronics courses.

Objective — To give the student a basic knowledge of how transistors work and how they are used in electronic circuits to perform particular functions.

Outline — The course includes the following topics: basic theory of operation of the P-N junction and the junction transistor; characteristic curves and their interpretation; basic amplifier configurations and properties; loadline analysis; choice of Q-point; the transistor as a switch; bias circuit choice, design and analysis; a.c. equivalent circuits and their uses; frequency response considerations; power supplies, including rectification, filtering, and voltage and current regulation; feedback principles, leading to oscillation and oscillators. About one-third of the course time is spent in our well-equipped laboratories verifying theory and testing circuit designs.

Prerequisite — 43.502/602 Circuit Analysis 2, or 43.529/629 Electric Circuits AC/DC or equivalent.

Wednesday: 6:45-9:45 p.m.	Sept. 12
43.504 Term 1 (12 weeks)	$70

Continues:

Wednesday: 6:45-9:45 p.m.	Jan. 9
43.604 Term 2 (12 weeks)	*Units:* 2.0 $70

43.506/606 Electronic Circuits 2

Purpose — This course, which is a continuation of Electronic Circuits 1, gives the student an understanding of transistor circuits not included in the previous course, and then covers solid-state devices other than the junction transistor, with some of their circuit applications.

Outline — The course includes the following topics: tuned amplifiers; push-pull power amplifiers; transformerless power amplifiers; the UJT, PUT and the thyristor family; single-phase power control using the SCR and triac; field-effect transistors; integrated circuits with emphasis on linear circuits; the operational amplifier; heat-sink calculations; small-signal analysis.

About one-third of the course time is spent in our well-equipped laboratories verifying theory and testing circuit designs.

Prerequisite — 43.504/604 Electronic Circuits 1.

Monday: 6:45-9:45 p.m.	Sept. 10
43.506 Term 1 (12 weeks)	$70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 2.0 $70

43.515/615 Electronic Circuits 3

Purpose — This course introduces the electronics student to solid state switching circuits using both transistors and CMOS integrated circuits. It emphasizes circuit analysis, construction and testing in the laboratory.

Objective — On completion the student will understand the operation of CMOS devices and switching transistor circuits. The student will be able to utilize specific devices in practical applications and to quantitatively predict their performance and their operating waveforms.

Outline — The course topics are: pulse characteristics, transistor switch, analog switch, loading effects, ramp generator, Schmitt trigger, monostable (one shot), astable (clock oscillator), flip flop, and the 555 timer.

The 24 sessions include 10 lab sessions where the students will construct and evaluate circuits. Approximately seventy percent of the course is devoted to integrated circuits utilization and thirty percent to transistor circuits.

Prerequisites — 43.502/602 Circuit Analysis 2 and 43.504/604 Electronic Circuits 1

Thursday: 6:45-9:45 p.m.	Sept. 13
43.515 Term 1 (12 weeks)	$70

Continues:

Thursday: 6:45-9:45 p.m.	Jan. 10
43.615 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.507/607 Digital Techniques 1

Purpose — To allow persons who have a thorough knowledge of solid state electronics to become proficient in the rapidly developing and expanding field of digital electronics.

Objective — On completion of this course the student will *(a)* have the knowledge and basic skills necessary for working with digital circuitry and *(b)* possess the prerequisite knowledge for entry into other courses employing digital techniques.

Outline — The course is presented in lecture form with laboratory sessions introduced at appropriate intervals. Topics include number systems; Boolean algebra and symbolic logic; AND, OR, NOR and NAND circuits and their application; switching circuit analysis and synthesis; Flip Flops and Flip Flop applications; serial and parallel counting systems; decoding and encoding systems; ring counters and shift registers; adder circuits; complement arithmetic; and practical applications of digital techniques.

Prerequisite — 43.504/604 Electronic Circuits 1 or equivalent.

Tuesday: 6:45-9:45 p.m.	Sept. 11
43.507 Term 1 (12 weeks)	$70

Continues:

Tuesday: 6:45-9:45 p.m.	Jan. 8
43.607 Term 2 (12 weeks)	*Unit:* 2.0 $70

Admission — by successful completion of pre-screening test to be held first night of class.

43.532/632 Digital Techniques 2

Purpose — To allow persons with a knowledge of solid state electronics and basic digital techniques to become familiar with digital subsystems and their applications to Industry.

Objective — Upon successful completion of this course the student should be able to *(a)* use MSI and LSI devises to implement digital subsystems *(b)* analyze and troubleshoot digital subsystems

Outline — During this course the student will learn the theory and application of the following: MOS, CMOS, Schottkey, ECL logic, Frequency sources, Frequency and time measurement, Digital to Analog and Analog to Digital conversion using complex techniques, Analog and Digital Multiplexing, basic memories and their organization, arithmetic systems, error checking codes and systems, Digital computer organization, Digital circuit layout and troubleshooting techniques.

Prerequisite — 43.507/607 Digital Techniques 1.

Wednesday: 6:45-9:45 p.m.	Sept. 12
43.532 Term 1 (12 weeks)	$70
Continues:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
43.632 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.516/616 Digital Computer Systems

Purpose — To allow persons with a knowledge of solid state electronics and digital techniques to become familiar with small digital computers and their industrial applications.

Objective — On completion of this course the student should *(a)* understand the organization and operation of typical small digital computers, *(b)* be able to interface mini-microcomputer to external systems, *(c)* be able to write simple programs in assembler language to test and to operate interfaced devices, *(d)* be able to write subroutines in assembler language and link them together to form a small system.

Outline — Topics include basic machine organization and operation of the digital computer, detailed analysis of digital computer architecture together with machine and assembler language programming; interfacing to peripheral devices and industrial systems; creation of a small real time system.

This course is presented in a series of lectures plus laboratory projects carried out on 8080 and 6800 microcomputers.

Prerequisite — 43.507/607 Digital Techniques 1 and 43.532/632 Digital Techniques 2 or entrance examination.

Thursday: 6:45-9:45 p.m.	Sept. 13
43.516 Term 1 (12 weeks)	$70
Continues:	
Thursday: 6:45-9:45 p.m.	Jan. 10
43.616 Term 2 (18 weeks)	*Units:* 2.5 $105

43.540/640 Process Computer Systems

Purpose — This course introduces students to the application of mini and microcomputer hardware and software techniques to real time data acquisition and process control.

Objective — On completion of this course the student will: *(a)* be able to write real time input/output and control programs in "BASIC" language with consideration of scan rate, accuracy, filtering, alarm l limits, etc. *(b)* be able to write simple graphic display programs for monitoring of real time events. *(c)* be able to specify and/or design typical I/O and multiplexing circuitry for either analog or digital signals paying attention to linearity, isolation, stability, etc. *(d)* be able to write assembler language real time input/output handlers which are time driven, event driven, etc. *(e)* assess the application of various machines, modules and languages to various control requirements.

Outline — Topics will include design and construction of typical interface circuitry and interaction of the same with a PDP-11 based control system.

Prerequisite — Some knowledge of BASIC and 43.516/616 Digital Computer Systems or equivalent.

Enrollment will be limited to 20 persons.

Tuesday: 6:45-9:45 p.m.	Sept. 11
43.540 Term 1 (12 weeks)	$70
Continues:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
43.640 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.510/610 Industrial Electronics 1

Purpose — This course covers basic power control circuits for the electronics student and provides the fundamentals for electrical power students who will continue to 43.530/630 Industrial Electronics 2. The course topics include: *(a)* DC power supplies and regulators *(b)* inverters *(c)* SCR switching *(d)* TRIAC phase control and *(e)* switches, fuses and timing device applications.

Objective — On completion a student will understand the operation of these circuits and be able to construct and troubleshoot them using test equipment. The student will also interpret circuit schematics and calculate circuit values.

Outline — The 24 sessions will include 8 laboratory sessions and 16 lecture/problem sessions. Approximately one-third of the course is devoted to DC supplies, another one-third on AC power control and the remainder on switching and timing topics.

Prerequisite — 43.506/606 Electronics Circuits 2.

Tuesday: 6:45-9:45 p.m.	Sept. 11
43.510 Term 1 (12 weeks)	$70
Continues:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
43.610 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.530/630 Industrial Electronics 2

Purpose — To study the application of electronics and feed-back theory to the analogue control of electrical machinery. The course requires a basic knowledge of electronic circuits and electrical machinery (Industrial Electronics 43.510/610 or equivalent and Electrical Equipment 1 and 2, 43.511/611; 43.519/619 or equivalent). A mathematical background to the level of 32.530/630 is desirable to obtain maximum benefit from the course.

Outline — Equal emphasis will be placed on lecture/problem sessions and practical lab work using a variety of standard industrial drive units. Topics include transfer functions, block diagrams, analysis of steady state and transilent performance of systems, application of feedback to machine control systems such as speed regulators, voltage regulators, current regulators.

This course will not be offered in the 1979/80 year.

43.523/623 Industrial Distribution Systems

Purpose — This course is designed to be the final course in the area of industrial distribution systems (as opposed to utility distribution systems).

Objective — To bring together the application of all types of electrical equipment with regard to the design of a complete electrical system for an industrial plant or a commercial building. All relevant types of equipment are briefly discussed (on the basis that the student has had previous exposure to the equipment), followed by system design-type problems which

emphasize the selection of specific ratings of equipment. All relevant regulations of the Canadian Electrical Code are discussed and applied.

Outline — Topics included in the course are branch circuit wiring; feeder design; motor branch circuit wiring; motor control centres; demand factors; low-voltage switchboards; unit substations; voltage and system selection; grounding of systems and equipment; system protection.

Prerequisite — Desirable prerequisites are 43.505/605 Three Phase Power Circuits, 43.511/611 and 43.519/619 Electrical Equipment 1 and 2, 43.512/612 Protective Devices and Systems, 43.520/620 Industrial Control Systems, and 43.524/624 Lighting Equipment and Layouts or equivalent.

This course will not be offered in the 1979/80 year.

43.508/608 Telecommunications Circuits

Purpose — Introduces those principles which form the basis of all telecommunications systems. Covers specialized circuits for modulation, demodulation, frequency generation and frequency selection as used in radio and telephone equipment. Persons employed at the basic installation and service level will have their understanding of telecommunication circuits increased. Students should already understand electrical and electronic fundamentals and be familiar with the use of lab equipment, especially of oscilloscopes.

Objective — Upon course completion students can expect to understand basic types of modulation, demodulation (Am, SSB, FM, PM) frequency generation and frequency selection techniques, and be able to analyse these circuits for trouble shooting.

Outline — Lecture and practical lab sessions. Note-this course serves as preparation for courses 43.513/613 Microwave Principles and 43.517/617 Telecommunication Systems.

Prerequisite — 43.502/602 Circuit Analysis 2 or 43.529/629 Circuit Analysis AC/DC and 43.506/606 Electronic Circuits 2.

Wednesday: 6:45-9:45 p.m.	Sept. 12
43.508 Term 1 (12 weeks)	$70
Continues:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
43.608 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.517/617 Telecommunications Systems

Purpose — Introduces the principles of transmitting and receiving systems. These systems include: radio, telephone frequency division and time division multiplex and radio aids to navigation. The principles of Electro magnetic wave propagation and radio path planning are also introduced.

Objective — To give the student an understanding of circuits arrangements of the systems mentioned above so that he may carry out system performance tests in accordance with DOC and industrial standards. Also to be able to lay out a simple radio path predicting operating levels and noise performance.

Outline — Topics include typical radio transmitters and receivers operating in the AM, SSB, FM and PM modes, Frequency division multiplex plans and system organization, PCM multiplex system organization, basic radar, Loran and other selected navigation systems. Laboratory sessions will include radio transceiver evaluations and the layout of a simple radio path.

Prerequisite — 43.508/608 Telecommunications Circuits and 43.513/613 Microwave Principles.

Thursday: 6:45-9:45 p.m.	Sept. 13
43.517 Term 1 (12 weeks)	$70
Continues:	
Thursday: 6:45-9:45 p.m.	Jan. 10
43.617 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.513/613 Microwave Principles and Devices

Purpose — For persons associated with the electronics industry, and with little or no experience in high-frequency techniques, this course provides an introduction to microwave principles and devices most frequently encountered in communications, radar, and industrial systems. Specifically, this course will provide theoretical and practical training on the techniques of transmission, generation, and measurement of microwave energy.

Objective — On successful completion of this course a student can expect to be knowledgeable of the operation of most microwave appliances or devices used in industry. Also, the principles and techniques acquired will be a valuable background for further specialized training in the field of microwave communications.

Outline — A mixture of lectures, discussions, demonstrations, and laboratory projects will provide for an interesting course. Topics include transmission-line characteristics and the ideal lossless line; Smith Chart and graphical representation of the transmission line; wave guides, coupling tees, attenuators, and terminations, directional couplers, detectors, cavities, wavemeters; typical single-channel microwave systems such as would be used in commercial systems.

Prerequisite — 43.506/606 Electronic Circuits 2, 43.508/608 Telecommunication Circuits is a desirable prerequisite and may be taken at the same time.

Monday: 6:45-9:45 p.m.	Sept. 10
43.513 Term 1 (12 weeks)	$70
Continues:	
Monday: 6:45-9:45 p.m.	Jan. 7
43.613 Term 2 (12 weeks)	*Units:* 2.0 $70

43.511/611 Electrical Equipment 1 (43.324 Day School)

Purpose — To allow people with an electrical circuits fundamentals background to study the theory, characteristics, and operations of d.c. generators, and motors, transformers, and A/C induction motors. Electricians, technicians, and draftsmen will find this course useful in understanding the basic electrical equipment with which they work so frequently. This course is a mandatory prerequisite to 43.519/619 Electrical Equipment 2 and 43.523/623 Industrial Distribution Systems.

Objective — To give the student an appreciation of the theory of operation, the application and the limitations of each basic type of equipment; to enable him to determine the parameters such as speed and voltage regulation, starting torques, inrush current, efficiency, etc. and to provide him with experience in the connecting, operating and testing of the equipment.

Outline — The 24 sessions will consist of approximately 50 percent lectures and 50 percent practical laboratory exercises. The topics included in the course are: d.c. machines, voltage generation and regulation, torque and speed relationships, typical wiring connections; transformers, voltage regulation and efficiency; A/C induction motors, operation and characteristics.

Prerequisite — 43.501/601 Circuit Analysis 1 and 43.502/602 Circuit Analysis or 43.529/629 Electric Circuits AC/DC and

43.505/605 Three Phase Power Circuits or equivalent.

This course will not be offered in the 1979/80 year.

43.519/619 Electrical Equipment 2 (43.424 Day School)

Purpose — This course is a continuation of 43.511/611 Electrical Equipment 1 which *must* be taken first. (Please read the description of that course). This course is a desirable prerequisite to 43.520/620 Electrical Drafting and 43.523/623 Industrial Distribution Systems.

Outline — Topics include: electo magnetic relays, timing devices, contactors, motor starters and related pilot devices, preparation of schematic control diagrams, synchronous motors and generators, duty cycles, load applications, and temperature classifications.

Prerequisite — 43.511/611 Electrical Equipment 1 and 43.505/605 Three Phase Power Circuits

Thursday: 6:45-9:45 p.m.	Sept. 13
43.519 Term 1 (12 weeks)	$70

Continues:

Thursday: 6:45-9:45 p.m.	Jan. 10
43.615 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.413 Industrial Audio Systems

Purpose — This course material has been prepared for the electronics engineering student or technician who is interested in the science of sound and its applications. Emphasis is placed on the fundamental applications of acoustics.

Objective — The objective is to describe a systematic method of installing a sound reinforcement system in an existing auditorium and to suggest methods of improving an unsatisfactory sound system. Although it is not the intention of this course to provide the student with the same expertise which comes only with years of practical experience, it should increase awareness of the fact that it is possible to design good sound systems and to improve bad ones.

Outline — The format of this course includes lectures, discussions, demonstrations and lab exercises, including: application of audio systems in industry, the decibel system and volume units, outdoors sound systems, transducers (loudspeakers, microphones), indoor sound reinforcement systems, system equalization, and design applications.

Prerequisite — A working knowledge of trigonometry, logarithms.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

*43.512/612 Protective Devices and Systems (43.426 Day School)

Purpose — To allow students with an electrical circuits background to study protective devices such as fuses, circuit-breakers, protective relays, current and potential transformers, and lightning arresters and to prepare the student for 43.522/622. Utility Systems or 43.523/623 Industrial Distribution Systems.

Electricians, technicians, and draftsmen will find this course useful in understanding the basic protective devices with which they work so frequently.

---

* Has Day School equivalency.

Objective — To give the student an appreciation of the functions and limitations of protective devices; to enable the student to compare the characteristics of a protective device with others and be able to plan the co-ordination between these devices. Examples of this are *(a)* co-ordination between feeder protection and motor-overload relays and *(b)* co-ordination between transformer primary fuse and secondary circuitbreaker.

Outline — The 24 sessions will consist of approximately 50 per cent lectures and 50 per cent laboratory and problem sessions. Topics to be discussed are the need for protection, fuses, circuit-breakers, co-ordination of fuses and circuit-breakers, protective relays, current and potential transformers, and lightning arresters.

Prerequisite — 43.511/611 Electrical Equipment 1 and 43.505/605 Three Phase Power Circuits or equivalent.

Wednesday: 6:45-9:45 p.m.	Sept. 12
43.512 Term 1 (12 weeks)	$70

Continues:

Wednesday: 6:45-9:45 p.m.	Jan. 9
43.612 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.518/618 Circuit Design and Fabrication

Purpose — This course, which is a continuation of Electronic Circuits 2, introduces the student to further applications of transistors and linear integrated circuits.

Outline — The course opens with a review of the fabrication techniques of monolithic integrated circuits and the resulting electrical characteristics of components making up the circuits. The course then shows how these characteristics may be used to advantage in the design of hybrid-voltage amplifiers, balanced modulators, phase detectors, broadband amplifiers, and active filters.

Approximately one-half of the course time will be spent in the laboratory constructing and testing your prototype circuit design.

Prerequisite — A necessary prerequisite is Electronic Circuits 2 or equivalent.

Thursday: 6:45-9:45 p.m.		Sept. 13
43.518 Term 1 (12 weeks)		$70

Continues:

Thursday: 6:45-9:45 p.m.		Jan. 10
43.618 Term 2 (12 weeks)	*Units:* 2.0	$70

43.521/621 Electrical Power Systems Analysis

Purpose — To further develop persons who have already a good knowledge of three-phase electrical theory, as outlined in course 43.505/605 or equivalent (43.323 day school).

Objective — To provide an introduction to the use of calculation methods for solving three-phase power system problems for application in the electrical power industry, electrical consulting engineering offices, or to lead to a better understanding of operation and maintenance problems encountered with electric power equipment.

Outline — Graphical analysis methods of voltage regulation; unbalanced three-phase electrical systems with an introduction to symmetrical components; short-circuit studies and per unit methods of solving utility and industrial power system problems; short-circuit forces; circuit-breaker interrupting ability; maximum momentary duty of power euipment; power circle diagrams and transmission diagrams to analyse transmis-

sion-line power-handling capabilities; study of power angle diagrams as introduction to power system stability analysis.

Prerequisite — 43.505/605 Three Phase Power Circuits

This course will not be offered in the 1979/80 year.

***43.509/609 Measurements (43.204 Day School)**

Purpose — To instruct the student with a knowledge of basic electronic principles in the selection, operation, and typical methods of using the basic electronic test instruments. This course will aid one in "getting the most of a test instrument" in day-to-day situations by understanding its operating principles.

Objective — For those on certificate programs this course will provide the ability to cope with the requirements of other courses in the program. For those now in the field it will allow them to improve their measurement techniques.

Outline — A mixture of lectures, demonstrations, and practice sessions in the laboratory will be provided. Topics covered include theory of operation and measurement techniques using various types of bridges, distortion analysers, electronic voltmeters, frequency counters, oscilloscopes, RF power meters, signal generators, spectrum analysers, and Q-meters. Certain specialized techniques dealing with measurement of phase angle, power and distortion will also be presented.

Prerequisite — 43.501/601 Circuit Analysis 1 and 43.502/602 Circuit Analysis 2.

Wednesday: 6:45-9:45 p.m.	Sept. 12
43.509 Term 1 (12 weeks)	$70
Continues:	
Wednesday: 6:45-9:45 p.m.	Jan. 9
43.609 Term 2 (12 weeks)	*Units:* 2.0 $70

43.520/620 Electrical Drafting

Purpose — To allow persons with an electrical equipment background to develop the skills to organize and draft schematic, connection, and electrical layout drawings.

Objective — To give the student actual experience in developing and interpreting control schemes involving electromechanical devices; preparing schematic and complete connection diagrams; organizing branch circuit wiring for lighting layouts; and preparing building layout drawings.

Outline — Topics include: standard electrical symbols, schematic and connection diagrams, single and three line diagrams, building electrical layouts and equipment layout.

Prerequisite — Students should have some proficiency in basic drafting and should have taken 43.519/619 Electric Equipment 2 and 43.523/623 Industrial Distribution Systems.

Monday: 6:45-9:45 p.m.	Sept. 10
43.520 Term 1 (12 weeks)	$70
Continues:	
Monday: 6:45-9:45 p.m.	Jan. 7
43.620 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.522/622 Utility Systems (formerly called Generation and Transmission Systems)

Purpose — This course is designed to be the final course in the area of utility systems.

Objective — To bring together the application of all types of electrical equipment with regard to their use in utility systems and to study utility system organization.

Outline — Topics include synchronous generators; generating stations; transmission-lines; substation layouts; protection of equipment and systems; power rate structures.

Prerequisite — 43.505/605 Three Phase Power Circuits, 43.511/611 Electrical Equipment, 43.519/619 Electrical Equipment 2 and 43.512/612 Protective Devices and Systems, or permission of the instructor.

This course will not be offered in the 1979/80 year.

43.524/624 Lighting Equipment and Layout

Purpose — To introduce the fundamentals of lighting sources and lighting layouts. The course is also a desirable prerequisite to 43.523/623 Industrial Distribution Systems.

Objective — To allow the student to perform the necessary calculations in order to layout a lighting system and to design feeders to connect to lighting loads.

Outline — Topics included in the course are lighting fundamentals, light sources, lighting system calculations, lighting layouts, and feeder calculations.

Tuesday: 6:45-9:45 p.m.	Sept. 11
43.524 Term 1 (12 weeks)	$70
Continues:	
Tuesday: 6:45-9:45 p.m.	Jan. 8
43.624 Term 2 (12 weeks)	*Unit:* 2.0 $70

43.103 Shop Practice 1

Purpose — To introduce the student to the basic discrete passive components used in Electronics and the techniques of layout and fabrication of Electronic Equipment.

Objective — Upon completion of this course the student should have a good understanding of the characteristics of components used in electronic equipment and the steps involved in fabricating the hardware, including drafting, printed circuit layout, and sheetmetal work.

Outline — The course includes the following topics: Resistors, capacitors, inductors, basic transformers, switches, relays, color codes, tolerances, preferred values, power and voltage ratings, wiring, soldering, printed circuit layout, electrical and mechanical drafting, sheet metal fabrication.

Prerequisites — None.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (18 weeks)	
Continues:	
Thursday: 6:45-9:45 p.m.	Jan. 10
	Unit: 1.5 $105

43.203 Shop Practice 2

Purpose — To familiarize the student, through practical, "hands on" training, basic wiring practices and principles.

Objective — Upon completion of this course the student will have a working knowledge of basic wiring techniques and skills along with an understanding of basic residential commerical and industrial code requirements. The vehicle used to obtain these skills will be residential wiring.

Outline — Examples of some of the things the student will do and study are: build a miniature frame construction wall using

* Has Day School equivalency.

common power tools; install wiring devices such as lamps, switches, receptacles, and panels; become familiar with conduit fittings and banding techniques; low voltage wiring, insulation selection, and testing; basic lighting layout and load grouping.

Prerequisite — None. It is suggested, however, that this course be taken at the same time as Shop Practice 1 or immediately after.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) *Unit:* 1.0 $70

NOTE: This course may be repeated in Term 2.

43.927 Printed Circuits

Purpose — To allow persons without any previous experience to manufacture a simple printed circuit after a few hours. This course introduces effective methods of printed circuit layout and fabrication.

Objective — On completion of the course a student can expect to have sufficient knowledge to undertake any circuit except those of very intricate and close tolerances.

Outline — 75 per cent of course is laboratory procedures with lectures and 16-mm films.

Topics include printed circuit board layout, physical and electrical clearances; direct etch method; photographic etch method; and silk screen method.

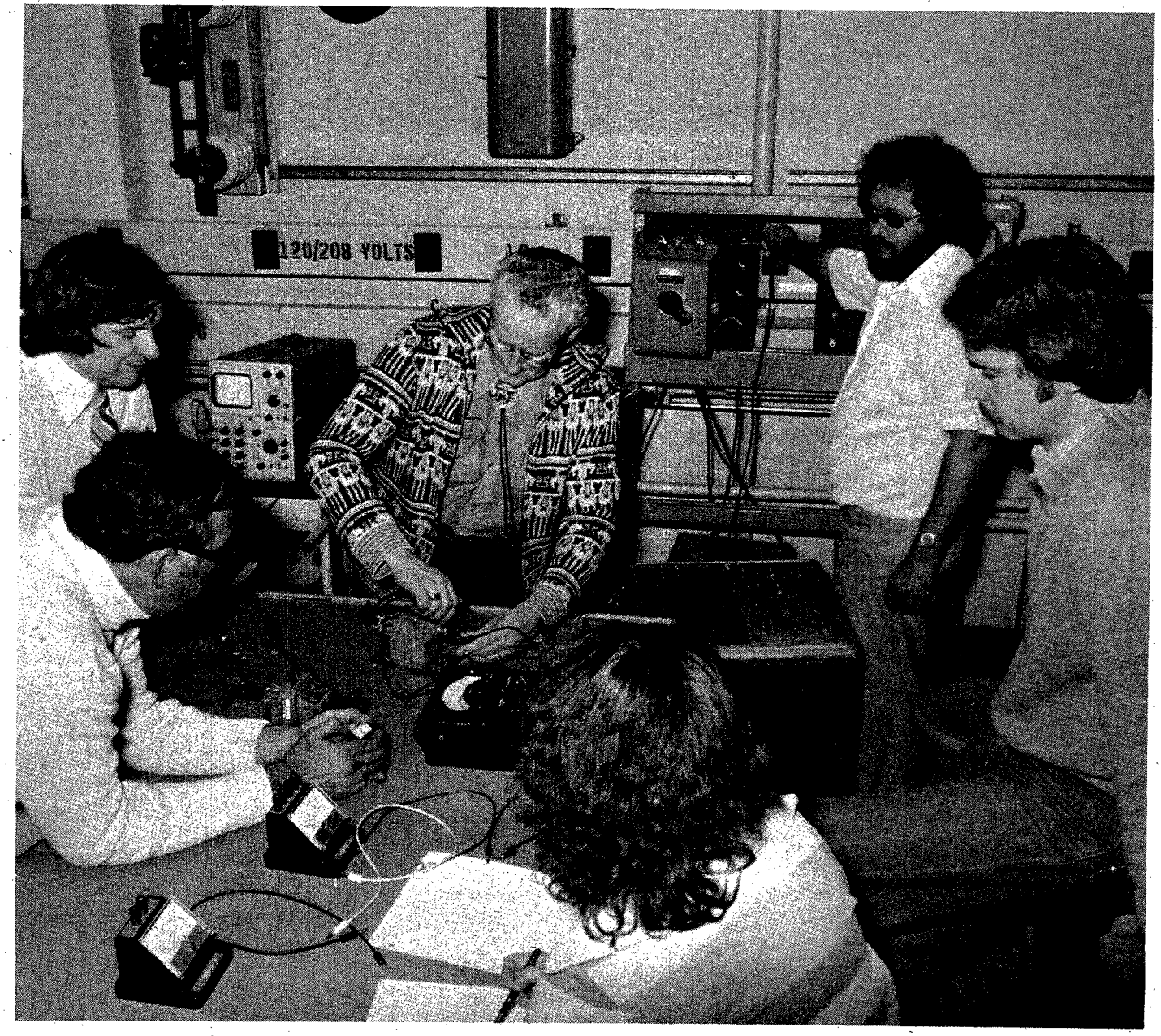
Prerequisite — Students applying for this course must be able to read a schematic.

Monday: 6:45-9:45 p.m. Sept. 10
Term 1 (6 weeks) $35

Begins Again:
Monday: 6:45-9:45 p.m. Oct. 22
Term 1 (6 weeks) $35

Begins Again:
Monday: 6:45-9:45 p.m. Jan. 7
Term 2 (6 weeks) $35

This class is limited to 20 students.



INSTRUMENTATION PROGRAM AUTOMATION AND CONTROL SYSTEMS

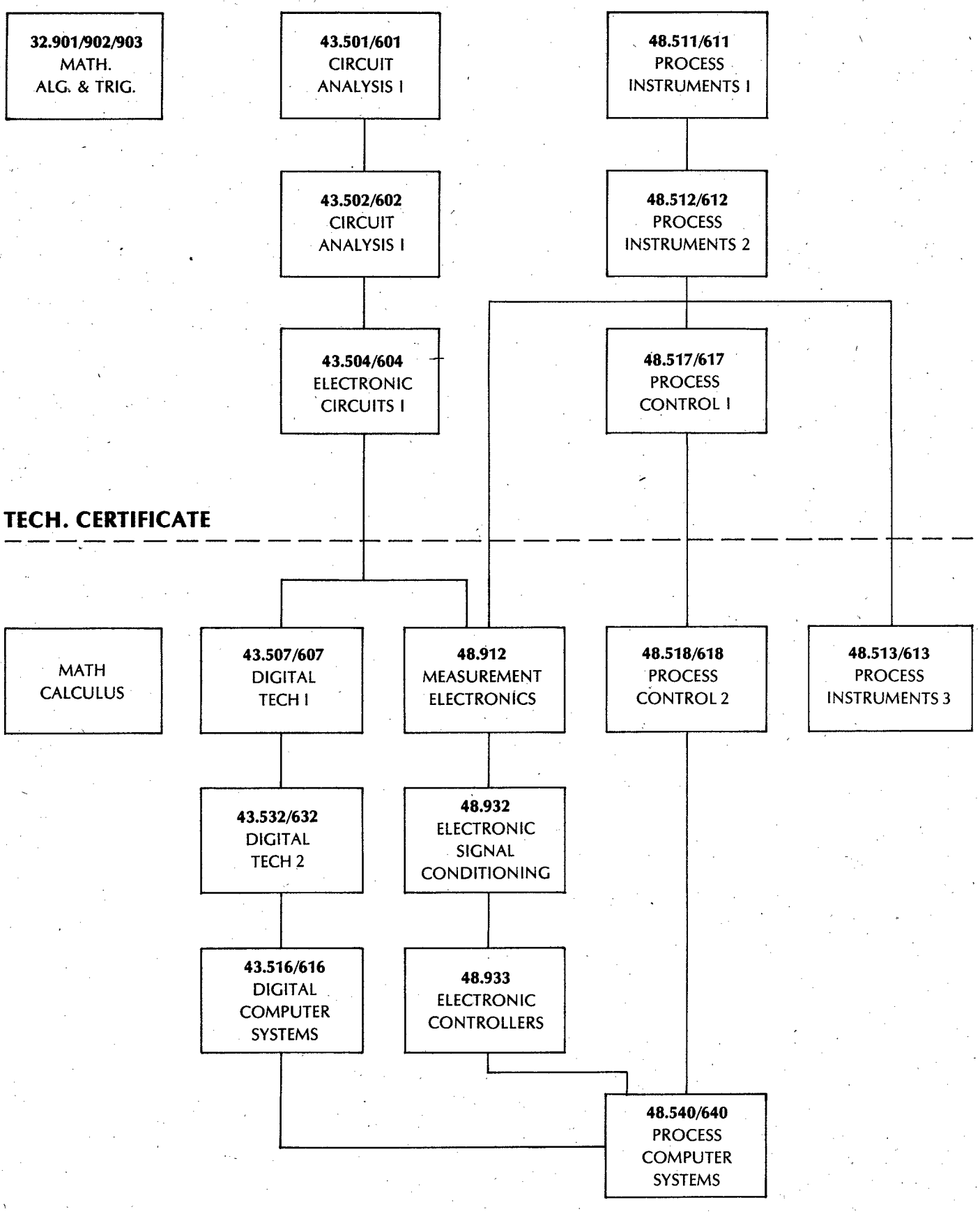
Instrumentation — Technician Certificate

September (Term 1)	*January (Term 2)*	*April (Term 3)*
Year 1 — Units	Units	Units
Process Instruments 1 (48.511)	Process Instruments 1 (48.611) 2.0	
Mathematics — Algebra 2 (32.901) 1.0	Mathematics — Logarithms & Analytical Geometry (32.902) 1.0	Mathematics — Trigonometry (32.903) 1.0
Year 2		
Process Instruments 2 (48.512)	Process Instruments 2 (48.612) 2.0	
Circuit Analysis 1 (43.501)	Circuit Analysis 1 (43.601) 2.0	Circuit Analysis 2 (43.502/602) 2.5
Year 3		
Process Control 1 (48.517)	Process Control 1 (48.617) 2.0	
Electronic Circuits 1 (43.504)	Electronic Circuits 1 (43.604) 2.0	

List of Suggested Electives

48.513/613	Process Instruments 3	2.0
48.518/618	Process Control 2	2.0
48.912	Measurement Electronics	1.0
48.932	Electronic Signal Conditioning Methods in Instrumentation	1.0
48.933	Electronic Controllers	1.0
43.507/607	Digital Techniques 1	2.0
43.532/632	Digital Techniques 2	2.0
43.516/616	Digital Computer Systems	2.5
43.540/640	Process Computer Systems	2.0
49.900	Drafting Fundamentals	1.0
49.903	Mechanical Drafting 1	1.5
33.508/608	Physics 1	2.0
33.509/609	Physics 2	2.0
32.505/605	Math (Calculus 1)	2.0
32.506/606	Math (Calculus 2)	2.0
30.902/903	Chemical Principles 1 and 2	5.0
31.914	Technical Report Writing	1.0
31.910	Business and Technical Correspondence	1.0
10.904	Supervisory Skills	1.0
49.932	Engineering Economics	1.0

INSTRUMENTATION OPTION



Courses in the Instrumentation Technology

48.511/611 Process Instruments 1

Purpose — To allow person with little or no experience to learn the fundamentals of industrial instrumentation and to prepare for more advanced courses. In addition to the terminology and symbols the participants will study the principles and characteristics of commercial instruments used to measure variables such as density of fluids, pressure in vessels, level in tanks, and flow in pipes and ducts.

Objective — On completion of this course the student will be able to perform routine instrument calibrations, understand the principles of their operation, and be familiar with standard calculations relating to the variables studied.

Outline — The course will consist of a series of lectures explaining how instruments work, the solution of typical instrumentation problems, as well as laboratory sessions working with commercial instruments.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 1 (12 weeks) $70

Continues:

Tuesday: 6:45-9:45 p.m. Jan. 8
Term 2 (12 weeks) *Unit:* 2.0 $70

48.512/612 Process Instruments 2

Purpose — This course is a continuation of Process Instruments 1, and covers the principles and application of methods of measurement of temperature, humidity, dew point, pH and oxygen.

Objective — On completion of this course the student will be able to identify and select appropriate instruments for Process measurements. The student will also be able to calibrate instruments and perform calculations pertaining to measurement applications.

Outline — This course consists of lectures, problem solving assignments, and laboratory sessions working with commercial instruments.

This course will not be offered in 1979/80 term.

48.513/613 Process Instruments 3

Purpose — This course is a continuation of Process Instrument 1 and 2, but they are not prerequisites. Topics covered include measurement of electrolytic conductivity, basic spectrometry and typical spectrometer alignments, basic chromatography and chromatograph operating principles.

Objective — Successful completion of this course will indicate an understanding of the several methods of measurement covered and a familiarity with typical equipment used in those measurements. Though not a prime aim of this course, fault finding and correction will also be covered.

Outline — The course will consist of lectures, demonstrations, and problem-solving assignments and discussions, together with laboratory experiments reinforcing and expanding the class presentations. Most work is with commercial/industrial equipment.

Tuesday: 6:45-9:45 p.m. Sept. 11
Term 2 (12 weeks) $70

Continues:

Tuesday: 6:45-9:45 p.m. Sept. 8
Term 2 (12 weeks) *Unit:* 2.0 $70

48.517/617 Process Control 1

Purpose — To introduce the basic principles and practices common to many types of Automatic Process Control Systems.

Objective — On satisfactory completion the student will be able to: 1. use and interpret Instrument Society of American Symbols, component diagrams, and system diagrams 2. calibrate, troubleshoot to and analyze the response of various industrial control components. 3. apply basic feedback Theory to Electronic, Pneumatic and Hydraulic control systems. 4. design and construct a single variable control system using standard Industrial Process Control components.

Outline — Topics include: basic automatic control principles; feedback circuit design principles in devices and systems; block diagrams and transfer functions; Pneumatic and Hydraulic amplifier circuits applied to transmitters, signal converters, power amplifier computing circuits and position servomechanisms; final control elements; control valve characteristics, specification and sizing.

This course will consist of lectures, demonstrations and laboratory exercises, working with commercial equipment on several types of processes.

Wednesday: 6:45-9:45 p.m. Sept. 12
Term 1 (12 weeks) $70

Continues:

Wednesday: 6:45-9:45 p.m. Jan. 9
Term 2 (12 weeks) *Unit:* 2.0 $70

48.518/618 Process Control 2

Purpose — This course is a continuation of Process Control 1. It introduces the student to the principles and practices used in the design, operation and application of common industrial process control systems.

Objective — On satisfactory completion the student will be able to: 1. use and interpret system schematics and flow diagrams 2. calibrate, analyze and adjust the response of various control circuits and systems 3. apply feedback and feedforward concepts to various industrial control systems. 4. design and construct multi-variable process control systems using standard industrial control components and computer software.

Outline — Topics include: closed loop system stability and damping; controller circuits for proportional, reset, and rate modes; process control strategies including ratio, cascade, feedforward plus feedback, and total feedforward control; introduction to computer process control.

This course will consist of lectures, demonstrations and laboratory exercises working with manufacturers pneumatic and electronic control equipment applied to steam and liquid processes.

This course will not be offered in the 1979/80 year.

48.912 Measurement Electronics

Purpose — This course is directed towards personnel involved with commercial or industrial instrumentation and familiarizes the student with the electronic circuitry basic to scientific and industrial measurement transducers.

Objective — On completion of this course the student will be able to specify the correct circuitry to be used in conjunction

with measurement transducers such as strain gauges, temperature sensors, conductivity probes, ion concentration probes, and flow meters, in the measurement of level, pressure, flow, temperature, conductivity, etc. Students will be able to use operational amplifiers for the design and construction of various instrumentation amplifier circuits given specific requirements for gain, linearity, stability and C.M.R.R. or select the correct commercially available module if applicable. The students will also be able to describe the circuitry used in many commercial measurement devices by analysis of schematic diagrams.

Outline — Topics will include: design and application of bridge circuits for various measurement transducers; use of operational amplifiers for amplification of low level D.C. signals, and "hands on" analysis of various manufacturers' measurement amplifier circuitry.

Prerequisite — 43.504/604 Electronic Circuits 1 or equivalent. No prior knowledge of operational amplifiers is required.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

48.932 Electronic Signal Conditioning Methods in Instrumentation

Purpose — This course is a continuation of Measurement Electronics and acquaints students with methods of electronic signal transmission and conditioning in the process control loop.

Objective — On completion of the course, the student will be able to design simple current voltage and voltage to current convertors using op-amps, and analyze and troubleshoot typical industrial two wire transmitters. Students will also be able to apply operational amplifiers to analog signal conditioning circuits such as summers, DFG's multipliers, square and square root units, limiters, comparators, etc. and be conversant with industrial modules available.

Outline — The course will emphasize the practical approach, by concentrating on typical industrial applications and problems in both lectures and laboratories.

Prerequisite — 43.504/604 Electronic Circuits 1, some knowledge of operational amplifiers — preferably from 43.506/606 Electronic Circuits 2 or 48.912 Measurement Electronics.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

48.933 Electronic Controllers

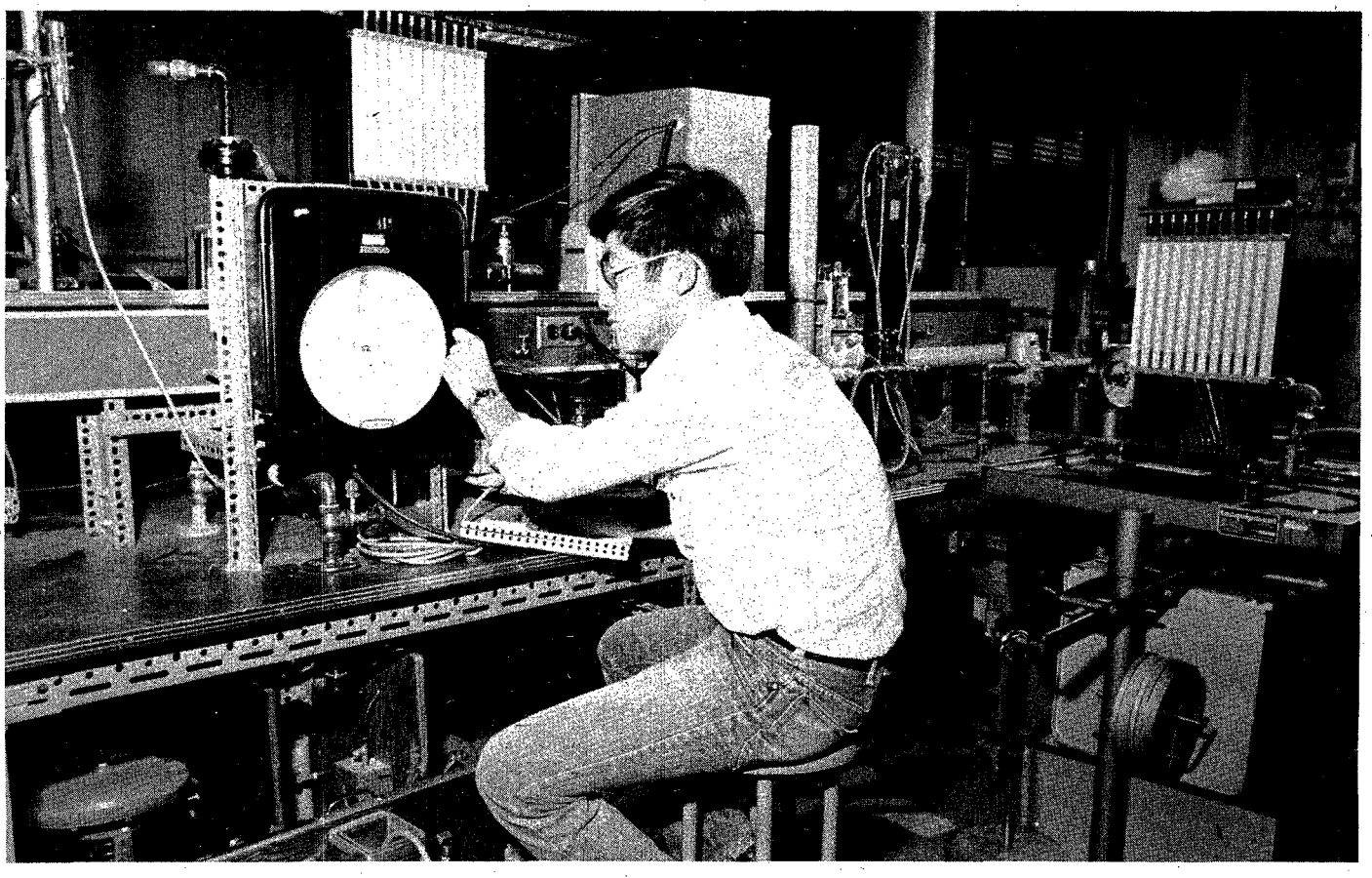
Purpose — This course is a continuation from Electronic Signal Conditioning and familiarizes the student with the design objective and circuitry common to industrial electronic controllers.

Objectives — On completion of the course the students will be able to design and implement simple 2 and 3 mode controllers using operational amplifiers in configurations commonly used in commercial equipment. They will be able to discuss various design configurations used for obtaining bumpless transfer between modes, and identify methods used by the analysis of various manufacturer's schematics.

Students will be conversant with the requirements for analog back-up in computer base control systems and be able to describe the operation and interface requirements for typical C.M. and C.A.M. stations.

Prerequisite — 43.932 Electronic Signal Conditioning or 43.506/606 Electronics Circuit 2 or equivalent.

Monday: 6:45-9:45 p.m.	March 31
Term 3 (12 weeks)	*Unit:* 1.0 $70



FOREST RESOURCES TECHNOLOGY

Engineering Technician Certificate in Forest Resources Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with approval from a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Algebra 2 (32.901)	1.0	Forest Land Management (45.903)	1.5	Mathematics — Trigonometry (32.903)	1.0
Forest Measurements 1 (45.102)	1.0	Forest Measurements 2 (45.202)	1.5		
Year 2					
Business and Technical Correspondence (31.910)	1.0	Technical Report Writing (31.914)	1.0		
Elective	1.0	Ecology (45.226)	1.5		
Year 3					
Plants and Soils (45.120)	1.0	Plants and Soils (45.220)	1.5		
Elective	1.0	Elective	1.5		

List of Suggested Electives

45.904	Principles and Practices in Wildlife Management	1.0
45.326	Community and Habitat Ecology	1.5

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Engineering Technician Certificate in Fish, Wildlife & Recreation.

The following is a suggested program for the basic Certificate (15 units) attainable over three years. The three year period is flexible.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms & Analytic Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Plant and Soils (45.120)	1.0	Ecology (45.226)	1.5	Elective	1.0
Year 2					
Business & Tech. Correspondence (31.910)	1.0	Technical Report Writing (31.914)	1.0		
Wildland Recreation & Park Management (45.910)	1.0	Community and Habitat Ecology (45.326)	1.5		
Year 3					
Principles & Practices in Wildlife Management (45.904)	1.0	B.C. Fish and Fisheries (45.911)	1.0		
Elective	1.0	Elective	1.0		

List of Suggested Electives:

		Units
45.905	Conservation, Outdoor, Recreation, Education	1.0
45.903	Forest Land Management	1.5
10.904	Supervisory Skills	1.0
10.905	Managerial Styles	1.0

NOTE — Credits obtained in night school courses are not automatically granted to the day school courses and students are advised to seek consultation with the Forest Resources Technology if they are planning to attend the day school program. Students should also be aware of the fact that the diploma is not available through the night school program.

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

45.103 Wood Utilization

Purpose — This course is designed to enable the student to develop a basic understanding of the structure, properties, products, and uses of the commercial woods in British Columbia. This subject matter will be found very useful whether the student is engaged in construction, working in the field as a forest technician, embarking on a career in forest products, or interested in doing "do-it-yourself" projects about the home or farm.

Objective — The objective is to enable students 1. to appreciate the nature and value of the woods of the commercial tree species in British Columbia through a study of the structure, composition, properties, products, and uses of wood and 2. to become aware of growth factors and destructive agencies that affect wood and its use.

Outline — The subject-matter includes wood as a construction material, tree growth and natural characteristics, structure and identification of woods, properties of wood and wood deterioration, wood utilization.

Text used: Canadian Lumber Grading Manual

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

45.903 Forest Land Management

Purpose — To acquaint students with management techniques that are employed to solve problems inherent in the use of forest lands.

Objective — To integrate the four major aspects of forest land management into a comprehensive unit which will enable the student to understand management procedures. This is accomplished by 1. relating historical events with present management policies, 2. outlining the government agencies responsible for forest land management, 3. determining the main uses of forest lands and examining the conflicts which arise. 4. examining land tenure disposition.

Outline — The sessions will be divided into lectures, discussions, and problem-solving with the greatest emphasis on lectures.

NOTE: For Day School equivalency, adequate field work as prescribed by the instructor must be completed to an appropriate level.

Text used: New Forest Act.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Unit:* 1.5 $105

45.904 Principles and Practices in Wildlife Management

Purpose — To serve as a basic explanation and survey of the field for interested naturalists, sportsmen, and others, as well as for technical and professional graduates in forestry, agriculture and other resources-based fields.

Objective — To impart an appreciation of the fundamental principles related to management and exploitation of natural animal populations. Central ecological concepts, principles of population biology, and habitat relationships are featured with study of the methods and techniques of this application in effective wildlife management.

Outline — A sequence of lecture-discussion sessions with practical laboratory exercises where applicable. A textbook which is followed is Wildlife Biology, by R. Dasmann (Wiley 1964) and is highly recommended. Discussions progress from treatment of central concepts through techniques of census, evaluation, etc. to various special problems such as pesticides, wildlife damage, etc.

Text used: Wildlife Management Techniques

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

NOTE: If insufficient numbers of students are registered in this course and 45.910 Wildland Recreation and Park Management and if registrants were interested in a combined recreation and wildlife course then these two courses could be consolidated into a single course.

45.226 Ecology

Purpose — To introduce students to the basic language and concepts of ecology. To develop an appreciation for the components of ecosystems including man and his activities. Also to outline the energy flow in various ecosystems and to introduce management aspects of numerous ecosystems.

Objective — To be conversant with common ecological terms that will facilitate the student's understanding of technical writings as well as the use of these terms in technical reports and other forms of presentation.

Students will be able to identify numerous ecosystems of terrestrial and aquatic environments, describe energy fixation/transfer in them and recognize major approaches towards their proper management.

Outline — The material will be presented in the form of lectures and closely allied tutorial discussions. The textbook by R. L. Smith (1977) entitled: Elements of Ecology and Field Biology will be followed, supplemented by materials that specifically apply to ecosystems in B.C.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

45.910 Wildland Recreation and Park Management

Objective — 1. To make the student aware of the importance of both recreation, and the wildland recreation manager, in the proper planning and administration of Canada's Wildlands. 2. To provide the student with a working knowledge of recreational pursuits on public, and private, wildlands within B.C. 3. To inform the student of specific criteria involved in the assessment and management of recreational wildland. Among topics to be covered are: introduction to recreation, wilderness management, winter oriented recreation, water oriented recreation, campsite design, wildlife in parks, interpretation, visual management, public input in decision making, trail design, etc.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

NOTE: If insufficient number of students are registered in this course and in 45.904 Principles and Practices in Wildlife Management and if registrants are interested in a combined recreation and wildlife course then these two courses could be consolidated into a single course.

45.905 Conservation, Outdoor Recreation, Education

Purpose — The preliminary course will acquaint the outdoorsman with some of the recreational options associated with wildlife and provide instruction on safety and enjoyment of the outdoors.

Objective — Upon completion of the course the student will be able to improve hunting standards and promote safe and knowledgeable outdoor recreation and an appreciation of the value of wildlife and natural environments in our modern way of life. The student will be expected to write the CORE examination as a prerequisite to obtaining a hunting licence, which is mandatory under the Wildlife Act.

Outline — The following will be covered by lectures, slides, and displays: ecology — conservation and the future, wildlife management and restoration, habitat requirements of wildlife and animal movements, organization of the fish and wildlife branch, outdoor ethics, firearm handling, why we have regulations, animal identification, some birds of B.C., fish of B.C., survival and first aid, archery and canoeing, backpacking and mountaineering.

Text used: Fish and Wildlife the Recreational Resource

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

45.326 Community and Habitat Ecology

Purpose — To provide knowledge for junior personnel in the renewable resource fields to recognize, describe, and appreciate productive capacities of homogenous land types in B.C.

Objective — To enable the students to recognize and evaluate for various uses a wide spectrum of wildland habitats; to appreciate the ecological factors and their functions in the formation of habitats.

Outline — A summary study of ecological factors, geology, climate, biotic condition, geographical history in the formation of habitats; formation and geography of soils; plant associations, biogeoclimatic classification of B.C.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Unit:* 1.5 $105

NOTE: Students should be prepared to participate in 2-3 weekend field trips in lieu of appropriate number of evening sessions.

45.120 Plants and Soils 1

Purpose — To enable students to identify important plants through the use of identification keys; to recognize factors that affect the distribution and associating tendencies of plants and to relate the associating tendencies of plants to various types of land use.

The basic structure and major functions of plant cells and tissues will be covered briefly. The bulk of the time will be devoted to the identification of conifers, broad leaf trees, shrubs, herbs, grasses, ferns and mosses. Along with identification, factors (climate, soil, biota, relief and time) affecting plant distribution will be detailed.

Outline — Methods to recognize plant associations and their application in land use assessment will be introduced. There will be three labs held in the field on Saturdays or Sundays. Students should be prepared to provide their own transportation.

Text used: General Botany. The Barnes and Noble Outline Series (Fuller, J. H. and Ritchie, D. D. 1967) and Trees, shrubs and flowers to Know in B.C. (Lyons, C. O. 1965)

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1	*Unit:* 1.0 $88

(12 weeks with 12 indoor and 3 outdoor sessions)

45.220 Plants and Soils 2

Purpose — To introduce materials and concepts that will enable the student to understand how soils form and how this knowledge may be applied in land management. To enable the student to recognize and describe soil materials and soil behavior for various land uses.

Objective — The laboratory, lecture and field exercises will include the recognition of soil parent materials, factors of soil formation, namely climate, topography, biotic conditions and time.

Outline — The Canadian System of Soil Classification will be introduced. A field project will be required from the students in the description and assessment of landscape and related soil characteristics. Some weekend field trips will be conducted according to the students needs. Students have to provide their own transportation.

Prerequisite — Plants and Soils 1.

Text used: The Nature and Properties of Soils (N. C. Brady, 1974)

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (18 weeks)	*Unit:* 1.5 $105

45.911 B.C. Fish and Fisheries

Purpose — To provide basic knowledge of B.C. fishes and their management. The course is designed as a survey course for interested naturalists, sportsmen and serves to provide basic technical information for foresters, agriculturists and others in the resources field.

Objective — Students will learn the biology and characteristics of numerous species of B.C. fishes as well as gain insight into parameters of fisheries management. These include: population, dynamics, fish physiology, survey techniques, pollution sampling, resource problems and B.C. fishing regulations and their effects.

Outline — Approximately six of the twelve sessions will involve a combination lecture-laboratory format and will entail examination of preserved specimens. These sessions will be supplemented with presentations related to the biology of the species under discussion. The remaining sessions will deal primarily with the management aspects of the resource.

Text used:
Fresh Water Fish of British Columbia.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

NOTE: This course will be offered on odd numbered years only. No class will be held on the Easter Break in the Spring.

45.102 Forest Measurements 1

Purpose — This course will familiarize students with methods of forest surveying used in logging layout and forest measurement.

Objective — On completion of this course successful students will be able to show understanding of fundamental concepts of forest engineering.

Outline — Measurement of distance, direction and elevation: traverse data collection, recording and calculation; plotting topographic detail, care and maintenance of equipment.

Saturday: 9-12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

45.202 Forest Measurements 2

Purpose — This course is a continuation of 45.102 Forest Measurement 1 and will familiarize the student with further methods of forest measurement.

Objective — The successful student will be able to show increased understanding of forest timber volume measurement and calculation, sampling and report compilation.

Outline — Measurement of standing and felled timber, tree diameter, height and age. Use of volume tables, construction of local volume tables. Sampling types and design; aerial sampling, point sampling with elementary statistical analysis. Compilation methods for sample data and report writing.

Saturday: 9-12 noon — Jan. 12
Term 2 (12 weeks) — *Unit:* 1.0 $70

FOREST PRODUCTS

46.502/602 Pulp and Paper Manufacture

Purpose — To provide a detailed background relating to the pulp and paper industry of British Columbia for those presently engaged in manufacturing and service functions as well as allied industries.

Objective — To impart an understanding of the processes employed in the manufacture of pulp and paper and to provide information on the mechanical equipment utilized.

Outline — Topics to be covered include wood structure and chemistry, water treatment, mechanical and chemical pulp manufacture, pulp bleaching, kraft recovery systems, chemical preparation and handling, pollution abatement, paper and paperboard manufacture, mill hazards and safety, possible future developments.

Guest lecturers will be added for discussion in highly specific areas. Evening field trips to related plants will be scheduled and students should be prepared to undertake two Saturday plant visits. Laboratory demonstration of related equipment will be provided.

This course will not be offered in the 1979/80 year.

46.503/603 Pulp and Paper Practicum

Purpose — To supplement the technical knowledge and practical skills of those who are directly or indirectly involved in the pulp and paper industry.

Objective — To develop manipulative skills in laboratory procedures related to pulp and paper manufacture; to provide an understanding of many of the unit process employed in the pulp and paper industry.

Outline — Enrollees will utilize the facilities of the pilot plant in the processing of whole logs through the unit processes of debarking, chipping, pulping, grinding, bleaching, and papermaking. Certain aspects of the technology will be covered in classroom sessions as required for an understanding of these processes. Concurrently, various of the control and quality tests relevant to these processes will be performed in the laboratory by the class to a suitable level of skill development.

Included in the laboratory phase will be such procedures as wood and chip testing, fibre identification, water and process liquor analysis, in-process and product quality testing. Pollution abatement testing methods may also be included.

Desirable prerequisite — Lab experience and (or) completion of 46.502/602.

Tuesday: 6:30-10:30 p.m. — Sept. 11
Term 1 (12 weeks)
(Special Fee — See page 22)

Continues:

Tuesday: 6:30-10:30 p.m. — Jan. 8
Term 2 (12 weeks)
Special Fee — See page 22) — *Unit:* 2.5

NOTE: Extra fees for extended hours.

46.504/604 Lumber and Plywood Manufacture

Purpose — To supplement the technical knowledge of those who are directly or indirectly involved in the wood products industry.

Objective — To cover many aspects of the manufacturing processes and services related to the production of lumber and plywood.

Outline — Topics to be covered include sawmill and planermill operation, saw technology, lumber seasoning, plywood manufacture, recovery, quality control, maintenance organization, accident and fire prevention, mobile equipment, and environment control. Coastal operations will be compared with those located in the British Columbia Interior.

Classroom discussion will be encouraged and laboratory demonstrations of related equipment will be given.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:

Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Unit:* 1.0 $70

ENGINEERING TECHNICIAN CERTIFICATE IN LANDSCAPE TECHNOLOGY

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)	Units	*January (Term 2)*	Units	*April (Term 3)*	Units
Year 1					
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms & Analytic Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Drafting Fundamentals (49.900)	1.0	Drafting — Civil and Structural (49.905)	1.0		
Year 2					
Structural Material (53.901)	1.0	Soil Improvement (53.902)	1.5	Plant Introduction (53.911)	1.0
Grading & Drainage Plan Production (53.903)	1.0	Basic Horticulture (53.906)	1.5		
Year 3					
Landscape Structurals (53.904)	1.0	Planting Plan (53.910)	1.5		
Plant Material Study (53.907)	1.0	Elective	0.5		

List of Suggested Electives:

		Units
53.905	Park and Recreation	1.5
53.908	Management	1.0
53.909	Cost Estimation	1.5
44.909	Landscape Irrigation	1.0
44.910	Sports Turfgrass Management	1.0
44.917	Pesticides for Landscape & Nursery	0.5
44.918	Alternatives in Plant Protection	0.5
30.902	Chemical Principles 1	2.0
33.508/608	Physics 1	2.0
31.914	Technical Report Writing	1.0

British Columbia Society of Landscape Architects may issue a Landscape Technician's Certificate to applicants who have obtained a minimum of 10 units upon successful completion of the course 53.901 to 53.911, plus a minimum of 10 units in technical education and practical training within the field of landscape technology. For further information on how to obtain credits, contact the B.C. Society of Landscape Architects.

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

COURSES IN LANDSCAPE TECHNOLOGY

53.901 Structural Material

(Structural material study for landscape developments (rock, concrete, brick, wood, asphalt, glass and plastic)).
Purpose — Introduction of material with specifications for students with little or no experience in landscape technology.
Objective — On completion of the course the student will have the foundation knowledge of the origin, qualities, and use of the materials used in landscape design and management, and will be able to specify this material for particular jobs.
Outline — The lectures will provide a cross-section of the above materials and lead to specification exercises. Topics include selection and location of materials in the landscape fabrics, especially rock, cement, concrete, masonry (clay and concrete), wood, asphalt.

This is the first part of the Structural section in the Landscape Technology program.

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

53.902 Soil Improvement

(Soil technology for landscape developments.)
Purpose — To allow persons with little or no experience in soil and soil improvement to gain an understanding of soils and improvement of soil for plant growth, also to gain basic knowledge of water and forest influence on soils in horticulture as well as in soil mechanics.
Objective — On completion of the course a student can expect to — *(a)* have a basic knowledge of soils and soil biology and of soil mechanics; *(b)* be knowledgeable of soil improvements for plant growth and of drainage and irrigation; *(c)* have basic knowledge of soil compaction, permeability, and soil pressure.
Outline — A mixture of lectures and discussion. Topics include subsoils, topsoils; organic and inorganic soil improvement media; erosion control; surface and subsurface drainage; irrigation; earth pressure of concern for such as retaining-walls and foundations for structures in landscape projects.

This course forms the first part of the Horticulture section within the Landscape Technology Program (53.902, 53.906, 53.911, 53.907 and 53.910).

Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (18 weeks) — *Units:* 1.5 $105

53.903 Grading and Drainage

(Grading and drainage plan production)
Purpose — This is a drafting course, introducing persons with some training in technical drafting and some knowledge of soil technology for landscape use to requirements and techniques concerning grading and drainage of land.
Objective — On successful completion of the course a student can expect to know sources of information concerning Government regulations covering grading and drainage of land, and be capable of producing detail plans showing grading and drainage of areas for landscape projects.
Outline — A mixture of lectures and discussion leading to practical drafting exercises in detail plan production. Before the last four nights of the course, the students are given a special home assignment to present on the last night of the course.

This is also an integrated part of the three-year program in Landscape Technology.
Prerequisite — Drafting — Civil and Structural 49.905.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

53.904 Landscape Structurals

(Landscape structural detail drawing.)
Purpose — To introduce persons with basic knowledge of landscape materials and some training in technical drafting to the production of structural detail plans for use in the landscape industry. It is essential to know that design, selection, and use of structural materials in landscape projects usually differ from the use of such material in the building industry.
Objective — On successful completion of the course a student will have a basic knowledge of what technical details a landscape working drawing consists of and be able to produce detail plans for structural items commonly used in landscape projects.
Outline — A mixture of lecture periods, short field trips, and drafting practice, i.e., drafting projects assigned weekly to be completed in class and as homework. The following areas will be covered: Access — driveways, walks, stairs, patios, plazas. Retention — walls, cribbing, piling, bulkheads, fencing. Water — ponds, streams, waterfalls, fountains. Miscellaneous — pergolas, seats, fireplaces, landscape lighting, and irrigation. Presentation drawing — sketching, preparation, method of presentation, etc. Site work — recording existing data.
Prerequisite — Drafting — Civil and Structural 49.905 and Structural Materials 53.901.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $70

53.905 Park and Recreation

(A study of parks and recreation facilities.)
Purpose — To make it possible for persons with little or no experience in the maintenance and (or) basic design of parks and recreation facilities to gain working knowledge in this field.
Objectives — On completion of the course the student will *(a)* have a basic knowledge of what facilities are required for parks and recreation areas for public use; *(b)* be knowledgeable about layouts of areas for indoor or outdoor sports and other recreation facilities; *(c)* know how and where to obtain information on regulations governing the layout of such areas; *(d)* have basic knowledge of maintenance requirements for recreation facilities.
Outline — A mixture of lectures and discussions on the provision of recreational facilities. Planning principles, and space requirements for sports, art education, etc. Facilities discussed include swimming pools, ice arenas, lawn bowling, curling, golf, marinas, resorts, beaches, children's playground. General features — fences, walls, lights, parking, etc. General maintenance. Also the actual design and drafting of one major community park.

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (18 weeks) — *Unit:* 1.5 $105

53.906 Basic Horticulture

(Basic horticulture and plant protection for landscape use.)
Purpose — To introduce persons with no or little knowledge of horticulture to the study of plants and their value in landscape developments.

Objective — On completion of the course the student will have a basic knowledge of botany; plant classification, identification, propagation, food requirements, hardiness; and handling and protection of plants from nursery to future site.

Outline — A mixture of lectures and discussions. The students will be introduced to ways of preparing plants for herbarium and will be required to start an herbarium for use in courses 53.911 and 53.907.

This course also forms the second part of the Horticulture section within the Landscape Technology Program.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Units:* 1.5 $105

53.907 Plant Material Study

(Plant material studies for landscape use.)
Purpose — To allow persons with a limited knowledge of plant material to study fully these materials with specific reference to their suitability for use in man-made landscapes and particular types of landscape projects.

Objective — On successful completion of the course the student will have knowledge of the types and varieties of indigenous and exotic trees, shrubs and ground covers, with the characteristics and values which aid in the selection of these materials for use in landscape.

Outline — A series of lectures, discussions, and field trips on trees, shrubs, herbaceous and evergreen ground covers, and vines, including descriptions and characteristics, varieties, their landscape use and value, cultural conditions, size and spread in seven to ten years, hardiness zone, availability, and available sizes. Each student is expected to research specific varieties and species and include these along with the course material, presenting these in the form of a handbook, usable for future reference.

This course also forms the fourth part of the Horticulture section of the Landscape Technology Program (53.902, 53.906, 53.907, 53.910 and 53.911).
Prerequisite — Plant Introduction — 53.911.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

53.908 Management

(Management for landscape technicians.)
Purpose — To provide a background of management skills required in the area of landscape developments, including the legal requirements affecting land use contract documentation, ethics, and professional liability.

Objective — Upon completion of the course the student will have the basic knowledge of professional responsibilities in respect to *(a)* the consultant's relationship to client and contractor; *(b)* the contractor/client relationship; *(c)* the production of contract documents, legal liability, and contract supervision.

Outline — The course consists of lectures and discussion aimed to give an insight into the practical relationship between client contractor, and consultant which must exist to produce acceptable development. Students will require some basic standard documents to be used during the course.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit: 1.0 $70*

53.909 Cost Estimation

(Area take-off and cost estimation for landscape technicians.)
Purpose — To introduce persons with limited or no experience in cost estimation of landscape projects to *(a)* methods of area and volume survey; *(b)* study of work capacity; *(c)* administration and maintenance costs; *(d)* methods of journal keeping and accounting.

Objective — On completion of the course the student will do such area and volume survey from landscape plans as to establish quantity and capacity as bases for cost estimation.

Outline — Mathematics, area, volume, surface; weights and measures; cuts and fills; work capacity — man-hours, equipment; overhead expenses, journal, bookkeeping and introduction to the metric system.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Unit:* 1.5 $105

53.910 Planting Plan

(A drafting course in planting plan production.)
Purpose — To allow persons with some knowledge of horticulture, soil, and plants, and with some experience in technical drafting, to further study plant material for use in landscape projects, and to lay out detail planting areas.

Objectives — On successful completion of the course a student will *(a)* be knowledgeable of climate and soil tolerance and plant behavior in major populated areas in British Columbia and *(b)* be able to produce detail planting plans for a given master plan for land development in this Province.

Outline — A mixture of lectures, discussion, and practice sessions. Topics include climate and soil condition; solitary,group, and mass planting; plant size and quality; distance at planting; specification of material and planting procedure.

This course also forms the fifth part of the Horticulture section within the Landscape Technology Program (53.902, 53.906, 53.907, 53.910 and 53.911).
Prerequisite — Landscape Structurals (53.904), Grading and Drainage (53.903), Soil Improvement (53.902), and Plant Introduction (53.911).

Tuesday: 6:45-9:45 p.m.	Jan.8
Term 2 (18 weeks)	*Unit:* 1.5 $105

53.911 Plant Introduction

(Introduction of plant material for landscape use.)
This course consists mainly of field trips.
Purpose — To introduce students with limited knowledge of trees, shrubs, and herbaceous plants to such plant material as is used within the field of landscape development.

Objective — On completion of the course the student can expect to have gained knowledge of size, form, colour, and growing habit of trees, shrubs, vines and climbers, perennials, annuals, and other herbaceous plants. The student will also be given information as the suitability of plants in this local climate zone.

Outline — Two classroom evenings. Two field trips to nursery. Eight field trips to introduct native trees, street trees, older park shrubs, herbaceous plants, turf.

This is also the third part of the Horticulture section of the Landscape Technology Program (53.902, 53.906, 53.907, 53.910, 53.911). The students will be expected to collect leaves, twigs, etc. for the preparation of herbarium for use in course 53.907.

Tuesday: 6:45-9:45 p.m. June 3
Term 3 (12 weeks) *Unit:* 1.0 $70

MECHANICAL TECHNOLOGY

Engineering Technician Certificate in Mechanical Technology.

The following is a suggested program for the basic Certificate in Mechanical Technology.

Students in consultation with an advisor may amend this program to meet their personal career requirements.

The three-year period is flexible. Fifteen units are required for this Certificate.

32.901	Mathematics — Algebra 2	1.0
32.902	Mathematics — Logarithms and Analytic Geometry	1.0
32.903	Mathematics — Trigonometry	1.0
41.502/602	Metallurgy 1	2.0
49.918	Mechanics of Materials 1	1.0
49.923	Mechanics of Fluids	1.0
49.921	Applied Heat	1.0
49.543/643	Manufacturing Processes 1	2.5
49.900	Drafting — Fundamental	1.0
49.915/6/7	Applied Mechanics	3.0
	Elective	1.0
		15.5

Students are advised to complete the Engineering Technician Certificate before advancing to other certificates or to the National Diploma program.

Senior Engineering Certificate in Mechanical Technology.

32.505/605	Mathematics — Calculus 1	2.0
31.910	Business & Technical Correspondence	1.0
31.912	Business Report Writing	1.0
33.509/609	Physics 2	2.0
49.919	Mechanics of Materials 2	1.0
49.932	Engineering Economics	1.0
49.544/644	Manufacturing Processes 2	2.5
49.903	Drafting — Mechnical 1	1.5
49.542/642	Fluid Power	2.5
	Elective	1.0
		15.5

Students are advised to complete the Senior Engineering Technician Certificate before advancing to the National Diploma Program.

National Diploma in Mechanical Technology

Applicants will be required to submit the selection of electives required in this program to the Program Consultant.

49.907	Drafting — Mechanical II	1.5

Electives in Mechanical Technology from: 10.0

49.924	Pumps and Fluid Systems
49.925	Fans and Ductwork Systems
49.927/928	Plumbing Systems Design 1 and 2
49.929	Heating Ventilation & Air Conditioning Fundamentals
49.520/620	Heating, Ventilation, Refrigeration & Air Conditioning Systems
49.930	Metrology
49.931	Analysis of Machining Techniques
49.933	Refrigeration, Heat Transfer and Thermal Power Systems
49.531/631	Elements of Machine Design
49.545/645	Tool Design
49.935/936	Automatic Sprinkler Systems Design
49.585/685	Production Engineering Management
	Other approved electives 3.5
	15.0

49.915 Applied Mechanics 1

Purpose — This course is intended to help persons understand how forces affect mechanical systems.

Objective — Students completing this course will be able to solve problems and understand terminology used in the calculation of forces in Mechanics of Materials, Fluid Power and Machine Design.

Outline — Forces, characteristics, units, transmissibility components and resultants; friction, coefficient of friction, static and kinetic, angle of friction, classes of motion; displacement, velocity and acceleration diagrams. Newton's Laws of Motion, free falling bodies, accelerating forces. Angular displacement, velocity and acceleration; relationship between angular and rectilinear motion. Work energy and power definitions, work done by constant forces, potential and kinetic energy, power equations and efficiency.

Prerequisite — Algebra 2 and Trigonometry

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

49.916 Applied Mechanics 2

Purpose — A continuation of Applied Mechanics 1.

Outline — Review of Applied Mechanics 1. Moments, couples, equilibrium with built-in moments. Simple trusses and frameworks; analytical method of joints, Bows notation and analysis of frameworks. Centroids and centres of gravity of areas and solids. Second moment of simple, and composite concept of radius of gyration. Inertia forces and moments of inertia of simple and composite bodies. Torque and angular acceleration. Impulse, momentum and impacting definitions and equations.

Prerequisite — Applied Mechanics 1.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (12 weeks)	*Unit:* 1.0 $70

49.917 Applied Mechanics 3

Purpose — A continuation of Applied Mechanics 2.

Outline — Review of Applied Mechanics 1 and 2. Resultants and equivalent of coplanar non-current, non-coplanar parallel and non-current and non-coplanar concurrent force systems. Friction on an inclined plane, screw threads; efficiency, rolling resistance; belt friction, belt drives. Relative velocity, vectorial differences, absolute velocity; centripetal and centrifugal acceleration and force; the conical pendulum and governors; Balancing of rotating masses, stability of a vehicle on a circular path.

Prerequisite — Applied Mechanics 2.

Tuesday: 6:45-9:45 p.m.	April 8
Term 3 (12 weeks)	*Unit:* 1.0 $70

49.918 Mechanics of Materials 1

Purpose — To provide understanding and basic skills in problem solving in an important area for mechanical engineering design. This course is intended for designers, draftsmen, technical sales personnel, etc. and is relevant to companies concerned with design and/or manufacture of products subject to loads or internal pressures.

Objective — To provide students with basic skills that help them to decide on the size of a part subject to static loading with safety, and is a prerequisite for Mechanics of Materials 2 and 3.

Outline — Properties and testing of materials, tension, compression, shear. Statically indeterminate axial force systems, torsion rivetted connections.

Prerequisite — Applied Mechanics 1, 2 and 3.

Wednesday: 6:45-9:45 p.m. Sept. 12
Term 1 (12 weeks) *Unit:* 1.0 $70

49.919 Mechanics of Materials 2

Purpose — Continuation of 49.918

Outline — Welded connections, bending combined loading and use of Mohrs Circle to determine principal stresses. Columns.

Prerequisite — Mechanics of Materials 1 and Applied Mechanics 1, 2 and 3.

Wednesday: 6:45-9:45 p.m. Jan. 9
Term 2 (12 weeks) *Unit:* 1.0 $70

49.920 Mechanics of Materials 3

Purpose — To provide advanced study in Mechanics of Materials and to serve as a prerequisite to Elements of Machine Design.

Objective — To provide aid in the design, specification and analysis of complicated structures and machine parts to students with advanced skills.

Outline — Fatigue and stress concentration, fatigue testing methods and equipment, S-N curves, terminology; photoelastic, strain gauge methods; mechanical, physical and manufacturing properties of common engineering materials; columns, slender, intermediate and short columns; slenderness ratio, end conditions, design of columns and use of handbook formula; eccentric loading, combined stresses, principal stresses and strains due to combined torsional and bending stresses; theories of failure, thickwalled and compound cylinders stress distribution in wall thickness, shrinkage allowances.

Prerequisite — Mechanics of Materials 1 and 2.

Wednesday: 6:45-9:45 p.m. April 9
Term 3 (12 weeks) *Unit:* 1.0 $70

49.921 Applied Heat 1

Purpose — To provide students with an understanding of the fundamentals of applied thermodynamics and to help those involved in the power and process fields or those who intend to take more specialized courses in heating, ventilating, refrigeration and heat transfer.

Outline — Energy, temperature, transmission of heat; specific heat, conductivity, convection, radiation, molecular theory, ideal gas, expansion of solids, liquids and gases due to heat; pressure, vacuum; Boyles Law; Gas Equation.

Prerequisite — Algebra and Trigonometry

Thursday: 6:45-9:45 p.m. Sept. 13
Term 1 (12 weeks) *Unit:* 1.0 $70

49.922 Applied Heat 2

Purpose — Continuation of 49.921.

Outline — Thermal properties of liquids and gases; gas processes, psychrometric chart; power cycles; refrigeration and heat transfer fundamentals.

Prerequisite — Applied Heat 1.

Thursday: 6:45-9:45 p.m. Jan. 10
Term 2 (12 weeks) *Unit:* 1.0 $70

49.923 Mechanics of Fluids

Purpose — This course is designed for students requiring a basic understanding of fluid properties and methods or determination of energy losses involved in fluid systems.

Objective — To provide the students with the necessary skills so that any fluid process or system may be analyzed for fluid energy losses or power requirements. Students wishing to take more advanced practical engineering courses will benefit from understanding the principles of fluid systems.

Outline — Basic properties of fluids; Bernoulli's Equation, energy and power transfer; flow measurement and pipe flow characteristics for both liquids and gases; heat and energy losses; laminar and turbulent flow characteristics with an introduction to fluid lift and drag; forces due to change in fluid flow.

Prerequisite — Applied Mechanics 1.

Wednesday: 6:45-9:45 p.m. Sept. 12
Term 1 (12 weeks) *Unit:* 1.0 $70

49.924 Pumps and Fluid Systems

Purpose — To provide an understanding of the various types of pumps and their application in different systems.

Objective — To distribute desired liquid flow quantities throughout pipe systems and to properly select the type of pump and understand its operating conditions.

Outline — Classification of pumps, centrifugal pump theory, pump construction; pump drives, variable speed couplings; characteristics of pumping systems, special industrial pump applications and controls; pump installation and maintenance.

Prerequisite — Mechanics of Fluids.

Tuesday: 6:45-9:45 p.m. Jan. 8
Term 2 (12 weeks) *Unit:* 1.0 $70

49.925 Fans and Ductwork Systems

Purpose — This course is intended to provide an understanding of the types of fans and their application together with an approach for sizing, supply and exhaust ducts and conveying systems.

Objective — To lay out various duct systems to deliver required air quantities and to select the proper equipment to suit each system.

Outline — Air distribution in heating and air conditioning systems; capture velocity and design of exhaust systems; ventilation in industry with applications to suit student needs; pneumatic conveying. Laboratory tests on various types of fans will be included in the course.

Prerequisite — Mechanics of Fluids.

Tuesday: 6:45-9:45 p.m. April 8
Term 3 (12 weeks) *Unit:* 1.0 $70

49.927 Plumbing Systems Design 1

Purpose — Instruction for persons involved in engineering, design, sales supervision or inspection of plumbing systems located in commercial and industrial buildings.

Objective — Persons graduating will be able to determine the selection, location and installation requirements of piping, fixtures and appliances for compliance with respective codes, regulations, manufacturers' specifications and engineering practice.

Outline — Codes, basic engineering principles and graphic presentations related to plumbing systems designs. Load calculations, piping methods, sizing of pipes and equipment selection for storm, sanitary drainage and water distribution. Fixtures and materials. There will be homework assignments each week, some requiring drawing.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

49.928 Plumbing Systems Design 2

Purpose — Advanced instruction for persons involved in engineering, design, sales, supervision or inspection of plumbing and gas piping systems of commercial and industrial projects.

Objective — Graduates will be able to design, apply and adapt various plumbing systems to commercial and industrial premises in compliance with regulations and specifications compatible with the requirements of the occupant.

Outline — Topics include: load calculations, piping methods, approved materials, pipe sizing for storm and sanitary drainage plus hot and cold water distribution, septic tank systems, gas piping and appliance installation, pumps and field inspection techniques.

Prerequisite — Plumbing Systems Design 1

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (18 weeks) — *Unit:* 1.5 $105

49.929 Heating, Ventilation & Air Conditioning Fundamentals

Purpose — To provide students with basic thermal, fluid and energy concepts in preparation for a course in Heating Ventilation and Air Conditioning Systems.

Outline — Physical quantities, units, fluid and thermal fundamentals, principles of refrigeration, properties of air, psychrometric chart, problem solving.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Unit:* 1.0 $105

49.520/620 Heating, Ventilation, Refrigeration & Air Conditioning Systems

Purpose — To provide a design course for technical people involved with heating, ventilation, refrigeration and air conditioning systems.

Objective — To understand the principles of load estimating and energy requirements and to select the proper equipment to suit the application. To control the equipment to suit the needs of the occupants.

Outline — Energy costs for oil, gas and electricity; to suit design conditions, heat load, cooling load, air psychometrics; air conditioning systems and applications; equipment for heating; refrigeration equipment; introduction to duct layout; air balancing methods in air systems; control of systems.

Prerequisite — Applied Heat and Mechanics of Fluids of Heating, Ventilation and Air Conditioning Fundamentals.

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (12 weeks) — *Unit:* 1.0 $70

49.933 Refrigeration, Heat Transfer & Thermal Power Systems

Purpose — To treat in greater depth, refrigeration systems and equipment introduced in Applied Heat, to give students experience in solving heat exchange problems and to study modern thermal power generating systems.

Objectives — To give students a greater understanding of refrigeration systems by solving problems and undertaking practical lab investigations; to understand the principles of heat transfer and be able to solve simple problems in the design of heat exchangers; to become more familiar with modern power generating systems and equipment.

Outline — Vapor compression refrigeration cycles, multi-stage and cascade systems, absorption systems of refrigeration, the heat pump, steam-jet chiller. Heat transfer theory, conduction, convection, radiation. Problems in heat exchanger design, experimental investigations of heat transfer. Modern power generating cycles, reheat, regenerative feed water heating, fossil fuel fired Rankine cycles, gas turbine intercooled, regenerative cycles.

Prerequisite — Applied Heat.

Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (18 weeks) — *Units:* 1.5 $105

49.531/631 Elements of Machine Design

Purpose — For persons associated with mechanical design which is an integral and important part of industrial activity that incorporates mechanisms, machines and their functions into industrial processes.

Objectives — To review and consolidate the theory of prerequisite courses by application to the design of machine elements. To provide practice in the process of breaking down general design problems into components that a student can cope with. To provide some additional theory for the design of machine elements.

Outline — A course in which the design principles of machine elements are considered and calculations are made in determing the size and shape of various machine parts. It includes factors which influence the selection of materials, the geometry of the element, and it considers the environment of application of any particular machine element. Attention is given to economy, various loading conditions, stresses and deformations which must be considered in arriving at a satisfactory design.

Prerequisite — Applied Mechanics and Mechanics of Materials

Wednesday: 6:45-9:45 p.m. — Sept. 12
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Wednesday: 6:45-9:45 p.m. — Jan. 9
Term 2 (18 weeks) — *Units:* 1.5 $105

49.930 Metrology

Purpose — To familiarize people with inspection methods and equipment as used in industry.

Objective — To understand the principles of various methods and their practical uses in industry.

Outline — Interferometers, optical comparators, measurement of surface texture and surface flatness. Air and electronic gauging procedures. Metrology of angles and screw threads. Use of precision measuring instruments. Mass production gauging.

Prerequisite — Algebra 2, Trigonometry and Logarithms.

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 1.5 $105

49.931 Analysis of Machining Techniques

Purpose — To familiarize people with operations done on machine tools such as tape control drill, jig borer, milling machine, cylindrical grinding, etc.

Objective — To provide an in-depth study of the operations carried out on the above machine tools.

Outline — Through a series of projects which emphasize practical work in small groups, the student is involved in such laboratory exercises as programming for a numerical control machine, jig boring operations, milling machine operations and a turret lathe process. Each of these projects includes organizing the sequence of operations, processing, programming, time and cost estimating, machine and tool set-up, manufacture, inspection and quality control.

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (18 weeks)	*Unit:* 1.5 $105

49.932 Engineering Economics

Purpose — This course is designed to emphasize the importance of making sound economic decisions when faced with alternative methods of solving technical problems. The course material will be useful to engineers, technologists, technicians and designers in all areas both in their work and personal finances.

Objective — To provide the basic skills and concepts required to analyze comparative costs. To understand the time value of money (interest), inflation, depreciation, running costs, salvage value and tax considerations.

Outline — Cash flow diagrams and equivalence, interest formulae, annual cost, present worth, dealing with uncertainties and inflation, taxes, economic lot sizes, replacement of equipment.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

49.542 Fluid Power

Purpose — To provide an understanding of pneumatic, fluidic and hydraulic control systems, including circuit components.

Objective — To enable students to draw design diagrams of fluid power circuits using ANSI symbols and to construct and test the circuit.

Outline — Fluid Power Fundamentals. Circuit symbols, use of components in fluid power, etc.

Prerequisite — Applied Mechanics 1.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

49.642 Fluid Power

Purpose — Continuation of 49.542.

Outline — Fluid Power Hydraulics: Principles of power hydraulics; simple hydraulic circuits and circuit symbols; physical laws and formulae used in hydraulics; hydraulic fluids, equipment, reservoirs, strainers, filters, pumps, motors, tubing and fittings, valves; hydraulics systems and circuits.

Prerequisite — Fluid Power Fundamentals and Applied Mechanics 1.

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

49.543/643 Manufacturing Processes 1

Purpose — To provide a general insight into the various aspects of production engineering related to manufacturing. Designed for persons entering or presently engaged in the mechanical field.

Objective — To enable students to develop an understanding of traditional manufacturing processes and to alert them to the recent advances in this field.

Outline — Lectures, demonstrations, assigned problems and practical experience. The courses content is presented in two parts.

Part 1

The study of modern manufacturing processes, casting, welding, hot and cold forming, extruding, fording, die casting, stamping and pressing. Field trips to appropriate local industries are arranged.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Units:* 1.5 $105

49.544/644 Manufacturing Processes 2

Purpose — To provide a general insight into the various aspects of production engineering related to manufacturing. Designed for persons entering or presently engaged in the mechanical field.

Objective — To enable students to develop an understanding of traditional manufacturing processes and to alert them to the recent advances in this field.

Outline — Lectures, demonstrations, assigned problems and practical experience. The course content is presented in two parts.

Part 2

The study of modern machine tools, machinability of materials, practical experience on all of the basic machine tools, engine lathe, turret lathe, vertical and horizontal milling, shaping, planing, surface and cylindrical grinding, band sawing and drilling machines.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Units:* 1.0 $70

Continues:

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Units:* 1.5 $105

49.545/645 Tool Design

Purpose — This course is intended to help those working in industry who could benefit by a broadening of their activities into the field of special purpose tooling in the subjects mentioned in the outline.

Objective — To enable students, upon completion of the course, to handle problems in the area of design, as related to special purpose tooling.

Outline — Introduction to special purpose tooling, process planning, design considerations of various types of jigs, fixtures, gauges, metal cutting dies, feed mechanisms. presses, scrap strip layout, standard parts. Some design assignments may be worked on by students away from the classroom, as time permits.

Tuesday: 6:45-9:45 p.m. — Sept. 11
Term 1 (12 weeks) — *Units:* 1.0 $70

Continues:
Tuesday: 6:45-9:45 p.m. — Jan. 8
Term 2 (12 weeks) — *Unit:* 1.0 $70

49.935 Automatic Sprinkler Systems Design 1

Purpose — Instruction for persons involved in engineering, design, sales supervision or inspection of automatic sprinkler systems in commercial and industrial buildings.

Objective — The course is intended to give a basic understanding of these systems to designers, engineers and fire service personnel.

Outline — Topics include: Standards, basic hydraulics of piping systems; water supply analysis and test; wet pipe systems, dry pipe systems, system componenets and applications. Demonstrations of valves and sprinklers in operation.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

49.936 Automatic Sprinkler Systems Design 2

Purpose — Advanced instruction for persons involved in engineering, design, sales supervision or inspection of automatic sprinkler systems in commercial and industrial buildings.

Objective — The course is intended to give a basic understanding of these systems to designers, engineers and fire service personnel.

Outline — Topics include: Effect of sprinkler protection on National Building Code requirements; deluge systems; preaction systems; combined dry pipe and preaction systems; hydraulics of loops and looped systems; computerized calculations; economical design considerations; water spray systems; special systems; dry pipe valve accelerators and exhausters; outside water curtains; backflow preventors; gravity tank and pressure tank water supplies; fire pumps, booster pumps, jockey pumps; maintenance of protections and systems.

Prerequisite — Automatic Sprinkler Systems 1

Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (18 weeks) — *Units:* 1.5 $105

49.585/685 Production Engineering Management

Purpose — To provide an insight into aspects of management and the engineering planning functions of a manufacturing plant. This course is intended for technicians, designers, draftsmen, technical sales personnel, etc. who wish to have a clearer perception of the kinds of decisions that are made continuously in a manufacturing organization and who wish to upgrade themselves to management levels.

Objective — To provide an understanding of manufacturing problems. To provide some basic skills in process planning, supervision and labour-management relations.

Outline — Management and plant organization, plant locations and layouts, production control, tool engineering; process planning, economics in manufacturing methods, supervision, labor relations, case studies.

Thursday: 6:45-9:45 p.m. — Sept. 13
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Thursday: 6:45-9:45 p.m. — Jan. 10
Term 2 (18 weeks) — *Unit:* 1.5 $105

Engineering Technician Certificate in Drafting

Course No.	Subject	Units	Weeks
49.000	Drafting — Fundamentals	1.0	12
49.903	Mechanical Drafting 1	1.5	18
49.906	Descriptive Geometry	1.0	12
	Approved Electives	11.5	
		15.0	

49.900 Drafting Fundamentals

Purpose — To provide a working knowledge of the basic graphical language. This course will be of value to management personnel and others involved in "reading drawings". No previous drafting experience is required since the course starts from the ground up. Purchase of drafting equipment is required on the first night of class.

Objective — This course will enable the student to produce and to read drawings.

Outline — Scales, geometric constructions, method for base orthographics, detail interpretation, line visibility, dimensioning, auxiliary views, true shape, inclined and skew surfaces, sections, pictorials, working drawings and freehand sketches.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. *or*	Jan. 8
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

49.903 Mechanical Drafting 1

Purpose — To provide an adequate degree of skills, proficiency and understanding of mechanical engineering drawing.

Objective — To enable students to handle effectively graphical design situations and problem solving using basic skills and to handle information in more technical applications as would be expected of a mechanical technician.

Outline — Introduction to descriptive geometry, developments, threads and fasteners, weld symbols, limits and fits, surface roughness symbology, piping (iso and ortho), single line diagrams, assembly drawings, geometric tolerance, bill of materials and catalogue specifications.

Prerequisite — Drafting Fundamentals

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 1.5 $105

49.907 Mechanical Drafting 2

Purpose — This course will be of interest to those presently engaged in drafting positions who desire to further their knowledge in the drawing and design field.

Objective — To provide challenge and experience in the mechanical drafting area.

Outline — Cam profiles, displacement diagrams, graphical solutions for engineering problems, deflection of stepped shafts, graphical calculus methods, design of mechanical assemblies to suit manufacturing methods.

Prerequisite — Drafting Mechanical 1

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 1.5 $105

49.905 Drafting — Civil and Structural

Purpose — To provide a general insight into the graphical aspects of civil and structural problems.

It will be of benefit to management, construction workers, foremen, planners and estimators.

Objectives — To provide a good understanding and reasonable proficiency in applying skills and techniques for solving civil and structural engineering problems at a technologist level.

Outline — Covers topographical drafting, intersections and developments, descriptive geometry, contours, sections, profices, cuts and fills with civil and structural problems and projects.

Prerequisite — Drafting Fundamentals

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

49.906 Descriptive Geometry

Purpose — To provide for an increase in orthographic drafting skills. This course will help draftsmen, designers and technicians to solve problems in engineering as encountered in piping, production engineering, mining and mechanical design.

Objective — To develop graphic skills that enable students to solve problems more advanced than those generally encountered.

Outline — Scales, geometric constructions, method of basic orthographics, detail interpretation, line visibility, dimensioning, auxiliary views, true shape, inclined and skew surfaces, sections, pictorials, working drawings and freehand sketches.

Tuesday: 6:45-9:45 p.m. *or*	Sept. 11
Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Tuesday: 6:45-9:45 p.m. *or*	Jan. 8
Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

MINING TECHNOLOGY

Engineering Technician Certificate
Mining Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms Analytic & Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Geology (50.101)	1.0	Geology (50.201)	1.0	Elective	1.0
Year 2				Elective	1.0
Physics 1 (33.508)	1.0	Physics 1 (33.608)	1.0		
Mining (50.102)	1.0	Mining (50.202)	1.0		
Year 3					
Bus. & Tech. Correspondence (31.910)	1.0	Business Report Writing (31.912)	1.0		
Elective	1.0	Elective	1.0		

List of Suggested Electives

		Units
41.505/605	Mineral Analysis	4.0
42.103	Statics	1.0
51.540/640	Engineering Surveying	2.5
42.205	Strength of Material	2.0
49.900	Drafting — Fundamentals	1.0
33.404	Mining Geophysics	1.5
31.914	Technical Report Writing	1.0

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Courses in Mining Technology

50.101/201 Geology

Purpose — To allow people in the mining industry who have had no formal training in geology an opportunity to obtain a framework on which previous and future geological experience can be organized. Suitable for anyone with an interest in general geology.

Objective — In addition to gaining an outline of geology as related primarily to mining, the student will be competent in identifying the common economic and rock forming minerals and in classifying the more common rock types. Additionally, he will have some appreciation of the economic value of minerals, and an insight into the structural problems associated with orebodies.

Outline — Definition, basic concepts, earth's crust, geologic time, atomic structure of minerals, crystal forms, and symmetry systems, properties of common minerals; sedimentary rock types; clastic and chemical sedimentaries; igneous rock types; classification; deformation of earth's crust, folds, faults, metamorphic rocks; weathering erosion and glaciation; economic geology, mineral fuels, nonmetallics, ore deposits and their controls; geological history, precambrian, paleozoic, mesozoic, tertiary, pleistocene, geologic maps.

A full day field trip will be included during the term.

This course will not be offered in 1979/80.

50.102/202 Mining

Purpose — For people in the mining industry who have had no formal mining training an opportunity to obtain an outline on which previous and future mining experience can be organized. Suitable for anyone with an interest in a broad picture of mining.

Objectives — To familiarize the student with all phases of the mining industry and introduce him to some elementary calculations for determining ore reserves.

Outline — Nature of the mineral industry, search for economic mineral deposits; exploration of a mineral deposit, sampling methods, weighting and averaging assay values, calculation of ore reserves; acquisition of title to mining property, the claim system; exploitation of deposits, choice between surface and underground methods, development patterns for underground mining, planned systematic extraction, classification of surface and underground mining methods, description of common methods using actual examples, reclamation methods.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (12 weeks)	*Unit:* 1.0 $70

50.901 General Interest Geology and Prospecting

Purpose — To give an introduction to the basic principles of geology and how these are applied to prospecting. At the same time some of the methods and equipment used in prospecting will be discussed. Designed for the part-time prospector and full-time prospectors.

Objectives — The student will be capable of identifying the common rock-forming minerals, rocks, and ore minerals; will have an appreciation of geological structures and what constitutes an ore deposit; will be able to read topographic and geological maps and understand the procedure for staking claims; will have some proficiency in the use of the magnetic compass, dip needle, scintillometer, mineral lamp, gold pan, and geochemical soil-sampling kit; will understand the application of diamond drilling.

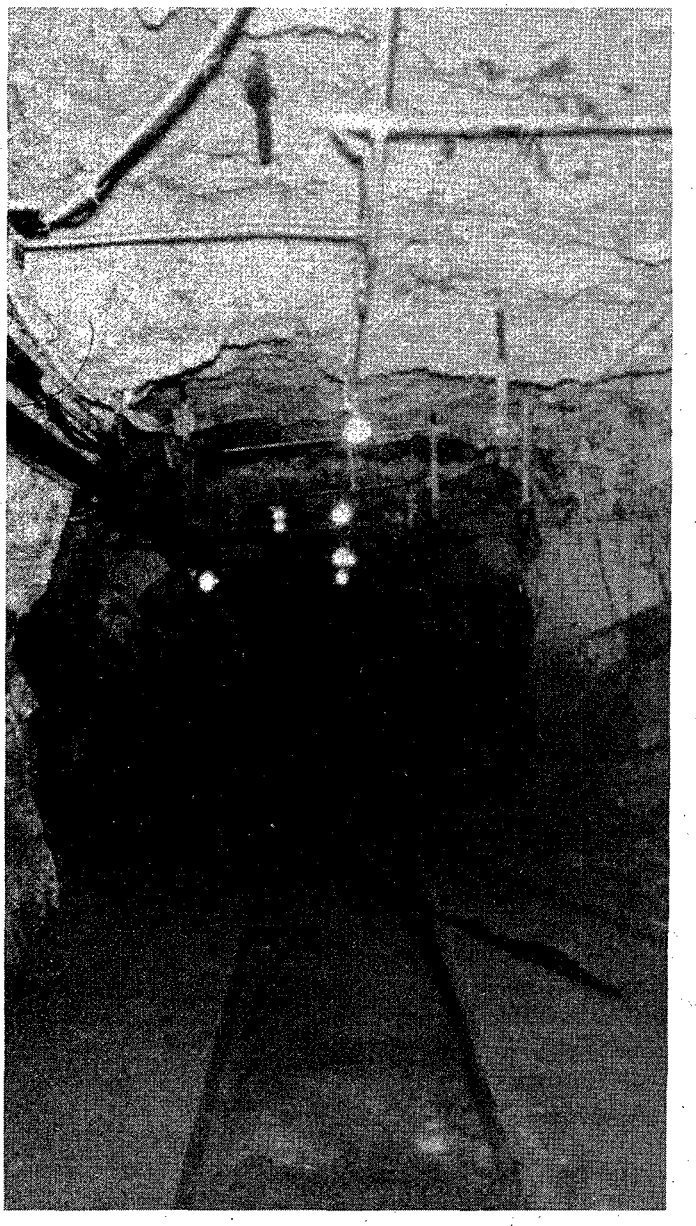
Outline — The topics indicated in the above objectives will be studied in a very practical "hands-on" approach. Lectures and films will be used to assist in giving the student practical prospecting techniques.

A full day field trip will be included during the term.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (14 weeks)	$80

Begins Again:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (14 weeks)	$80



BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
3700 WILLINGDON AVENUE, BURNABY 2, BRITISH COLUMBIA, CANADA | AREA CODE 604 434-5734

APPLICATION FOR CERTIFICATE OF TECHNOLOGY

Mr.
Miss
Mrs. _____
Ms. *(Given Name)* *(Initial (s))* *(Surname)*

SOCIAL INSURANCE NUMBER _____ AGE _____

HOME ADDRESS _____ PHONE _____

CITY _____ AREA CODE _____

I wish to apply for a Certificate of Technology in: _____

☐ Certificate ☐ Senior Certificate ☐ Diploma of Technology ☐ Special Certificate

NAME OF BUSINESS _____ PHONE _____

ADDRESS _____
(Street Name and Number) *(City)* *(Area Code)*

YOUR DEPARTMENT _____ POSITION _____

PLEASE CHECK WHICH OF THE FOLLOWING YOU HAVE ATTENDED:

Type of Post-Secondary Institution	Name of Institution	No. of years attended	Graduate Yes	Graduate No
Vocational			☐	☐
College			☐	☐
Institute of Technology			☐	☐
University			☐	☐
Other			☐	☐

COURSES COMPLETED TOWARD THIS CERTIFICATE:

List Courses	Units	Year Completed	Grade	Institution*

***If not B.C.I.T., this Application must be accompanied by some evidence of credit — DOCUMENTS, DIPLOMAS, etc.**
At least half of the work towards each Certificate must be completed at B.C.I.T.
A student applying for Senior Certificate or Diploma of Technology must have completed a Certificate through the Division of Continuing Education or provide evidence of an equivalent level of related work done through another Institute.

DATE OF APPLICATION _____ APPROVED: _____
(Department Head)

APPLICANT'S SIGNATURE _____

_____
(Program Consultant, Div. of Cont. Educ.)

Natural Gas and Petroleum Technology

Engineering Technician Certificate in Natural Gas and Petroleum Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year	Units		Units		Units
Mathematics — Algebra 2 (32.901)	1.0	Mathematics — Logarithms and Analytic Geometry (32.902)	1.0	Mathematics — Trigonometry (32.903)	1.0
Distribution and Utilization — Gas (47.521)	1.0	Distribution and Utilization — Gas (47.621)	1.0	Elective	1.0
Year 2					
Chemical Principles 1 (30.902)	2.0	Chemical Principles 2 (30.903)	3.0		
Gas and Oil Production and Transmission (47.501)	1.0	Gas and Oil Production and Transmission (47.601)	1.0		
Year 3					
Elective	1.0	Elective	1.0		

List of Suggested Electives

		Units
51.540/640	Engineering Surveying	2.5
41.502/602	Metallurgy 1	2.0
48.511/611	Process Instruments 1	2.0
48.512/612	Process Instruments 2	2.0
33.508/608	Physics 1	2.0
31.910	Business & Technical Correspondence	1.0
31.914	Technical Report Writing	1.0

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Courses in Natural Gas and Petroleum Product Technology

The courses Distribution and Utilization-Gas, Gas and Oil Production and Transmission, and Refining and Utilization-Oil are offered to present and potential employees in the natural gas and petroleum industries. The student can expect to learn the general technology applicable to his field and to related areas of industry. He will work with instruments and equipment in the laboratory similar to that which might be experienced in employment.

The knowledge gained will be directly applicable for a fuller understanding of any present position and may allow transfer or promotion to other areas of specialty.

Each course consists of alternate weeks of lecture and laboratory with field trips arranged as feasible.

47.521/621 Distribution and Utlization — Gas

City gas stations; regulations and colorization; high, medium, and low-pressure distribution systems; network analysis; service regulations; meters; combustion stoichiometry; furnaces, boilers, installation codes; industrial and power utilization; corrosion control; peak shaving; storage.

This course will not be offered in 1979/80.

A revised format will appear in the 1980/81 Calendar.

47.531/631 Refining and Utilization — Oil

Crude Oil distillation, cracking, thermal and catalytic, reforming, hydrogenation; oil products, product testing, storage, loading, combustion stoichiometry; oil and gas engines, oil burners.

Mon. & Wed.: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Units:* 2.0 $140
Continues:	
Mon. & Wed.: 6:45-9:45 p.m.	Jan. 7
Term 2 (18 weeks)	*Units:* 3.0 $210

47.501/601 Gas and Oil Production and Transmission

Petroleum geology, reservoirs, exploration, well-drilling, field production and treatment, conservation, gathering and transmission systems, pipe-line construction and maintenance, corrosion protection, compressor and pumping stations, flow computations, economics of design, measurements, laws and regulations.

This course will not be offered in 1979/80.

A revised format will appear in the 1980/81 Calendar.

47.502/602 Introduction to Petroleum Product Utilization

This course is intended for persons involved in the sales and use of petroleum products. While all petroleum products will be covered, particular attention will be given to lubricants and power transmission by hydraulic fluids.

Course Content — Petroleum hydrocarbons, crude oils, reservoirs and wells, refinery operations, production of lubricants, special properties and additives, internal-combustion engines, fuel and lubrication, design of gear power-transmissions and gear lubrication, design of hydraulic fluids, product tests and specifications, metallurgical aspects of wear and failure preventive maintenance by lubricant analysis.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70
Continues:	
Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

SURVEYING TECHNOLOGY

Engineering Technician Certificate in Surveying Technology

The following is a suggested certificate program attainable over three years.

Students may amend this program to suit their personal career requirements with the approval of a Program Consultant.

The three-year period is flexible. Fifteen units are required for this certificate.

September (Term 1)		*January (Term 2)*		*April (Term 3)*	
Year 1	Units		Units		Units
Field Survey 1 (51.502)	1.0	Field Survey 1 (51.602)	1.5	Elective	1.0
Survey Computations 1 (51.501)	1.0	Survey Computations 1 (51.601)	1.5		
Year 2		Mathematics Logarithms & Analytic Geometry (32.902)	1.0		
Mathematics — Algebra 2 (32.901)	1.0	Field Survey 2 (51.612)	1.5		
Field Survey 2 (51.512)	1.0				
Year 3					
Survey Computations 2 (51.511)	1.0	Survey Computations 2 (51.611)	1.5		
Plane & Spherical Trigonometry for Surveyors (51.906)	1.0	Elective	1.0		

List of Suggested Electives

		Units
51.505/605	Photogrammetry	2.5
51.504/604	Astronomy	2.0
51.507/607	Survey Drafting	2.0
49.903	Mechanical Drafting 1	1.5
49.900	Drafting — Fundamentals	1.0
50.101/201	Geology	2.0
45.120/220	Plants and Soils 1 & 2	2.5
42.102	Hydrology	1.0
14.050	Data Processing — Introduction	1.0
33.508/608	Physics 1	2.0
31.910	Business Technical Correspondence	1.0
31.914	Technical Report Writing	1.0

Students who require advice on this program should read Section 3 on "Program Consultation" on page 21 of this calendar.

Courses in Surveying Technology

Purposes and Objectives for Survey Computations 1, 2, and 3

Purpose— To train persons with little or no knowledge or experience in surveying computations. Survey computations would be of value to field personnel; instrument men, chainmen, rodmen, etc., at present employed within the surveying industry or taken together with Field Survey courses for those who wish to enter this field.

Objective — On completion of the three courses the student should have reached the standard required to write the computations examinations of the Corporation of B.C. Land Surveyors.

51.501/601 Survey Computations 1

Trigonometric functions; solution of right and oblique triangles; chainage corrections, bearings — magnetic, quadrantal and full circle; traverse calculations; coordinates — polar and rectangular, missing parts; adjustments of traverses; stadia calculations; subdivision of areas; areas by D.M.D.s and coordinates; simple circular curves.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Tuesdays: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

NOTE — This course requires an electronic calculator capable of converting degrees, minutes and seconds to decimal degrees and converting polar coordinates to rectangular coordinates.

51.511/611 Survey Computations 2

Compound and reverse circular curves, transition curves, vertical curves; areas and volumes; partitioning of land; crandall adjustment of traverses; eccentric, linear and angular observations; intersection; resection (three point problem); inaccessible base; application of analytical geometry in surveying; programmable calculators.

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105

51.521/621 Survey Computations 3

Geometrical Geodesy — Shape and dimensions of the earth, spherical computations (Legendre's theorem, method of additaments), ellipsoidal computations (Gaussian mid-latitude formulae, Puissant formulae), reduction of field observations in geodesy, trigonometric levelling.

Map Projection — theory of distortions, classification of projections, concical projections (Lambert's conformal projection), cylindrical projections (Mercator and Transverse Mercator projection), azimuthal projections (sterographic), Universal Transverse Mercator Projection; Polyconic projection of British Columbia.

Least Square Adjustment — Matrix algebra, errors of measurement, measures of precision and accuracy, propagation law of standard errors, principle of least squares (method of conditional observations, variation of independent parameters, adjustment of traverses).

Physical Geodesy — Gravitational force, equipotential surface, absolute and relative measurements of gravity, reduction of gravimetric observations (free-air, Bouguer, topographic and isostatic reductions), Stoke's theorem, orthometric and dynamic heights, geodetic systems.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (18 weeks)	*Unit:* 1.5 $105

51.502/602 Field Survey 1

Purpose — This course is offered to train persons in the field operations of survey work. It is basic surveying designed for persons who intend to make a living at surveying, or for those wishing to upgrade their ability at surveying. This course should be taken in conjunction with Survey Computations 1 and leads into Field Survey 2, 3, and 4.

Outline — Fundamental definitions and concepts, fundamentals of field work, of field notes, errors, linear measurements, errors in linear measurements, basic problem in chaining, use of compass in surveying, use of level and level rod (theory, field work), errors in levelling, reading transit angles, use of the transit, error in transit work; transit surveying — method of running traverses; stadia surveying — methods of locating detail, plane table, simple curves.

Saturday: 9:00 a.m. to 12 noon	Sept. 15
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Saturday: 9:00 a.m. to 12 noon	Jan. 12
Term 2 (18 weeks)	*Unit:* 1.5 $105

51.512/612 Field Survey 2

Purpose — The course is designed for students who progress from Field Survey 1 or for students who have had similar field experience in industry. The student should have knowledge of theodolite and level operations and chaining, i.e., the basic techniques which are taught in Field Survey 1. It is also assumed

that the student will have knowledge of survey computations similar to that acquired in Survey Computations 1.

Outline — Horizontal and vertical control by triangulation and trigonometric levelling, computing and laying out circular curves and spirals, topography by self-reducing tachometers, highway surveying involving laying out centre line and vertical curves, cross-sections and slope stakes, precise levelling, electronic distance measurement and instrument adjustments.

Saturday: 9:00 a.m. to 12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Saturday: 9:00 a.m. to 12 noon — Jan. 12
Term 2 (18 weeks) — *Unit:* 1.5 $105

51.522/622 Field Survey 3

Location of a transportation-line; preliminary considerations; reconnaissance; preliminary survey; projecting the location; the location survey; location of curves — simple, compound, reverse, spiral; cross-section; slope staking; construction; levelling under unusual conditions; field work for monthly estimates; field work for final payments; use of EDM equipment.

Saturday: 9:00 a.m. to 12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Saturday: 9:00 a.m. to 12 noon — Jan. 12
Term 2 (18 weeks) — *Unit:* 1.5 $105

51.532/632 Field Survey 4

Standard surveys, geodetic control surveys, setting landmarks and monuments, surveys for evidence, procedure for resurvey of boundary-lines, resurveys of subdivided lands, restoration of lost corners, right-of-way surveys, limits of errors, subdivision surveys, surveys for photogrammetric control, use of aerial photographs in survey, errors.

Saturday: 9:00 a.m. to 12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Saturday: 9:00 a.m. to 12 noon — Jan. 12
Term 2 (18 weeks) — *Unit:* 1.5 $105

51.540/640 Engineering Surveying

Purpose — This 30-week survey course has been designed to cover a wide range of field techniques and office procedures. The types of learning situations during the course are such that for both field and office work greater emphasis is placed on engineering and construction practices. These practices in general mean that, by adroit uses of methods and instruments, we can make maps, charts, profiles, measure land boundaries, and determine precise sizes, shapes, and locations. A further purpose is to lay out or mark the desired position and elevation of objects to be built or placed as directed by a completed plan.

Objective — On completion of the course the student will be able to show confidence in the manipulation of a variety of survey instruments and the application of survey methods and skills as used in industry today.

Outline — We expect to have students with varying backgrounds of education and industrial experience and must, therefore, provide a good deal of course flexibility for the student to choose what he feels will be of greater interest and benefit to him personally. Prospective students do not need to feel that the following list of subjects and topics is going to be too difficult to cope with because they are short on formal schooling. Feed-back from former students indicates that in the main they have achieved the level of learning they needed or wanted. The course of studies is so arranged that most of the 30 weeks is spent out of doors learning field methods and the use of instruments by a series of field projects. A shorter length of time is spent in the classroom (usually during inclement weather) calculating and plotting a variety of exercises and information from the student's own field data.

The more important areas of learning will be as follows: Measurements of distances and determination of direction; use of transits, levels, chains, stadia (including tachometers); route survey and earth work, site surveys, construction surveys (layout and control), topographic surveys, introduction to photogrammetry; computations relating to traverses, triangulation and adjustments, areas and volumes, horizontal curves, grades and slopestaking; preparation of topographic plans, plan-profile plates and cross-section plotting. Interpretation of legal plans and survey note-keeping.

Saturday: 9:00 a.m. to 12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Saturday: 9:00 a.m. to 12 noon — Jan. 12
Term 2 (18 weeks) — *Unit:* 1.5 $105

51.903 Field Course in Electronic Measuring

Objective — To enable persons involved in surveying to understand and operate E.D.M. machines.

Outline — Basic principles of electronic measuring-devices, field operation of tellurometer, field operation of geodimeter, field operation of gyrotheodolite, more recent electronic instruments, trouble-shooting.

Saturday: 9:00 to 12 noon — Sept. 15
Term 1 (12 weeks) — *Unit:* 1.0 $70

51.504/604 Astronomy 1

Purpose — This course is offered as an introduction to astronomy as used by surveyors and should be of particular interest to persons intending to write the professional land surveyor examinations.

Objective — Through the use of the BCIT planetarium facilities, students should gain a good grounding in star identification.

Outline — The course includes an introduction to practical astronomy, the celestial sphere, the astronomical triangle; universal time, mean solar time, sidereal time; the emphermeris and star almanacs; instruments used in solar and stellar observations; star identification, observations for latitude; observations for time and longitude; observations for azimuth; observations for position.

Monday: 6:45-9:45 p.m. — Sept. 10
Term 1 (12 weeks) — *Unit:* 1.0 $70

Continues:
Monday: 6:45-9:45 p.m. — Jan. 7
Term 2 (12 weeks) — *Unit:* 1.0 $70

51.505.605 Photogrammetry 1

Objective — To introduce interested students to the mechanics of photogrammetry through a combination of theory and practical work. This course should be of particular interest to person

who intend to write the professional land surveyor examinations.

Outline — Introduction to photogrammetry; photo interpretation, aerial photographs; cameras; flight-planning for vertical photography; determination of scale; mapping from aerial photographs; mosaics, principle of stereovision; determination of height from aerial photos; radial line-plotting; oblique photogrammetry, plotting instruments, stereoscopes, Photographic laboratory procedures.

Wednesday: 6:45-9:45 p.m.	Sept. 12
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Wednesday: 6:45-9:45 p.m.	Jan. 9
Term 2 (18 weeks)	*Unit:* 1.5 $105

51.906 Plane and Spherical Trigonometry for Surveyors

Purpose — This course is offered as an introductory and a refresher course for anyone who has to do any surveying or astronomy calculations. The course should be of special interest to persons intending to write the preliminary examinations for B.C.L.S. articles or for persons wishing to continue into astronomy.

Outline — Trigonometric functions of acute angles; solution of triangles, use of calculating machines; logarithms, trigonometric functions of any angle; trigonometric formulas and identities; radian measure; inverse trigonometric equations; introduction to spherical trigonometry; solution of right spherical triangles; solution of oblique spherical triangles; applications of spherical trigonometry to the terrestrial sphere, celestial sphere, astronomical triangle.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

51.507/607 Survey Drafting

Lettering, technical sketching, scribing, use of ink and various drafting materials. Preparation of preliminary plans, topographical plans; subdivision plans; right-of-way plans in accordance with General Survey Instructions of British Columbia Land Surveyors.

Monday: 6:45-9:45 p.m.	Sept. 10
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Monday: 6:45-9:45 p.m.	Jan. 7
Term 2 (12 weeks)	*Unit:* 1.0 $70

51.908 Description of Deeds

A basic course in writing legal land descriptions for British Columbia, aimed at helping those preparing for B.C.L.S. final examinations.

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

51.909 Portable Programmable Calculators

Purpose — This course is designed for students in Mathematics, Physics and Engineering subjects.

Objective — To obtain the most effective use of portable calculators.

Outline — Manual use of calculators. Use of stack and storage registers, problems involving Trigonometry, log and exponential theory, statistics, flowcharts and elementary programming techniques, sub routines, conditional branching; recording and loading programs.

Thursday: 6:45-9:45 p.m.	Sept. 13
Term 1 (12 weeks)	*Unit:* 1.0 $70

Begins Again:

Thursday: 6:45-9:45 p.m.	Jan. 10
Term 2 (12 weeks)	*Unit:* 1.0 $70

51.506/606 Photo Interpretation and Remote Sensing

Purpose — Designed to give engineers, planners, foresters, geographers, hydrologists, geologists, and agriculturists the application and interpretation of aerial photographs and other remote sensor acquired data as they are applied to their respective fields.

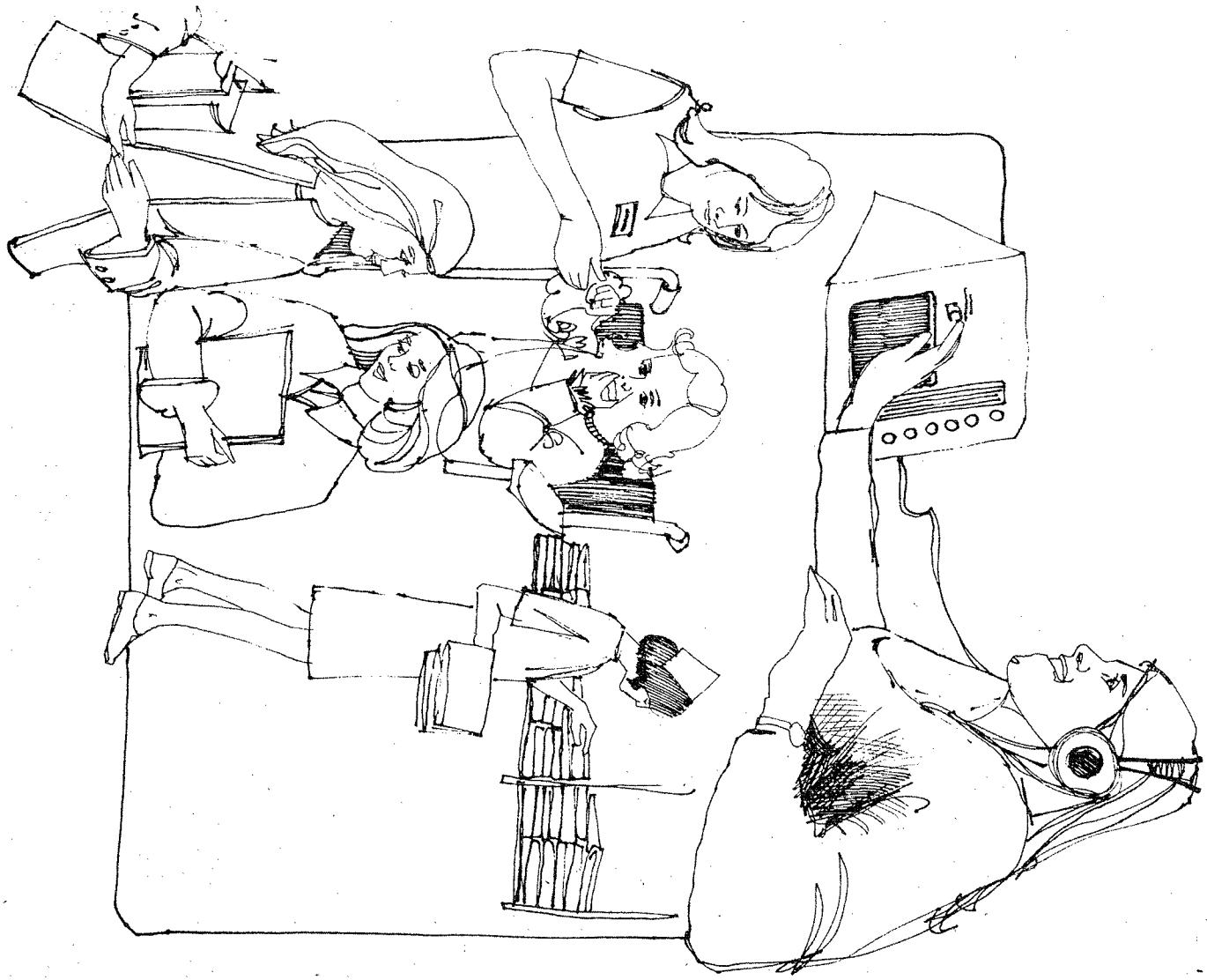
Objective — Upon completion students will have a working capability in image interpretation from photographic (camera) imagery, near infrared imagery, thermal infrared imagery and radar imagery.

Outline — This course will cover the application of: photographic systems in remote sensing, imaging and nonimaging sensors, the elements and technique of image interpretation, imagery interpretation equipment, mapping from remote sensor acquired data, terrain and mineral assessment and evaluation, forest land inventory and assessment, water resources evaluation, soils evaluation and assessment, urban environment inventory and analysis, analysis and application of aerial photos and other remote sensing data to engineering (route location, regional and site analysis.)

Tuesday: 6:45-9:45 p.m.	Sept. 11
Term 1 (12 weeks)	*Unit:* 1.0 $70

Continues:

Tuesday: 6:45-9:45 p.m.	Jan. 8
Term 2 (18 weeks)	*Unit:* 1.5 $105



HEALTH CONTINUING EDUCATION

HEALTH CONTINUING EDUCATION ADMINISTRATION

Roy C. Morris, B.A., D.H.A. ..... Head, Health Continuing Education
Sonia L. Williams, B.A.(Hons.), M.Ed., F.S.R. Associate Coordinator ..... Health Technologies
Shirley Kerry, R.N., B.S.N. ..... Planner, Nursing Update
Maureen Madigan ..... Program Assistant

****

Telephone (604) 434-5734, local 376

HEALTH CONTINUING EDUCATION

BCIT HEALTH CARE CERTIFICATE PROGRAM

This program builds on the BCHA Certificate Program in Health Care Management, as well as on the continuing education courses of the health care technologist's particular health-sciences specialty or on courses in administration. The certificate is identified by adding to the title the technology designation, for example: Health Care Certificate in Nuclear Medicine; Health Care Certificate in Nursing Sciences; or, if the specialty is administration, Health Care Certificate in Administration.

Thus a program for a Health Care Certificate in Medical Radiography would be planned as follows:

		UNITS
A.	BCHA Certificate in Health Care Management	8.0
B.	Some or all of the following:	
	Radiographic Technique for Advanced Certification	1.5
	Anatomy and Physiology for Advanced Certification	1.5
	Physics of Medical Radiography for Advanced Certification	1.5
	Image Recording for Advanced Certification	1.0
	Radiobiology and Protection for Advanced Certification	1.0
	Electives from other BCIT programs	(balance)
	Total	15.0

Electives selected for this certificate program must be approved in advance in writing by a BCIT program consultant to ensure their appropriateness and acceptance.

HEALTH CARE MANAGEMENT (BCHA Certificate Program)

This program is offered in co-operation with the British Columbia Health Association (formerly B.C. Hospitals Association) and has the following objectives:

a) To develop the management skills of department heads, supervisors, head nurses, and assistant head nurses in hospitals and other health care facilities.

b) To develop an understanding of the concept of total health care.

c) To provide skill in applying managerial principles to health care situations.

d) To provide skill in applying the decision-making process to solving supervisory problems.

Outline: The program comprises the following three basic elements, which may be taken in any sequence:

		UNITS
A.	Fundamentals of Health Care Management	2.0
B.	Health Care Management Skills (formerly Supervisory Methods)	2.0
C.	Courses from the following list of electives	4.0

SUGGESTED ELECTIVES

Electives may be chosen from the courses listed in the various technologies that are considered appropriately related.

Recognition of training from other institutions or professional associations may be considered.

Electives must be approved in advance in writing by a BCIT program consultant to ensure their appropriateness and acceptance.

	UNITS
Management Psychology 1	1.0
Management Psychology 2	1.0
Accounting 1	1.0
Accounting 2	1.5
Accounting for the Manager	1.0
Public Relations	1.0
Organizational Behavior	1.0
Personnel Management	1.0
Labor Relations 1 and 2	2.0
Counselling 1 & 2	2.0
Work Study 1 and 2	2.5
Testing	1.0
Project Planning and Scheduling	1.0
Data Processing Introduction	1.0
Probability and Statistics 1	2.0
Systems Analysis	1.0
Business and Technical Correspondence	1.0
Business Report Writing	1.0

87.501/601 FUNDAMENTALS OF HEALTH CARE MANAGEMENT

An introduction to the organization of the health care delivery system and the principles of methods of study. Objective:

(a) To develop an understanding of hospital organization

(b) To review the development of labor relations in the health care environment

(c) To develop an understanding of the principles of union practices and the collective bargaining process.

(d) To apply the principles of methods of study in learning better ways of performing assigned tasks.

Outline: This course uses instructional techniques such as lectures, buzz groups, group discussions, case studies, and projects under supervision. Subjects are total health care environment, labor relations, total hospital organization, and methods study.

Tuesday: 6:45-9:45 p.m. *Begins: September 11*

87.501/601 (two term courses, 24 weeks) *Unit:* 2.0

87.502/602 HEALTH CARE MANAGEMENT SKILLS (FORMERLY SUPERVISORY METHODS)

An introduction to the human, technical, and conceptual skills required for health care management.

Objectives:

(a) To develop an understanding of some basic principles of human behavior.

(b) To demonstrate how to apply the principles of leadership and motivation

(c) To develop an understanding of the principles of budgeting

(d) To provide knowledge of the process of employee selection

(e) To develop an understanding of one method of problem-solving

Outline: This course uses instructional techniques such as lectures, buzz groups, group discussions, case studies, and projects under supervision. Subjects are communications, leadership, groups, motivation, authority, problem solving, and budgeting.

Wednesday: 6:45-9:45 p.m. *Begins: September 12*

87.502/602 (two term courses, 24 weeks) *Unit: 2.0*

COURSES IN MEDICAL LABORATORY SCIENCES

70.X01 ADVANCED HAEMATOLOGY

A correspondence course that prepares Registered Technologists to write the Advanced Registered Technologist examination. Credits are granted for this course by the Canadian Society of Laboratory Technologists (CSLT).

Objective — To acquaint the student with some of the new and advanced theories of haematology.

Outline — This correspondence course examines haem synthesis, globin synthesis, thalassemia, normal red-cell production and destruction, $B_{12}$and folic-acid synthesis, megaloblastic anaemias, glucose matobolism of the red cell, haemolytic anaemias, and red-cell overproduction and under-production.

The course was designed in co-operation with the B.C. Society of Medical Technologists (BCSMT).

COURSES IN RADIOLOGICAL SCIENCES

72.901 TUTORIAL FOR CAMRT REGISTRATION EXAMINATION

A 12-hour refresher course to prepare students for the registration examination of the Canadian Association of Medical Radiation Technologists (CAMRT). A concise review of radiological physics, radiographic techniques, anatomy and physiology, and radiobiology and protection.

Begins in April 1980 (dates T.B.A.)

72.902 MEDICAL RADIOGRAPHY-CONTINUING EDUCATION LECTURE SERIES

A lecture series conducted by the B.C. Division of CAMRT in co-operation with the Ministry of Health and B.C.I.T. This one-week course for graduate radiographers covers advances in many aspects of radiographic technique.

Dates T.B.A.

72.903 RADIOGRAPHY AND PHYSICS FOR RADIOLOGISTS

This two-week course is for physicians studying radiology. It introduces fundamentals in the production of radiographs, the physics of radiology, x-ray apparatus, image-recording, and radiological safety.

Dates T.B.A.

72.904 ANATOMY AND PHYSIOLOGY-FOR ADVANCED CERTIFICATION OF RADIOLOGICAL TECHNICIANS

Offered in co-operation with the B.C. Division of CSRT to prepare the Registered Technician to write the Advanced Certification examination.

72.905 IMAGE RECORDING-A PREPARATORY COURSE FOR ADVANCED CERTIFICATION OF RADIOLOGICAL TECHNICIANS

Offered in co-operation with the B.C. Division of CAMRT, this advanced level course covers all aspects of the recording and radiographic images. Includes photographic, TV, and VT recording, and the equipment and process associated with each.

Dates T.B.A.

72.906 RADIOGRAPHIC TECHNIQUE-A PREPARATORY COURSE FOR ADVANCED CERTIFICATION OF RADIOLOGICAL TECHNICIANS

Offered in co-operation with the B.C. Division of CAMRT to prepare Registered Technicians to write the Advanced Certification examination.

Dates T.B.A.

72.907 RADIOBIOLOGY AND PROTECTION-A PREPARATORY COURSE FOR ADVANCED CERTIFICATION OF RADIOLOGICAL TECHNICIANS

Offered in co-operation with the B.C. Division of CAMRT and presented in the form of directed reading to prepare Registered Technicians to write the Advanced Certification examination.

Dates T.B.A.

72.909 PHYSICS OF MEDICAL RADIOGRAPHY-A PREPARATORY COURSE FOR ADVANCED CERTIFICATION OF RADIOLOGICAL TECHNICIANS

The purpose of the course, designed in co-operation with the B.C. Division of CAMRT, is to prepare Registered Technicians to write the Advanced Certification examination.

Dates T.B.A.

COURSES IN NUCLEAR MEDICINE SCIENCES

74.901 RADIOPHARMACEUTICALS IN NUCLEAR MEDICINE-A PREPARATORY COURSE FOR ADVANCED CERTIFICATION OF NUCLEAR MEDICINE TECHNOLOGISTS.

Provides the graduate Nuclear Medicine Technologist with continuing education in radiopharmaceuticals and post-graduate instruction in preparation for the Advanced Certification examination.

Other courses in nuclear medicine in preparation for the Advanced Certification examination are planned for 1979/80. Direct your inquiries to Sonia Williams, Health Continuing Education, BCIT, 434-5734, local 666.

COURSES IN ENVIRONMENTAL HEALTH

82.901 BASIC SOUND MEASUREMENT

An examination of the principles of reduction and control of noise of sound-producing equipment. Prepares those working in the fields of environmental health and public health to operate equipment used in enforcing municipal noise bylaws.

Eighteen hours over three Fridays *(dates T.B.A.)*

COURSES IN CONTINUING NURSING EDUCATION

Continuing education courses and programs for nursing personnel are offered periodically. Information may be obtained, or special applications submitted, by writing to: Head, Health Continuing Education, BCIT, 3700 Willingdon Ave., Burnaby, B.C., V5G 3H2, or by telephoning 434-5734, local 376.

The following courses are normally conducted three times a year commencing in September (or October), January, and April. Those with an asterisk have been approved by the RNABC/RPNABC Continuing Education Approval Program.

76.901 REFRESHER COURSE FOR GRADUATE NURSES*

This 280-hour course is for graduates of approved schools of general nursing who require updating to qualify for registration or employment. Theory and clinical practice are combined to assist the nurse to meet clinical competency objectives. Medical and surgical nursing of the adult is the major focus.

Apply as stated above to place your name on the mailing list for scheduled courses, giving confirmation of your eligibility for registration with RNABC.

Course duration: 10 weeks (offered three to five times in the year). *Units 5.0.*

76.902 BASIC MENTAL HEALTH NURSING*

Graduate nurses trained in other countries may be directed to this course by the RNABC to prepare them for the Registered Nurse examination. Available only by waiting list.

Course duration: 10 weeks. *Units: 5.0*

76.905 OPERATING ROOM NURSING

This full-time course prepares the RN for staff nurse duties in hospital operating rooms. Beginning level skills are developed, primarily for graduates of two-year diploma programs; however, the course is also of value as a refresher for former OR nurses. Apply as stated above to place your name on the waiting list.

Course duration: 10 weeks. *Units. 5.0*

NURSING UPDATE PROGRAM

As the needs for continuing education of nursing personnel are identified, BCIT will design and conduct appropriate courses. Watch for course announcements in the RNABC Continuing Education Bulletin posted on hospital notice boards, or have your name placed on our brochure mailing list by writing to: Planner, Nursing Update Program, Health Continuing Education, BCIT, 3700 Willingdon Ave., Burnaby, B.C. V5G 3H2, or by telephoning 434-5734, local 376.

76.909 ENTEROSTOMAL THERAPY: THE ROLE OF THE NURSE*

This two-day (12 hour) course provides the nurse with required knowledge and techniques for the care of patients with stomas.

76.911 CARING FOR THE ELDERLY*

A 16 hour course over eight evenings for those providing care to the elderly in extended-care and intermediate-care facilities, in personal care homes, and in the community.

76.913 INTRAVENOUS THERAPY*

A 10-week course (one evening each week for a total of 25 hours) for RNs, RPNs, and other health professionals who have had a course in anatomy and physiology but who want to review and update their knowledge.

76.915 BASIC PRINCIPLES OF THE DISEASE PROCESS

A 10-week course (one evening each week for a total of 25 hours) for RNs, RPNs, and other health professionals already familiar with normal physiology. Covers the principles of pathophysiology and common disease conditions.

MATERNITY NURSING SERIES

A series of evening lectures on topics of interest to nurses working in maternity units. Titles and dates T.B.A.

DIRECTED STUDY CENTRE

DIRECTED STUDY CENTRE ADMINISTRATION

William D. Robertson, B.Ed.	Head, Program Development and Directed Study Centre
Joan M. Cooper	Co-ordinator, Directed Study Centre
Eila T. Astells	Program Assistant
Maureen L. McLean	Student Services Assistant
Judy Jenvey	Clerk

****

Telephone (604) 434-5734, Local 648/754

DIRECTED STUDY CENTRE

GENERAL INFORMATION

The Directed Study Centre was created by the B.C. Institute of Technology in 1975 to provide selected courses to adults who were unable to attend the BCIT central campus or who wished to study on an unscheduled basis.

Courses offered are credit and non-credit, preparatory and advanced, structured and non-structured, general interest and career-oriented. All courses require that you assume reponsibility for progressing through the learning materials. Some courses are designed so that you may compare your skills with the course standards and begin your studies part way through the materials.

Within generous limits, you may enrol at any time, finish at any time, and progress at your preferred rate.

The only prerequisites for most courses are the desire and the ability to learn from the instructional materials. Some advanced courses have suggested course prerequisites to identify to registrants the skills that it is assumed they can employ as needed during the course. Prerequisite skills are not normally taught in the course requiring them.

INSTRUCTIONAL YEAR

The Directed Study Centre operates year-round on a quarter system:

FALL QUARTER — September 1-November 30
WINTER QUARTER — December 1-February 28
SPRING QUARTER — March 1-May 31
SUMMER QUARTER — June 1-August 31

During the summer quarter, instructors may be on vacation and students can expect to have an extended return time for their assignments.

REGISTRATION PROCEDURE

Students may enrol in directed study courses at any time of the year. A registration form is attached to the back of this calendar. Registrations cannot be processed nor materials sent to students until the full course fees have been paid. Cheques or money orders, made payable to B.C. Institute of Technology, must be included with registration applications.

REGISTRATION SCHEDULE

Students who register on any date in the fall quarter have until November 30 of the following year to complete their course.

Students who register on any date in the winter quarter have until February 28 of the following year to complete their course.

Students who register on any date in the spring quarter have until May 31 of the following year to complete their course.

Students who register on any date in the summer quarter have until August 31 of the following year to complete their course.

You may progress at your own pace within these generous time limits. You may complete your work at any time. Your registration expires on your completion date, but you may re-register for a further 12 months at that time.

Note: Ministry of Highways personnel registered in the Highways Technology Training Program who do not complete their course by the specified completion date must re-apply direct to the ministry's training office at 940 Blanchard Street, Victoria, B.C. V8W 3E6

COURSE FEES

Course fees are listed with each course description but are subject to change without notice. A registration fee of $15 is included in the course fee and is non-refundable once registration has been completed and the instructional materials have been sent to you.

Course fees do not include the cost of textbooks.

SPECIAL FEES

Challenge examination: $35 (if a special examination is needed)
Examination re-reading: $10 (refundable if a mark is raised)
Transcript replacement: $1
Re-registration: $40
Withdrawal fee: $10

WITHDRAWALS AND REFUNDS

Students may withdraw from a course at any time by written notice to the Directed Study Centre. Refunds will be given only upon application and on the following bases:

(a) *Withdrawal before any assignments are marked:* Instruction fee less registration fee of $15 and a withdrawal fee of $10.

(b) *Withdrawal after some assignments have been marked:* Only that portion of the instructional fee that has not been paid to the instructor less the $10 withdrawal fee and the $15 registration fee.

SUBMISSION OF ASSIGNMENTS AND COMPLETION TIME

Although all instructional materials are designed so that you may proceed at your own pace, some courses have completion deadlines based on national examinations, or on requirements of certifying agencies, or on special tutorial schedules. Any special completion dates will be supplied with the course materials.

You will be informed of your completion date upon registration (see registration schedule). If you do not complete your course within the time specified, you may re-register for a further 12 months on payment of a $40 re-registration fee.

You may finish your course before its specified completion date.

Full details on the submission of assignments for marking are included in your instructional kit.

GRADING AND EXAMINATIONS

Final grades for some courses are based on a combination of assignment and examination marks. Final grades for other courses are based only on examination marks. Details of the grading for your course are included in the course material.

Students who have satisfactorily completed their assignments have the option of writing a final examination. Those who choose not to write a final examination are awarded a non-credit, satisfactory-completion standing.

Students with a non-credit standing can write the examination at a later date to obtain credit.

For students living near BCIT, examinations are held on campus on the last Saturday of any month at 10 a.m.

For students in distant locations, examinations are arranged and

scheduled between them and their chosen examiner, whose qualifications must be approved by the Directed Study Centre.

A Request for Examination form is included in your instructional kit and should be forwarded with your final assignment.

Students who write final examinations receive a percentage grade and credits normally given to the course, as follows:

First Class:	80 per cent or over
Second Class	65-79 per cent
Pass	50-64 per cent
Failure	Less than 50 per cent

MARKS APPEAL

If you feel that we have made a mistake in your final mark, you may ask for a re-reading of your assignments and examinations. The re-reading fee of $10 must accompany your request. If the mark is increased, the $10 fee is refunded.

FAILURES

Students who fail to obtain a passing grade in their final standing after writing the examination will not receive credit for the course. Those with a failure grade will, however, be able to rewrite the examination after a waiting period of 30 days and the payment of a $35 challenge-examination fee.

The examination may be written any number of times upon payment of a challenge fee each time. The Directed Study Centre reserves the right to limit the frequency of challenge examinations.

If students feel they need further help in the course before rewriting the examination, special tutorials can often be arranged with an instructor.

TRANSCRIPTS, DIPLOMAS, CERTIFICATES

Students who complete a course receive a transcript of their marks. Those requiring additional transcripts must pay a $1 fee for each transcript.

TEXTBOOKS

Most textbooks may be bought from the Directed Study Centre, and the required texts are stated in each course description. Prices are subject to change without notice, but we will attempt to hold them at the indicated cost.

Please pay for textbooks with a separate cheque payable to B.C. Institute of Technology.

LIBRARY FACILITIES FOR DIRECTED STUDY CENTRE STUDENTS

For those students living near BCIT:

Our library facilities are available to all registered BCIT students. Apply for a library card at the front desk.

For students unable to personally use the BCIT library:

Inter-library loans can often be arranged between your public school, high school, or college library and the BCIT library. Ask your local library to contact the BCIT library reference desk to arrange for an inter-library loan.

COURSE CREDIT

The basic measure of course credit is a UNIT, which normally consists of three classroom hours a week for 12 weeks, or a total of 36 hours. Thus, students who attend three hours an evening twice a week for 12 weeks would receive two units of credit if they are successful. Hours of instruction have little meaning for most directed study courses so units are based on course content. A 1 unit directed study course has content and standards equivalent to a 1 unit classroom course. Some directed study courses have been developed for unique employer training programs that have no exact equivalence in classroom courses. Most of these courses do not yet carry unit values but do have credit value toward the employer's certificate. Two examples of these programs are the Highways Technology Training Program and the Forest Service IIIB Program.

TRANSFER CREDIT

Because the subject of transfer of credits is under discussion, we are unable to offer any transfer at this time other than as specified in this calendar.

CHALLENGE CREDIT

What it is: Challenge credit is a means whereby students may acquire credit recognition for knowledge and skills gained through self-study or work experience.

By challenging a course students claim they already have the knowledge and abilities to be learned from the course. Because of the learning format of some courses, not all courses are considered challengeable.

Where approval has been granted to challenge a course, a formal evaluation procedure takes place. Student abilities in the subject area challenged are assessed by an evaluator through a written or oral examination, research paper, or other means at the evaluator's discretion

Challenge credit is not considered as work completed at BCIT, but when a course is successfully challenged the number of units required for a certificate will be reduced. If students are successful a "C" (for credit) will be indicated on their transcripts.

Who may challenge: Students may challenge a course in a certificate program in which they have completed 10 units of credit at BCIT.

Only five units of challenge credit will be allowed on each certificate program.

Fee to challenge a course: Once approval has been granted to challenge a course a student must pay a fee before the evaluation takes place.

How to challenge: You may apply to challenge a directed study course by writing to:

The Directed Study Centre
Division of Continuing Education and Industry Services
British Columbia Institute of Technology
3700 Willingdon Avenue
Burnaby, B.C. V5G 3H2

COUNSELLING

If you need assistance in course or program selection, or require additional information on learning materials and special programs not listed in the calendar, contact the Directed Study Centre staff at 434-5734, local 648 or 754, between 8:30 a.m. and 4:30 p.m. Monday to Friday.

Information on course selection from other institutions is also available.

BUSINESS

ACCOUNTING FOR OFFICE MANAGERS 1

Fundamental accounting concepts, terminology, and procedures. Emphasizes payroll and inventory, which are of particular concern to office managers, but does not neglect other topics essential to a thorough understanding of a company's financial standing.

Prerequisite: None
Unit: 1.0
Fee: $55

Required textbook: None

Optional textbook: *Fundamentals of Accounting,* Pyle, Irwin Dorsey, 1976. $15.45

ACCOUNTING FOR OFFICE MANAGERS 2

The sequel to Accounting for Office Managers 1. Completion of the two courses provides a basic knowledge of topics covered in a standard introductory accounting course.

Prerequisite: None
Unit: 1.0
Fee: $65

Required textbook: None

Optional textbook: *Fundamentals of Accounting,* Pyle, Irwin Dorsey, 1976. $15.45

DECISION-MAKING

An overview of what is known about the decision-making process. Introduces a variety of perspectives on decision-making theory, techniques, and related information technology. A course in how decisions are made, not in how to make decisions. It enables you to recognize, understand, discriminate among, and critically assess the various approaches to decision-making that may be encountered in a career in administration.

Prerequisite: None
Unit: 1.0
Fee: $125

Required Textbook: *Information Systems for Modern Management;* Murdick and Ross. Prentice-Hall, 1975. $17

PRINCIPLES OF ADMINISTRATION

A study of the principles of administration, or management, both in theory and as applied in the private and public sectors. Topics include: administration as a field of study and as a career; planning and decision-making for organizational structure and operations; and the individual, group and leadership aspects of relationships in organizations. Through textbook reading, case analyses, and examination of the application of the concepts of your working situation, you gain an insight into managerial activities, the evolution of theory and practice, and the challenges facing Canadian managers. The course work also develops the ability to examine information and interpret organizational situations from administrative and other points of view.

Prerequisite: None
Unit: 2.0
Fee: $125

Required textbook: *Management-Basic Elements of Managing Organizations,* Webber. Irwin-Dorsey, 1975. $16.45

PRINCIPLES OF ECONOMICS

An introduction to the basic terms, concepts, models and theories employed in analyzing the economics of industrial societies. On completion, you will understand and be able to appraise and discuss in general terms the details presented in a typical economic analysis.

Prerequisite: None
Unit: 2.0
Fee: $125

Required textbooks: *Economics-First Canadian Edition.,* McConnell and Pope. McGraw-Hill Ryerson Ltd. 1978. $18.50

Study Guide to Accompany Economics First Canadian Edition, Bingham and Pope. McGraw-Hill Ryerson Ltd., 1978. $8.50

PURCHASING FOR THE HOSPITALITY INDUSTRY

For those preparing for a career in hotel, motel, resort, and food-service operations. Provides fundamental knowledge of the use of foods, beverages, supplies, and equipment. Purchasing specifications and practices for virtually all these are described, illustrated, and inter-related. This course is the basis for the advanced courses in food management.

On completion, you should be able to describe the purchasing function in hospitality management; recognize well written specifications used in purchasing; discuss movement of goods through the market system; recognize and explain the use of purchasing and receiving forms; list minimum storage conditions for fresh, frozen, and dry goods; recognize the purchasing specifications for fresh vegetables, fruits, meats and poultry, fish seafoods, processed foods, canned goods, frozen vegetables and fruits, spices, eggs and dairy products, cereals and cereal products, and commonly used dry goods; discuss purchasing procedures and practices for alcoholic beverages and beverage-dispensing equipment; and recognize purchasing specifications for glassware and dishware.

Prerequisite: None
Unit: 1.5
Fee: $90

Required textbook: *Restaurateurs and Hoteliers Purchasing Book,* Berberoglu. CDM Business Services Ltd. 1976. $7.00

FOOD AND BEVERAGE COST CONTROL

For owners and supervisors of restaurants or hotels and motels with restaurants. Also of value to employees in food and beverage departments of larger establishments and to those in related areas of the food-service field. Covers detailed accounting control systems and techniques related to ordering and purchasing, receiving, storeroom and inventory, production, and sales.

Prerequisite: None
Unit: 1.0
Fee: $60

Required Textbook: *Food and Beverage Cost Control* Coltman. Prentice-Hall, 1977. $10.50

HOSPITALITY ACCOUNTING 1

The basic elements and procedures of accounting and the specific variations in procedure that apply to the hospitality industry. The purpose of this course is not to teach you to be-

come an accountant, but to give you an appreciation and knowledge of basic accounting techniques. You learn and use the basic mechanics of accounting as applied to the hospitality industry and how to solve problems related to them. You are trained to understand and be able to explain accounting terminology, and to keep the accounting records of a small hospitality-industry enterprise, including the preparation of financial statements.

Prerequisite: None
Unit: 1.0
Fee: $60

Required Textbook: None

FRONT-OFFICE PROCEDURES

Theoretical training in the major aspects of front-office procedures. Students planning to enter the hospitality field can use this course as a good entry training, while those employed in other aspects of the industry can use it to broaden their employment opportunities. On completion, you should be able to differentiate the types of operations in the Canadian hospitality industry; specify personal and technical skills required of a desk clerk; identify by name and describe the functions of major pieces of front-office equipment; recognize good and bad telephone techniques; describe steps in the reservation, registration, room-assignment, accounting, and cash-handling procedures; understand basic legal aspects of room sales; and recognize emergencies and describe standard procedures for dealing with them.

Prerequisite: None
Unit: 1.0
Fee: $60

Required Textbook: *Basic Front-Office Procedures: A Training Handbook for the Canadian Hospitality Industry*

Renner P.F.R. Training Associates Ltd., 1977. $9.95

TAXATION 1

To provide individuals who have little or no background in Income Tax an opportunity to become familiar with the basics of Canadian Income Tax. Of particular interest to the small business man operating under the form of a limited company, partnership or sole proprietorship. Subjects covered are an overview of the Income Tax Act, Computation of Income, Capital Gains and Losses, and Deferred Income. On completion of the course the individual can expect to have gained a general understanding of Canadian Income Tax and the financial advantage of tax planning.

Cost: $90
Unit: 1.0

Required Textbooks: *Tax Principles to Remember* by Colley G. A., C.A. 1978, C.I.C.A. $18.00

Canadian Income Tax Act with Regulations (1978) CCH Canadian Ltd. $9.50

ENGINEERING

AIR-PHOTO INTERPRETATION

The basic skills of photo interpretation as applied to the aerial photographs of renewable resources, and demonstration and use of the basic tools of photogrammetry. Includes the purpose and use of aerial-photo indexes; types and classification of aerial photography; stereoscopy and stereoscopes; methods of expressing and converting scale; characteristics, geometry, and scale of vertical aerial photographs; the effect of topographic relief on aerial photos; determination of heights on a single air photo; types of parallax; measurement of parallax and differences in elevation; comparative analysis and orientation of the aerial photo with the ground; plotting points from aerial photo to map and vice versa; photo-interpretation keys; tree identification; forest inventories; classification of forest stands on aerial photographs; typing air photos; use of aerial photos in forest-damage assessment; air-photo patterns and land forms analysis; fluvial, locustrine, glacial and glacio-fluvial landforms.

Prerequisite: None
Unit: 1.0
Fee: $100

Required textbook: None

REMEDIAL MATHEMATICS

This course is to refresh your mathematics skills before you begin other BCIT courses, or to provide a mathematics review for general interest purposes. Being remedial in nature, it is for students to whom the materials are not new. Enrolment requires completion of a course similar to Mathematics 11 as taught in Grade 11 secondary schools in B.C., or experience with mathematics at that level. There are no detailed explanations and discussions because the basic purpose is to give students a guided and orderly review of materials they already know, and a lot of exposure to applied thinking.

Covers fundamentals of arithmetic; measurement and approximate numbers, signed numbers, simple equations; introduction to geometry; basic algebraic operations, factoring, fractions, exponents, roots, and radicals; quadratic equations; graphs; simultaneous linear equations; introduction to trigonometry.

Prerequisite: Math 11 or equivalent experience
Unit: None
Fee: $100

Required Textbook: *Introduction to Technical Mathematics,* Washington. Cummings Publishing Co., 1969 $12.95

ALBEGRA 2

Provides a working knowledge of functions and graphs; systems of linear equations; quadratic equations; exponents and radicals; additional types of equations and systems of equations; and equations of a higher degree.

Prerequisite: Math 12 or Remedial Mathematics
Unit: 1.0 (SETBC accredited)
Fee: $75

Required Textbook: *Basic Technical Mathematics with Calculus,* Second Edition, Washington. Cummings Publishing Co., 1970. $15.75

ALGEBRA 3

For students who have completed Algebra 2, but who require additional algebra to transfer to some day-school programs. Includes the study of inequalities, variation, and progressions.

Prerequisite: Algebra 2
Unit: 0.5 (SETBC accredited)
Fee: $40

Required textbook: *Basic Technical Mathematics with Calculus,* Second Edition, Washington. Cummings Publishing Co., 1970. $15.75

CALCULUS 1

An introductory course in calculus and its technical application involving the differentiation and integration of algebraic functions. Covers the concepts of a limit; the slope of a curve; interpretation of the derivative; derivatives of polynomials; derivates of products, quotients, and powers of functions; tangents and normals; curvilinear motion; related rates; using derivatives in curve-sketching; applied maximum and minimum problems; the indefinite and definite integral; area under a curve; trapezpoidal rule; areas and volumes by integration; centroids; and moments of inertia.

Prerequisite: Algebra 2, Trigonometry 2 and Logarithms-Complex Numbers-Analytic Geometry
Unit: 2.0 (SETBC accredited)
Fee: $150

Required Textbook: *Basic Technical Mathematics with Calculus,* Second Edition, Washington. Cummings Publishing Co. 1970. $15.75

CALCULUS 2

Further calculus and technical applications involving differentiation and integration of trigonometric, logarithmic, and exponential functions. Included are conics, power series, partial differentiation, and an introduction to differential equations.

Prerequisite: Calculus 1
Unit: 2.0 (SETBC accredited)
Fee: $150

Required textbook: *Basic Technical Mathematics with Calculus,* Second Edition, Washington. Cummings Publishing Co., 1970. $15.75

LOGARITHMS-COMPLEX NUMBERS-ANALYTIC GEOMETRY

Covers properties of logarithms; graphs of the logarithmic and exponential functions; logarithms to base 10, base e, and others; logarithmic equations; imaginary and complex numbers; graphical representation; polar and exponential forms; application of complex numbers; analytic geometry; straight line; circle parabola; ellipse; hyperbola; translation of axes; the general second-degree equation; polar co-ordinates; and curves in polar co-ordinates.

Prerequisite: Algebra 2
Unit: 1.0 (SETBC accredited)
Fee: $75

Required textbook: *Basic Technical Mathematics With Calculus,* Second Edition, Washington. 1970. Cummings Publishing Co., $15.75

PHYSICS 1

This course, along with Physics 2, provides background knowledge required in the various engineering and related technologies. Includes math review; measurement and data analysis; systems of forces; translational and rotational equilibrium; translational motion; force and motion; work, energy and power; impulse and momentum; rotational motion; harmonic motion; elasticity and strength of materials; fluids at rest and in motion; internal kinetic energy; specific heat and change of phase; heat transfer; and thermodynamics.

Prerequisite: None. Mathematics treatment requires algebra and trigonometry
Unit: 2.0 (SETBC accredited)
Fee: $150

Required textbook: *Elements of Physics, Eighth Edition,* Smith and Cooper. McGraw-Hill, 1972. $18.00

PHYSICS 2

The sequel to Physics 1, this course includes wave motion; sound and light sources; propagation and reflection of light; refraction and dispersion; interference and diffraction; illumination and color; electrostatics; direct current; magnetism; alternating current; electromagnetic spectrum; atomic and nuclear physics.

Prerequisite: Physics 1. Mathematics treatment requires algebra, trigonometry, and possibly some calculus
Unit: 2.0 (SETBC accredited)
Fee: $150

Required textbook: *Elements of Physics, Eighth Edition.* Smith and Cooper. McGraw-Hill, 1972. $18.00

TRIGONOMETRY

A course in the application and theory of functions for students in engineering technologies. Includes the trigonometric functions of any angle; vectors and oblique triangles; graphs of the trigonometric functions; trigonometric identities; compound and double-angle formulas; trigonometric equations; and inverse trigonometric functions.

Prerequisite: Algebra 2
Unit: 1.0 (SETBC accredited)
Fee: $75

Required textbook: *Basic Technical Mathematics with Calculus,* Second Edition, Washington. Cummings Publishing Co., 1970. $15.75

HEALTH

ADVANCED HAEMATOLOGY FOR RTs

Provides Registered Technologists with post-graduate instruction and continuing education. It prepares you for eligibility toward certification for Advanced Registered Technologist. Subjects examined are: haem synthesis, globin synthesis, thalassemia, normal red-cell production and destruction, B_{12} and folic-acid synthesis, megoloblastic anaemias, and red-cell over-production and under-production.

Prerequisite: Registered Technologist (C.S.L.T.)
Unit: 1.0
Fee: $65

Required textbook: *Red Cell,* Harris and Kellermeyer, Harvard University Press, 1974. $10

FORESTRY

BOTANY

The basics of botany as it applies to the forest industry. On completion, you will know why the science of botany is important in the practice of forestry; the structure and function of simple plant forms; how to recognize the structure of woody and herbaceous green plants, and the ecological and economic significance of many of them; the reproductive characteristics and structures of the plant-forms that are economically significant; the botanical classification of plants and its importance to plant

identification; the scientific nomenclature of plants; the three vegetation zonal classification systems in use in B.C.; the application of plant associations in silviculture and ecology; and the assessment of total resources.

Prerequisite: None
Unit: T.B.A.
Fee: $75

Required textbook: None

DENDROLOGY

This course trains you to correctly identify tree species in British Columbia. On completion, you will be equipped to name the species of any tree you are likely to encounter in your work, either from a description of its characteristics, habitat, and range or from the direct examination of the specimen.

Prerequisite: None
Unit: T.B.A.
Fee: $75

Required textbook: *Native Trees of Canada,* Hosie. Information Canada, 1975. $6.

ECOLOGY

A study of the concepts and principles of ecology as they apply to the forest industry. On completion, you will understand the terms and concepts that are basic to the science of ecology. Topics include: physical and biological environments; the individual plant and its environment; the geographical distribution of plants; the structure and classification of plant communities; the nature of ecosystems; terrestrial ecology; ecology and man; and biogeoclimatic zones of B.C.

The course also demonstrates the basic application of ecosystem management as it affects the utilization of forest land, oil, water, and other natural resources, as well as the conservation of plant and animal species.

Prerequisite: None
Unit: T.B.A.
Fee: $75.00

Required textbook: None

SILVICULTURE

An introduction to silviculture as practised in British Columbia. On completion, you will be able to describe a forest site in terms of significant stand characteristics and site productivity; recommend an appropriate method of achieving regeneration; select the diameter classes and species to be cut or reserved; recommend suitable pre-logging and post-logging treatments; recommend appropriate logging methods and equipment; specify the boundaries of a proposed logging site and the approximate size and location of openings required for main hauling roads and landings; recommend special measures for protecting the stand against fire, insects or fungi, for preserving other economic resources on the site, or for utilizing the stand for seed-improvement purposes.

Prerequisite: None
Unit: T.B.A.
Fee: $75

Required Textbook: *Forestry Handbook for British Columbia,* Third Edition
UBC Forestry Club, 1975. $13.65

FIRE MANAGEMENT

Provides the knowledge needed to develop a good managerial skill in the control and use of fire. Covers the principles of combustion and the various factors that affect fire behavior; how to control fire behavior using organizational concepts, methods of attack, and the proper selection and use of fire-control equipment; pre-suppression activities to prepare for fire control; the effects of fire on the environment; and the proper use of managed fire to achieve environmental objectives.

Prerequisite: None
Unit: T.B.A.
Fee: $100

Required textbook: None

FOREST MEASUREMENTS

This course equips you to perform single-tree measurements, stand measurements, prism cutting, direct sampling, scaling, and allowable annual cut.

Prerequisite: None
Unit: T.B.A.
Fee: $100

Required textbook:
None

FOREST SOILS

An introduction to the study of forest soils. On completion, you will have sufficient knowledge of soil science to recognize the characteristics and properties generally included in a description of a forest soil, to read and understand soil survey reports and soil maps, and to classify a forest soil for road engineering or forest management purposes, given its description and classification.

Prerequisite: None
Unit: T.B.A.
Fee: $75

Reqired Textbook: None

SURVEYING

Covers the basic surveying techniques and mechanics that you most likely will encounter and have to apply in forest-service work. Emphasis is on the measurement of horizontal and vertical distances, vertical angles and direction, and methods of proper note-keeping.

Prerequisite: None
Unit: T.B.A.
Fee: $100

Required textbook: None

WOOD TECHNOLOGY

An introduction to the extremely broad and complex field of wood technology. Provides knowledge needed to identify a limited number of woods, given either a sample or a description of the structure and properties of each; to explain in general terms why the properties and characteristics of the woods that you have studied are suitable to certain products and uses; to describe in general terms the effects of natural growth conditions and forest-management practices on the quality of the wood; to determine whether or not a given wood-manufacturing process is likely to make effective use of the raw material; and to describe in general terms how insects, disease, and nastic

borers contribute to wood defects and deterioration.
Prerequisite: None
Unit: T.B.A.
Fee: $75

Required Textbook: *Forest Handbook for British Columbia,* Third Edition UBC Forestry Club, 1975. $13.65

HYDROLOGY

The basic principles of hydrology and how they might be used in forest management. On completion, you will be able to state how the water yield of a forest site is described and evaluated in terms of its consequences on timber and forage resources; describe and assess the potential effects of forest road construction, logging, site preparation and hazard abatement on the quantity, timing, and quality of water yield, as well as on erosion and sedimentation; and describe the use of measures to protect, rehabilitate, or improve a forest watershed.
Prerequisite: None
Unit: T.B.A.
Fee: $75

Required textbook: *Forestry Handbook for British Columbia,* Third Edition. UBC Forestry Club, 1975. $13.65

MATHEMATICS

A basic review of arithmetic, algebra, geometry, and trigonometry. Although none of these are covered in great detail, they are adequately dealt with to provide a good understanding of mathematical fundamentals. Comprehension of these fundamentals provides the sound mathematical background necessary for day-to-day work.
Prerequisite: None
Unit: T.B.A.
Fee: $75

Required textbook: None

METEOROLOGY

This introduction to meteorology provides an understanding of the more common terminology and scientific principles that will enable you to make greater use of weather forecasts, local weather data, and weather-briefing services.
Prerequisite: None
Unit: T.B.A.
Fee: $75

Required textbook: None

PHOTO INTERPRETATION

See description of Air-Photo Interpretation course under Engineering.

RANGE MANAGEMENT

Covers the concepts and principles of rational and conservative use of Crown range resources for domestic grazing. Includes the study of natural limitations and expectations in the use of native range and the importance of maintaining range conditions.
Prerequisite: None
Unit: T.B.A.
Fee: $100

Required textbook: None

HIGHWAYS/CIVIL

BRIDGE MAINTENANCE 1

This course on the construction and maintenance of bridges provides the knowledge needed to function as a bridgeman for the Ministry of Highways. Includes terminology, safety and rigging, steam channels, timber structures, steel and concrete bridges, deck joints, and railings.
Prerequisite: None
MOH credit: 1.0
B.C.I.T. unit: T.B.A.
Fee: $100

Required textbook: None

COMMUNICATIONS 1

A course on improving oral communications and personnel relations on the job. On completion, you will be able to define and state the factors contributing to effective communication, as well as the causes of communication breakdown; describe and understand the reasons for employee communication; communicate effectively with supervisors and fellow workmen, and by telephone and radio; and conduct meetings, group briefings, and interviews.
Note Communications 2 course is under development.
Prerequisite: None
MOH credit: 1.0
B.C.I.T. unit: T.B.A.
Fee: $100

Required textbook: None

DRAINAGE 1

Covers the concepts and principles of good drainage practices. Includes a thorough review of the impact and effects of drainage in all phases of highway work through discussion of the need for proper drainage. Also covers introductory hydrology, types of drains and culverts, basic drainage methods, and the maintenance of drainage systems.
Prerequisite: None
MOH credit: 1.0
BCIT unit: T.B.A.
Fee: $115

Required textbook: None

GEOLOGY AND SOILS 1

Provides background knowledge of the basic concepts of geology and emphasizes the need for soil study. On completion, you will be able to recognize the need for soil study; identify basic rock forms and basic soils; describe basic land forms and the motive formation; carry out the sieve analysis; and identify Ministry of Highways map symbols.
Prerequisite: None
MOH credit: 2.0
BCIT unit: T.B.A.
Fee: $150

Required textbook: None

SURVEY 1

This introductory course in surveying provides a good working knowledge of chainage, horizontal and vertical measurement, crosssections, measurement of angles, simple traverse, simple

curve, spiral curve, crown and super-elevation, and right-of-way.

MOH credit: 2.0
BCIT unit: T.B.A.
Fee: $100

Required textbook: None

TECHNICAL MATHEMATICS 2

For students who require additional mathematics to assist them in their day-to-day work. Includes algebra, geometry, logarithms, trigonometry, and analytic geometry.

Prerequisite: None
MOH credit: 2.0
BCIT unit: T.B.A.
Fee: $55

Required textbook: None

DIRECTED STUDY COURSES UNDER DEVELOPMENT AND REVISION

Enquire about the progress we are making with these new and revised courses. We welcome your suggestions to assist us in assessing course needs.

UNDER DEVELOPMENT

Business

Law of Local Government
Taxation 1
Financial Management
Statistics
Principles of Law

Engineering

Survey 2
Bridge Maintenance 2
Technical Report Writing

Health

Immunology for RTs

UNDER REVISION

Business

Economics
Decision Making

Health

Advanced Haematology

CERTIFICATE COURSE EQUIVALENCIES AVAILABLE BY CORRESPONDENCE

CONTINUING EDUCATION (Part-Time Courses)		DIRECTED STUDY CENTRE (Correspondence Courses)
BUSINESS		
10.131/232	Management in Industry 1 and 2	Principles of Administration
10.135/235	Economics 1 and 2	Principles of Economics
10.908	Problem-Solving and Decision-Making	Decision-Making
16.904	Accounting for the Manager	Accounting for the Office Manager 1 and 2
16.912	Taxation	Taxation 1
18.103	Front-Office Procedures	Hotel-Motel Front-Office Procedures
18.313	Food and Beverage Cost Control	Food and Beverage Cost Control
ENGINEERING		
45.106/206	Phote Interpretation and Mapping	Air-Photo Interpretation
32.950	Math Pre-Entry	Remedial Math
32.901	Math Algebra 2	Algebra 2
32.902	Math Logarithms and Analytic Geometry	Logarithms, Complex Numbers, and Analytic Geometry
32.505/605	Math Calculus 1	Calculus 1
32.506/606	Math Calculus 2	Calculus 2

CORRESPONDENCE TRAINING PROGRAMS

The Directed Study Centre administers correspondence training programs for Ministry of Highways and B.C. Forest Service personnel.

Most of the courses listed below are available to the general public and are described in the main body of the calendar. Those with asterisks are considered as suitable only to the Ministry of Highways program and the B.C. Forest Service IIIB program respectively.

MINISTRY OF HIGHWAYS
Aerial Photography*
Photogrammetry*
Basic Accounting
Bridge Maintenace
Communications 1
Communications 2 (under development)
Drainage
Geology and Soils 1
Maintenance Management*
Principles of Supervision*
Survey 1
Survey 2 (under development)
Technical Mathematics 1*
Technical Mathematics 2

B.C. FOREST SERVICE
Air-Photo Interpretation
Botany
Business English*
Dendorology
Ecology
Fire Management

Forest Measurements
Forest Soils
Hydrology
Mathematics
Meteorology
Public Speaking*
Range Management
Silviculture
Surveying
Wood Technology

******

SOCIETY OF ENGINEERING TECHNOLOGISTS OF B.C. PRESENT POLICY ON FORESTRY IIIB PROGRAM

The Society of Engineering Technologists of British Columbia offers credit toward certification for graduates of the B.C. Forest School IIIB Program. The society, in co-operation with BCFS and BCIT, is also conducting a full study of the IIIB program to assess its equivalence with programs of BCIT and other institutions.

Certification of Forestry Technicians and Technologists is now administered only by SETBC because the Forest Technologists Association has amalgamated with the society. Discussions are progressing toward amalgamating the Society of B.C. Forest Oficers with SETBC.

For further information contact:

Director of Membership Services

The Society of Engineering Technologists of the Province of British Columbia

203-4400 Dominion Street

Burnaby, B.C. V5G 4G3

Telephone (604) 433-0548

CORRESPONDENCE COURSES AND PROGRAMS AVAILABLE FROM OTHER INSTITUTES OF TECHNOLOGY

NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY

Basic Dental-Assistant Independent Study Program

Dental Practice Asepsis

Medical Genetics for Health-Record Administrators

Statistics for Health-Record Administrators

Survey Methods and Instruments

Traverse Calculations

Please direct enquiries to:

Northern Alberta Institute of Technology Continuing Education

11762-106 Street

Edmonton, Alta T5G 2R1

Telephone: (403) 477-4383

SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY

Power Engineering — Fourth Class

Power Engineering — Third Class

Power Engineering — First Class

Principles of Mathematics

Automatic Controls

Natural Gas Plant Operations

Liquified Petroleum Gas Service Training

Basic Building Operators

Dietary-Aide Training

Please direct enquiries to:

Southern Alberta Institute of Technology Continuing Education,

13101-16th Ave. N.W.

Calgary, Alta T2M 0L4

Telephone: (403) 284-8446

PROGRAM DEVELOPMENT

PROGRAM DEVELOPMENT ADMINISTRATION

William D. Robertson, B.Ed.	Head, Program Development and Directed Study
Fran L. Ashdown	Program Assistant
Terry Field, B.Comm.	Program Developer
Noel J. Haynes, R.P.F.	Program Developer
Derek W. Knox, B.Sc.	Program Developer
Lorna E. Payne, MSc.	Program Developer
W. Mal Sharpe, M.A.	Program Developer
Keith W. Wright	Program Developer
Barbara L. Yeoell	Program Developer
Camille Cloutier	Graphics and Typography
Paula Kent	Manuscript Typist
Lin McDonald	Manuscript Typist

****

Telephone (604) 434-5734, Local 753

THE PROGRAM DEVELOPMENT GROUP

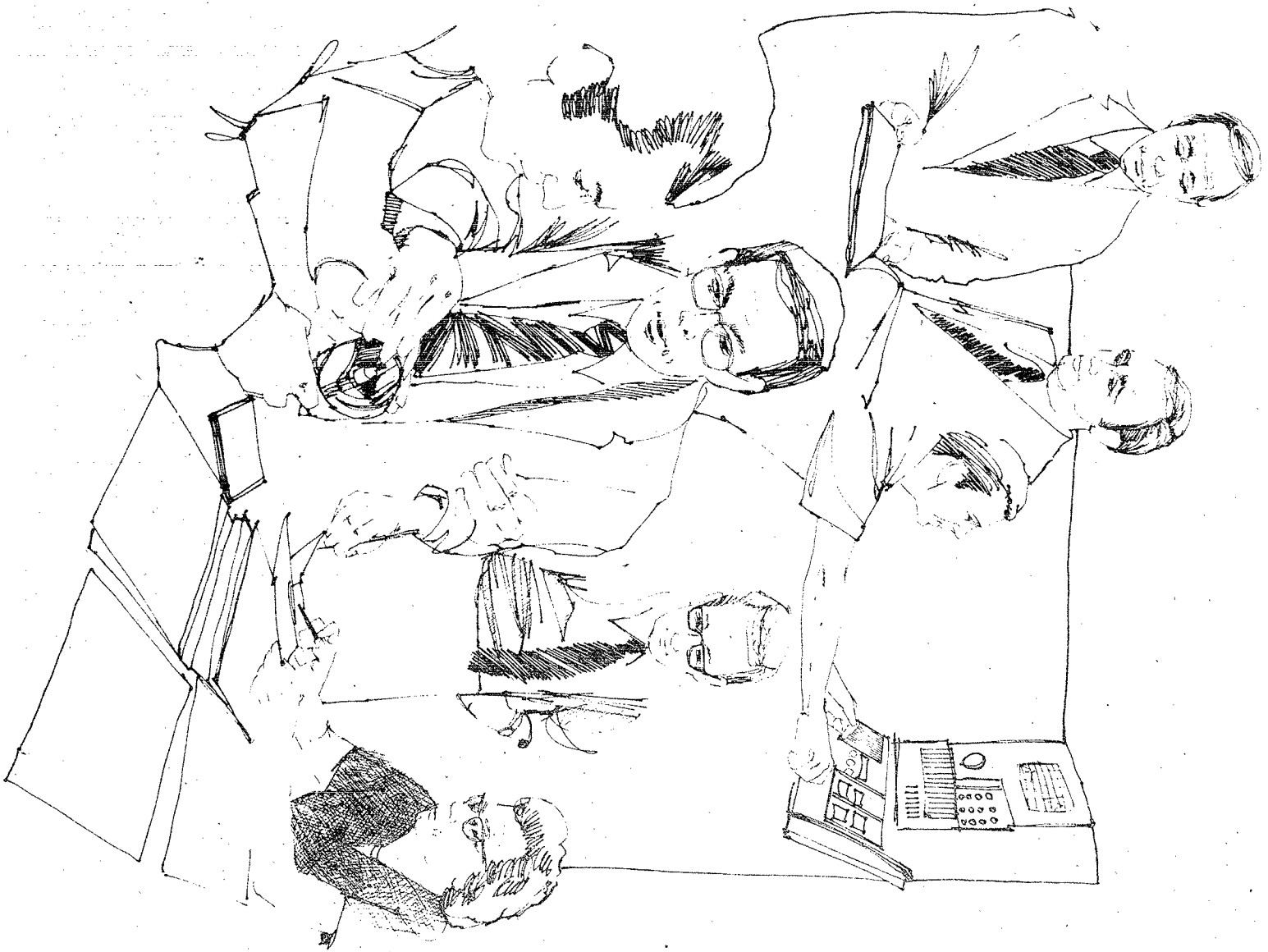
This group is part of the Distance Education Group currently known as the Department of Program Development and Directed Study Centre. Our task is to develop the courses or programs which are then administered by the Directed Study Centre.

We start by researching the needs of those who cannot, or do not want to attend either day or night school in a formal classroom setting. We meet these needs in a variety of ways. We re-design existing day school courses for presentation by correspondence: such courses carry the same B.C.I.T. credit rating as the same courses delivered in the classroom. We also design and develop courses for specific industrial, governmental and business organizations. These courses may be exclusively correspondence or a combination of correspondence and seminars or workshops. Alternatively, we may design courses for presentation on the organization's own premises. These latter courses may be delivered either by B.C.I.T. instructors or the organization's own instructors. In either case, an Instructor's Manual is included with the instructional materials.

As part of the development of courses for specific organizations or industries as a whole, a careful skills analysis is first carried out. This ensures that the course content will be specific to the expressed need which in turn ensures that the successful participant will reach the desired standing of performance.

Instruction has also been given by the tele-conference method, via television and through various regional colleges.

Whatever the method of delivery, the Program Development Group has provided the basis for them all. Of course, our work is not done in isolation from the rest of the Division of C.E. & I.S. nor indeed from the Institute as a whole. Whenever help is needed it is available to us. We draw on the experience, knowledge, and resources of the entire Institute to produce instructional materials that can be used by people in all parts of the province.



INDUSTRY SERVICES

INDUSTRY SERVICES ADMINISTRATION

R. C. (Rob) MacGregor, A.M.S.L.A.E.T., T.Eng.	Head, Industry Services
E. A. (Eric) Morse, B.E., P.Eng.	Assistant Head, Industry Services
S. A. (Steve) Berry, B.Sc.	Training Consultant
H. F. (Bert) Clark	Training Consultant
M. K. (Mike) Dwyer	Training Consultant
A. R. (Art) Hives.	Training Consultant
R. E. (Red) McLaren	Training Consultant
D. (Dave) Roxburgh	Training Consultant
W. R. (Bill) Stuart.	Training Consultant
G. L. (Garry) Walton, Dipl. Tech.	Training Consultant
J. (Jack) McCollum	Training Consultant
A. S. (Gonny) Confectioner, Dipl. Tech.	Clerical Supervisor
J. G. (Ruth) Byers.	Financial Clerk
P. D. (Debbie) Nightingale.	Receptionist

****

Telephone (604) 434-5734, local 737

INDUSTRY SERVICES

BCIT Industry Services is a unique provincial and national employee-training resource for industry. "Industry" here describes the spectrum of the work force, including government agencies, private and public corporations, professional and volunteer organizations, and individuals.

BCIT Industry Services provides a variety of courses and programs throughout Canada in a number of ways. Strong emphasis is placed on joint participation between industry and BCIT in determining training needs and in establishing curriculums to meet those needs.

This highly effective external arm of BCIT has assisted many organizations from B.C. to the Atlantic Provinces; Victoria, Queen Charlotte Islands, Whitehorse, Toronto, and Moncton, N.B. It provides quality classroom experiences wherever a sufficient number of employees require the same training input.

Training and Benefits

Programs and courses are tailored to the needs of your organization, and delivered anywhere in Canada to suit your requirements and unique situation. This results in reduced training costs for you and minimal work-flow interruption.

Training Resources

Industry Services specialists assist you in assessing your training needs, pin-pointing resources required, identifying and developing the necessary course material, co-ordinating course delivery, and following through to ensure maximum effectiveness of the training.

BCIT's highly respected faculty is comprised of experts from industry and government, and acknowledged leaders in varying technologies from educational institutes throughout North America.

Your First Step

Telephone BCIT's Industry Services at (604) 434-5734, local 636, and discuss your training needs with a training consultant. The consultant will then arrange for an in-depth meeting to determine your needs and how we can best help you. If further consultation is required, or a training program is agreed on, a proposal and a contract will be prepared for your consideration.

Industry Services is not a profit enterprise but it does operate on a cost-recovery basis. Your BCIT consultant will provide all the costing and other particulars.

Partial List of Training Programs Co-ordinated through or conducted by BCIT's Industry Services

Executive Team Building
Industrial Ventilation
Recreation Management
Project Management
Management Skills
Electrical Power Distribution
Avalanche Control
Supervisory Skills

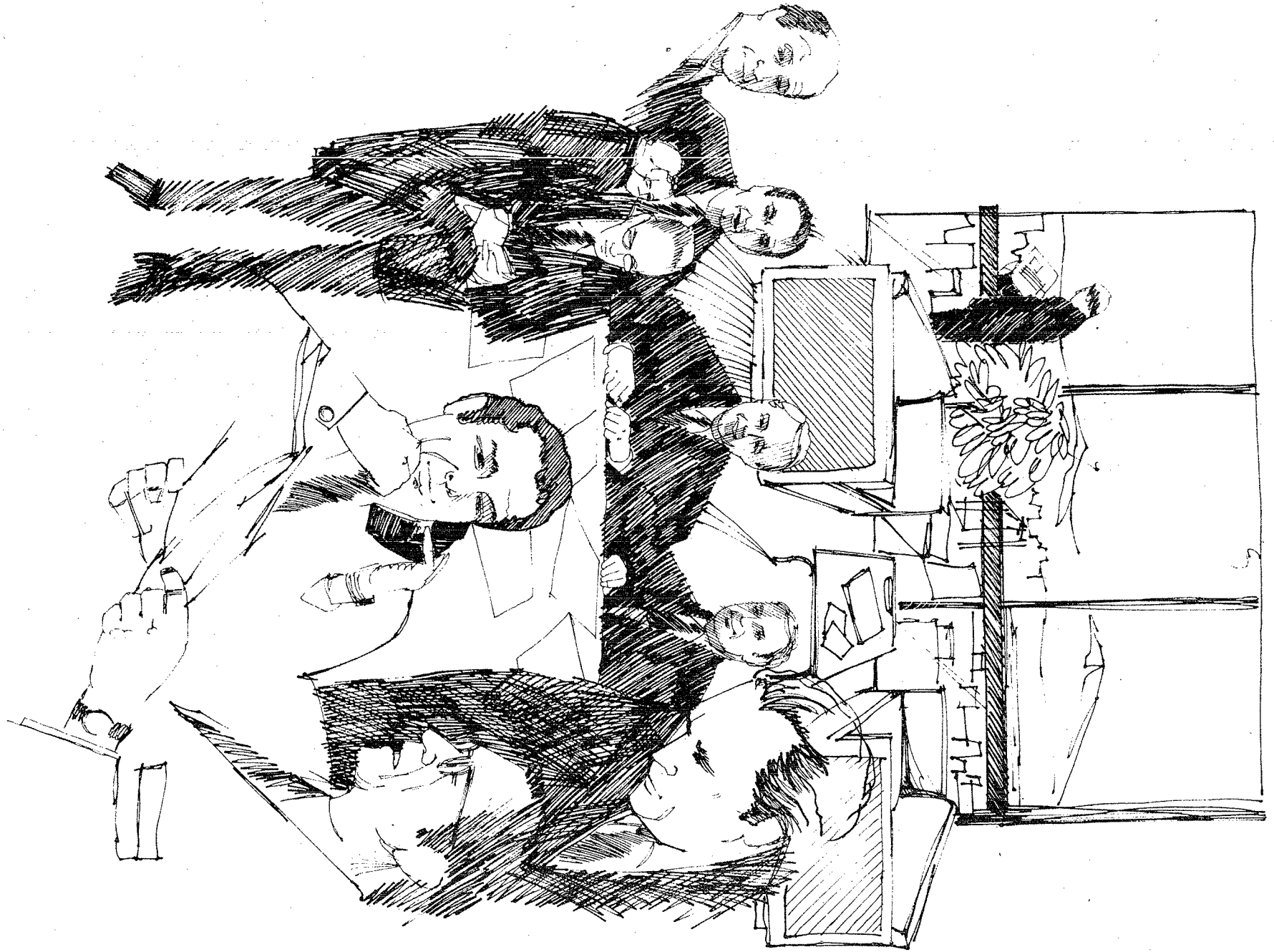
Problem-Solving and Planning
Training Managers Program
Corrosion Control
Selection Interviewing
Air-Photo Interpretation
Media Relations
Surveying
Course Design

Industrial Electronics & Industrial Power Systems
Human Relations
Technical Report Writing
Assertiveness Training
Role Definition
Leadership Skills
Salesmanship
Instructional Techniques
(Basic and Advanced)
Communications Skills
Pulp and Paper Technology
Time Management
Performance Appraisal
Pestology
Work Study
Public Speaking

Industry Services will assist you in fully utilizing the training resources available through BCIT and other training institutions and organizations, as well as in identifying the best programming to meet your employee training needs.

We are extremely flexible in our approach to the development of individual and group training programs and in locating them to your best advantage. Services are provided on the BCIT campus, on your premises, or wherever it is most suitable to you and your employees.

WHEREVER THERE IS A TRAINING NEED BCIT INDUSTRY SERVICES CAN BE THERE



TRAINING AND DEVELOPMENT CENTRE

TRAINING AND DEVELOPMENT CENTRE ADMINISTRATION

Bob Jamieson, B.A. ..... Manager
Katie Heard ..... Clerical Assistant

****

Telephone (604) 434-5734, Local 736

TRAINING AND DEVELOPMENT CENTRE

The Training and Development Centre will be responsible for producing intensive, high quality seminars in the fields of technology, business and management, instructor training and health education. Operating as a department within Continuing Education, its major function will be to present highly visible seminars drawing on the best instructors and seminar leaders in the field. Its market is to all audiences but primarily aimed at the broad-based business and industrial community.

A major objective of the Centre will be to produce a facility within BCIT, which will be highly visible and attractive to the business and industrial community whereby they can attend seminars with access to accommodation (mostly during the summer) in a first-class learning environment.

The programs are designed to meeting the mounting requirements of education institutions and businesses for upgrading of their personnel at all levels in the organization. The seminars at this point, are non-credit and are designed in a practical and pragmatic format. The information presented during these programs is expected to be of immediate value to the participants. The major field for program expansion will be in the business and management sector. Another will be in the technical areas in which BCIT has already established a national reputation.

The following courses are confirmed for the summer of 1979.

Business & Management Programs:

- Salesmanship Development
- Advertising for Small Business
- Profitability in a Small Business
- Introduction to Project Management
- Communication for Production Supervision
- Effective Labour Negotiations
- Salary and Benefits Administration
- Job Evaluation
- Conducting Effective Business Negotiations
- Training Management Part 1

Instructor Training Programs:

- Presidents Role in Planning and Implementing Institutional Change
- Instructional Techniques 1
- Instructional Techniques 2
- Course Design
- Classroom Management
- Audio Visual Presentations
- Designing Effective Instruction

Technical Programs:

- Pulp and Paper Summer Institute
- Basics for Maintainability of Hydraulic Systems
- Printed Circuit Board Repair
- Design of Solar Heating Systems

Other courses will be added as the needs are identified.

For further information contact:

Mr. Bob Jamieson
Training and Development Centre
Division of Continuing Education & Industry Services
B.C. Institute of Technology
Phone: (604) 434-5734, local 736

BOARD OF GOVERNORS

Chairman:
Michael C.D. Hobbs
General Manager, Cominco Limited

First Vice-Chairperson:
Barbara J. Rae, M.B.A.
President, Office Assistance

Second Vice-Chairman:
John E. Leech, Dipl.T, C.E.T.
Society of Engineering Technologists of B.C.

Wayne W. Allen
Senior Executive Vice-President
Bank of B.C.

Dennis Barkman
President and General Manager
Fraser Valley Broadcasters Limited

George T. Bedwell
Surveying Technology, B.C.I.T.

Marcel M. Lowndes
Student
Administrative Management Technology, B.C.I.T.

G. Rex McMeekin, B.Sc. (Chem.Eng.)
Manager, Public and Community Relations
Cominco Limited

Donald B. Rix, M.D., F.R.C.S.(C)
Director of Laboratories
Metropolitan Clinical Laboratories Ltd.

William J. Sheriff, B.Sc., B.A.
Operations Management Technology, B.C.I.T.

George Suart, B.Sc., Hon. B.Sc., M.B.A.
Vice-President Administration
Simon Fraser University

Marie Taylor
Training Manager, B.C. Operations
Simpons-Sears Limited

Paul C. Trussell, Ph.D.
Director, B.C. Research

Hugh B. Weydert
President, International Association of Machinists and Aero Space Workers

Joseph L. Whitehead
President and Publisher
Journal of Commerce

ACADEMIC AND ADMINISTRATIVE PERSONNEL

G.A. Thom, B.Comm., M.B.A., M.Ed., *Principal*

ADMINISTRATION AND FINANCE DIVISION

D.M. Macpherson, C.A., *Vice-Principal Administration and Bursar*

HUMAN RESOURCES DIVISION

J. Dale Michaels, B.A. (Hons.), B.Sc. M.B.A., *Vice-Principal Human Resources*

TECHNOLOGICAL EDUCATION

D.J. Svetic, B.A.Sc., P.Eng., *Vice-Principal Education*
D. Brousson, B.Sc., P.Eng., Dean, Continuing Education and Industry Services
Jos. E. Carver, C.D., B.A., B.L.S., *Dean, Library and Audio-visual Services Division*
B. Gillespie, B.Sc., *M.Sc., Dean, Core Division*
E.M. Iannacone, B.Comm., M.B.A., *Dean, Business Management Division*
G.N. Lloyd, B.Sc., P.T.T., *Dean, Campus Life and Admissions*
J. MacKay, B.Comm., Dipl.H.A., F.A.C.H.A., *Dean, Health Division*
R.C. Mason, B.A.Sc., P.Eng., *Dean, Engineering Division*

DEANS AND DEPARTMENT HEADS

BUSINESS MANAGEMENT DIVISION

E.M. Iannacone, B.Comm., M.B.A., *Dean*

ADMINISTRATIVE MANAGEMENT TECHNOLOGY

R.A. Cradock, B.Comm., M.B.A., R.I.A., *Department Head*

BROADCAST COMMUNICATIONS TECHNOLOGY

F.L. Sanderson, Dipl Ed., B.Th., *Department Head*

COMPUTER PROGRAMMING TECHNOLOGY

F. Senior, B.A. (Hons.), *Acting Department Head*

FINANCIAL MANAGEMENT TECHNOLOGY

P.J. Woolley, B.A., M.A., *Department Head*

HOSPITALITY INDUSTRY MANAGEMENT

R.A. Brett, Dipl.T., *Acting Department Head*

MARKETING MANAGEMENT TECHNOLOGY

G.H. Abbott, B.Comm., M.B.A., *Department Head*

OPERATIONS MANAGEMENT TECHNOLOGY

R.G. Smylie, B.A.Sc., P.Eng., *Department Head*

ENGINEERING DIVISION

R.C. Mason, B.A.Sc., P.Eng., B.C.L. Ass., *Dean*

BIOLOGICAL SCIENCES TECHNOLOGY

R.B. Hyde, B.S.A., M.S., P.A.G., *Department Head*

BUILDING TECHNOLOGY

D.A.D. Hickman, F.R.A.I.C., *Department Head*

CHEMICAL & METALLURGICAL TECHNOLOGY

A.H. Manifold, B.Sc., P.Eng., *Acting Department Head*

CIVIL & STRUCTURAL TECHNOLOGY

R. C. Starr, B.Eng., M.A.Sc., P.Eng., *Acting Department Head*

ELECTRICAL, ELECTRONICS & INSTRUMENTATION TECHNOLOGY

R.E. Ridsdale, P.Eng., *Department Head*

FOREST RESOURCE TECHNOLOGY

H.R. Chisholm, B.A.Sc., P.Eng., *Department Head*

MECHANICAL TECHNOLOGY

S.C. Todd, P.Eng., C.Eng., M.I. Mech E., F.I.E.D., *Department Head*

MINING TECHNOLOGY

A.H. Manifold, B.Sc., P.Eng., *Department Head*

NATURAL GAS AND PETROLEUM TECHNOLOGY

I.M. Anderson, M.I.Gas E., C.Eng., *Acting Department Head*

SURVEYING TECHNOLOGY

R.I. McNeil, B.Surv., B.C.L.S., D.L.S., *Department Head*

DEANS AND DEPARTMENT HEADS

HEALTH DIVISION

J. MacKay, B.Comm., D.H.A., F.A.C.H.A., *Dean*

DEPARTMENT OF BASIC HEALTH SCIENCES

D.W. Martin, B.Sc., (Hons.), M.S.R., *Department Head*

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES

J.M. Pelton, C.P.H.I. (C) B.A., *Department Head*

DEPARTMENT OF HEALTH ENGINEERING SERVICES

A. Ridgway, R.T., F.S.R., *Department Head*

DEPARTMENT OF MEDICAL LABORATORY SERVICES

Mrs. M.J. Blair, B.A., A.R.T., *Department Head*

DEPARTMENT OF GENERAL NURSING

Ms. B.B. Kozier, B.A., B.S.N., M.N., R.N., *Department Head*

DEPARTMENT OF PSYCHIATRIC NURSING

M.S. Neylan, R.N., B.S.M., M.A., *Department Head*

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES

W.E. Noel, R.T. and N., *Department Head*

ACADEMIC CORE DIVISION

B. Gillespie, B.Sc., M.Sc., *Dean*

DEPARTMENT OF CHEMISTRY

C. Barnetson, BSc., *Department Head*

DEPARTMENT OF ENGLISH

H. Arthur, B.A. (Hons.), M.A., *Acting Department Chairperson*

DEPARTMENT OF MATHEMATICS

R.A. Sterne, B.A.Sc., P.Eng., *Department Head*

DEPARTMENT OF PHYSICS

F. Reader, B.A.Sc., P.Eng., *Department Head*

DIVISION OF CONTINUING EDUCATION AND INDUSTRY SERVICES ADMINISTRATION

DEAN'S OFFICE

David Brousson, B.A.Sc., P.Eng. ..... Dean
Nancy Young ..... Secretary to the Dean
Brian Yeoell, C.Eng., M.I.C.E. ..... Co-ordinator, Planning & Development
Eleanor Riches, B.A., A.R.C.T. ..... Co-ordinator, Systems & Special Projects
Don MacLaurin, B.Sc.F., R.P.F. ..... Manager, Marketing & Information

DEPARTMENT HEADS

Stewart McGill ..... Head, Business, Continuing Education
Allan Willcox, B.A.Sc., P. Eng. ..... Head, Engineering & Core Continuing Education
Roy C. Morris, B.A., D.H.A. ..... Head, Health Continuing Education
William D. Robertson, B.Ed. ..... Head, Program Development and Directed Study
R. C. (Rob) MacGregor, A.S.L.A.E.T., T.Eng. ..... Head, Industry Services

CONTINUING EDUCATION GROUP ADMINISTRATION

Nancy Kadonaga ..... Administrative Assistant
May McRobbie ..... Clerical Supervisor
Jeannie Foster ..... Admissions Co-ordinator
Bette Bayley ..... Student Records Co-ordinator
Marnie Baldwin ..... Student Records Assistant
Eva Longman ..... Program Information Supervisor
Debbie Saxby ..... Program Information Assistant
Sandy St. Amand ..... Program Information Clerk

****

Telephone (604) 434-5734, Local 204/205

CE. & I.S. ADVISORY COMMITTEE

Members:	Company and Address
Mr. J. H. (Jack) Carradice *Chairman*	c/o Forest Service Training School 9800 - 140th Street Surrey, B.C. V3T 4M5
Mr. D. (Doug) Deane *Vice-Chairman, Health*	Director of Personnel St. Paul's Hospital 1081 Burrard Street Vancouver, B.C. V6Z 1Y6
Mr. P. W. (Peter) Waddington, P.Eng. *Vice-Chairman, Engineering*	Manager of Engineering Support G.T.E. Lenkurt Electric (Canada) Ltd. 7018 Lougheed Highway Burnaby, B.C. V5A 1W3
Mr. H. B. (Howard) Hedley *Vice-Chairman, Business*	Training Engineer, Outside Plant B.C. Telephone 8th Floor 650 West Georgia St. Vancouver, B.C. V6B 4N8
Mr. N. (Norm) Henderson	Head, Trg. Ind. Section Ind. Trg. Division Employment & Immigration Commission Royal Centre -1055 West Georgia St. P. O. Box 11145 Vancouver, B.C. V6E 2P8
Mr. A. J. (Art) Blakeney	Aluminum Company of Canada Box 1800 Kitimat, B.C.
Mr. R. B. (Ron) Einblau	Manpower Devt. Supervisor Manpower Devt. Dept. B.C. Hydro 6-1045 Howe Street Vancouver, B.C. V6Z 2B1
Mrs. Pat Wadsworth	Executive Director B.C. Health Association 440 Cambie Street Vancouver, B.C. V6B 2N6
Mr. W. A. (Bill) Neill	Manager, Manpower Resources C.P. Air Vancouver International Airport Vancouver, B.C. V7B 1V1
Mr. A. F. (Al) Park	Senior Training & Safety Officer Minister of Highways 940 Blanchard St. 5th Floor Victoria, B.C. V8W 3E6
Mr. W. (Bill) Ecclestone	Director of Personnel Municipality of Surrey 14245-56th Avenue Surrey, B.C. V3W 1J2
Mr. J. E. (John) Leech	Registrar Society of Engineering Technologists #203-4400 Dominion Street Burnaby, B.C. V5G 4G3

Ex-officio Members:

Mr. G. R. (Geoff) Sale, C.E.T.	G.T.E. Lenkurt Electric (Canada) Ltd. Components Quality Control 7018 Lougheed Highway Burnaby, B.C. V5A 1W3

D. Svetic ..... Vice Principal, Technological Education
D. M. Brousson ..... Dean, C.E. & I.S.
B. D. Yeoell ..... Co-ordinator, Planning & Development
D. H. MacLaurin ..... Manager, Marketing & Information
R. Morris ..... Head, Health Continuing Education
L. S. McGill ..... Head, Business Continuing Education
J. A. Willcox ..... Head, Engineering Continuing Education
W. D. Robertson ..... Head, Program Development/Directed Studies
R. C. MacGregor ..... Head, Industry Services

C.E. STUDENT COMMITTEE MEMBERS:

CHAIRMAN; Geoff Sale
Gerald Paul
Wilf Bader
Patrick Muir
Nazmin Zaver
Diane Wedge
Eric Reiter
Jim Murray
Andre Buller
Kathy Yanda
Susan Dumbrell
Carl Westin
Denis Kontonis
Mrs. Bernice Wilson

PROFESSIONAL AGENCIES OF INTEREST TO PART-TIME STUDENTS

THE SOCIETY OF ENGINEERING TECHNOLOGISTS OF BRITISH COLUMBIA

Many engineering technology programs offered by BCIT's Directed Study Centre were developed in co-operation with the Society of Engineering Technologists of British Columbia; therefore full credits are granted toward certification. At press time, accreditation evaluation had not been completed but a full acknowledgement of accredited courses will be made in subsequent editions.

For further details regarding credits toward certification, contact BCIT or SETBC.

SETBC is a professional society registering and certifying technicians and technologists in the engineering, physical, and resource technologies in B.C. Certification with the society is primarily dependent on academic qualifications in accord with national standards; however, credit is granted for extensive experience. A minimum of two years' technological experience is required for certification. Registered Certified Engineering Technicians and Certified Engineering Technologists are recognized in industry by the designation "C.E.T." after their names.

Until the end of 1977, SETBC was certifying at three levels, including that of Senior Engineering Technician. Commencing January 1, 1978, the society began certifying only at the Technician and Technological levels. To provide a reasonable transition from the three-level to the two-level certification system, the following schedule of academic requirements for certification at the Engineering Technician level has been established:

ACADEMICS REQUIRED FOR TECHNICIAN CERTIFICATION

Applications Post-Marked	SETBC Exams	Hours	BCIT Units
Jan. 1, 1979-Dec. 31, 1979	9	650	18
Jan. 1, 1980-Dec. 31, 1980	10	720	20
Jan. 1, 1981-Dec. 31, 1981	11	790	22
Jan. 1, 1982	12	850	26

ACADEMICS REQUIRED FOR TECHNOLOGIST CERTIFICATION

The academic requirement at the Technologist level is a Diploma of Technology, or equivalent, unchanged from the former system.

The requirement for reclassification from the Technician to the Technologist level will be established by the SETBC Board of Examiners based on the date of application according to the above schedule. Persons not qualified at the Technician or Technologist level are encouraged to join as Associate Members.

For further details, write to SETBC for a copy of their Two-Level Certification Policy dated December 1, 1977.

In evaluating an application for membership and certification, the SETBC Board of Examiners, which comprises Certified Engineering Technologists and Professional Engineers, also takes into consideration career training other than that received at BCIT, including foreign qualifications.

The Board of Examiners is responsible for recommending certification levels and providing the applicant with a program of studies required to progress to the next certification level. The Board therefore recommends that to ensure the fullest credit toward certification an application be submitted to the society before you commence your studies. Please note that the processing of applications generally takes four months.

The society is incorporated under the Societies Act of British Columbia. Briefly, its objectives are:

To provide formal recognition in the form of certification for Engineering Technologists and Engineering Technicians in B.C.

To provide a controlled, qualified, and responsible body of Certified Engineering Technologists and Engineering Technicians, thus obtaining recognition of the profession in industry.

To act as the vehicle whereby its members may increase their knowledge of skills in appropriate technologies.

To offer placement and education services, technical literature, special group insurance and other group benefits inherent in all such organizations.

In accordance with these general objectives, the society is actively representing technicians and technologists in B.C. Its activities include the promotion of technological programs offered by BCIT's Division of Continuing Education and Industry Services and other educational training institutes; the presentation of briefs leading to the development of directed study courses in engineering technology, including a program to aid the technologist in becoming an engineer; the development of an accreditation program to aid in the maintenance of the highest educational standard; and most recently, working toward appropriate recognition in law for its members.

Persons interested in the society should write to: Director of Membership Services, The Society of Engineering Technologists of the Province of British Columbia, 203-4400 Dominion St., Burnaby, B.C., V5G 4G3 or telephone (604) 433-0548.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF BRITISH COLUMBIA

The Association of Professional Engineers of British Columbia has a formal examination system leading to registration for students who, after careful consideration and investigation, find they cannot attend university. It should be stressed that this programme of Association examinations is not an easy way to qualify academically as a professional engineer. The programme comprises about 25 examinations, which cover approximately the same material as a four-year engineering course at a university. To complete the whole programme a candidate would require years of home study.

The Association does not offer courses to prepare candidates for these examinations. Some courses offered at the British Columbia Institute of Technology provide one method of assisting students to prepare for the examinations. However, the student should note that the diploma courses at BCIT were not designed specifically for this purpose. A student embarking on the Association's examination program should seek advice from the Association of Professional Engineers to ensure that a course taken at BCIT will provide a reasonable amount of assistance in studying for a course in the Association's syllabus. The syllabus contains course outlines, so that comparison of content may be made with the content of BCIT courses.

INQUIRIES:

The Association of Professional Engineers of British Columbia
2210 West 12th Avenue, Vancouver, B.C. V6K 2N6
Telephone: 736-9808

ASSOCIATION OF BRITISH COLUMBIA PROFESSIONAL FORESTERS

Arrangements exist whereby students may prepare themselve to become Professional Foresters, in part through courses at B.C.I.T. Interested students are advised to contact the:

Association of B.C. Professional Foresters
Suite 406, 837 West Hastings Street
Vancouver, B.C. V6C 1B6
Telephone: 687-8027

The Association of British Columbia Professional Foresters was founded in 1947 under enabling legislation entitled the British Columbia Foresters Act, April 3, 1947. The act was revised subsequently and the Association now operates under authority of the British Columbia Professional Foresters Act— 1970 and the Association's by-laws which were amended in January, 1975 and again in January, 1977.

Some of the requirements for registration include appropriate academic qualifications, a minimum of four years of acceptable forestry experience in the opinion of the Board of Examiners, Canadian citizenship or landed immigrant status, and references from at least three Registered Professional Foresters. Also, pupils are required to submit the name of one R.P.F. as a sponsor. All applicants for registration are required to write a special examination on the "Policy and Administration of B.C. Forest Resources". Pupils are also required to submit a "Professional Report" as described in Appendix 4.

Briefly, the objectives of the Association are as follows:

To ensure that the forests of British Columbia are managed by professionally qualified foresters.

To promote those policies of integrated use of forest land for timber production, recreation, wildlife and water management which ultimately provide the greatest social and economic returns to society.

To advise the public and government of implications of policies affecting uses of forest land.

To date, the Association's objectives have been implemented in various ways, including the submission of recommendations to appropriate authorities on numerous topics such as inventories, protection, timber management, water management, fish and wildlife management, range management, forest research, forest taxation, and forest education.

THE CERTIFIED GENERAL ACCOUNTANTS' ASSOCIATION OF BRITISH COLUMBIA

The Certified General Accountants' Association of British Columbia offers a programme of studies leading to the professional designation, "Certified General Accountants" (C.G.A.)

The Association will recognize for credit toward completion of the C.G.A. programme day courses at BCIT which have a content substantially similar to courses in the C.G.A. programme. Students must obtain a grade of 65 per cent or better exemptions will be granted.

Courses offered in the evening by the Division of Continuing Education & Industry Services will also be considered for exemption where they are essentially equivalent to the day courses listed below.

The following courses have been accepted for transfer credit:

BCIT EXEMPTION SCHEDULE

C.G.A.	BCIT Day	BCIT Div. of Continuing Education and Industry Services
Accounting 101	16.140/240	16.140/240
Accounting 221	16.347/447	16.347/447
Math of Finance202	22.110	22.100
	22.116	
	22.118	
	22.120	
Statistics 203	22.210	22.535/635
	22.214	
	22.216	
	22.220	
Accounting 311	16.341/441	16.341/441
Economics 304	10.135/235	10.135/235
	10.137/237	
	10.138/238	
	10.139/239	
	10.234/334	
I.C.S. 325	14.050/052/270	14.050/052/505/605
Finance 516	16.361/461	16.361/461
Grade of 65%		

Students who wish to present courses other than those listed above should consult the Association. Applicants for registration must meet all requirements of the Association in order to be accepted into the C.G.A. programme.

For further information, please contact:

The Certified General Accounts' Association of British Columbia
1555 West 8th Avenue
Vancouver, B.C. V6J 1T5
Telephone: 732-1211

THE INSTITUTE OF ACCREDITED PUBLIC ACCOUNTANTS OF B.C.

The Institute of Accredited Public Accountants of British Columbia has advised the British Columbia Institute of Technology that it is pleased to establish the course equivalencies as listed below. The Accredited Public Accountants are found in the business community as practitioners, accountants, comptrollers, internal auditors, tax department auditors and business educators.

Students who are interested in the A.P.A. program should contact the Education Director, the Institute of Accredited Public Accountants of British Columbia, 2367 West 45th Avenue, Vancouver, B.C. V6M 2J5 or phone 684-1838

A.P.A.	B.C.I.T. Day	Div. of Continuing Education & Industry Services
Introductory Accounting	16.140	16.140/240
Commercial Law	10.360/460	10.360/460
Financial Accounting	16.347/447	16.347/447
Auditing	16.346/446	16.346 16.606
Cost Accounting	16.341/441	16.341/441
Financial Management	16.361	16.361/461
Introduction to Computers	14.050	14.050
Taxation	16.450	16.912/16.913
Economics	10.137/237	10.135/235
Business Communications	31.116/216	31.912 31.920
Organizational Behavior	10.380	10.906
Information Systems	14.052/053	14.052 14.923

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF BRITISH COLUMBIA

The Institute of Chartered Accountants of British Columbia has advised the British Columbia Institute of Technology that it will accept certain courses given by the British Columbia Institute of Technology, as noted below, as meeting the course requirements as indicated, provided a student meets the other prerequisites and requirements and is acceptable to the Institute of Chartered Accountants.

Students who are interested in the Institute of Chartered Accountants of British Columbia should contact the Registrar, 562 Burrard Street, Vancouver, B.C. V6C 2K8.

C.A. Courses	BCIT Day	BCIT Div. of Continuing Education and Industry Services
Financial Accounting (to Int. Level)	16.140/240+ 16.140/240	16.140/240+ 16.347/447
Economics	10.135+ 10.235	10.135+ 10.235
Computers in Business	14.050+ 14.052	14.050+ 14.052
Statistics	22.216	22.535+
Business Application of Mathematics	14.409 *or* 22.300 *or* 22.314	22.635 22.963
Management and Cost Accounting	16.341+ 16.441	16.341+ 16.441
Financial Management	16.361+ 16.461	16.361+ 16.461
Commercial Law	16.360+ 16.460	10.360+ 10.460
Organizational Behaviour	10.380	10.906
Policy and Administration	10.434	

THE SOCIETY OF MANAGEMENT ACCOUNTANTS OF BRITISH COLUBIA

The Society of Management Accountants of British Columbia has advised the British Columbia Institute of Technology that it will accept certain courses given by the British Columbia Institute of Technology, noted below, as meeting the course requirements as indicated, provided a student meets the other prerequisite and requirements and is acceptable to the Society of Management Accountants.

Students who are interested in the R.I.A. programme should contact the Society for full particulars at 687-5891 or write to them at 401-750 West Pender Street, Vancouver, B.C. V6C 2T7.

R.I.A. Course No. Description	B.C.I.T. Day	Div. of Continuing Education & Industry Services
11. Principles of Accounting	16.140/240 *or*	16.140/240 16.140/16.240
12. Economics	10.135/235 *or* 10.137/237 *or* 10.138/238 *or* 10.139/239	10.135/235
14. Data Processing	14.050/052 *or* 14.160/170/260/270	14.050/052 *or* 923
15. Business Mathematics	22.110 *or* 22.114 *or* 22.116 *or* 22.118 *or* 22.120 *or* 22.100	22.100
21. Accounting Theory	16.347/447	16.347/447
22. Commercial Law	10.360/460	10.360/460
23. Organizational Behaviour	10.221/231 *or* 20.381, 10.321 *or* 20.483, 10.321	10.221/321
24. Taxation	16.450	16.912/913
31. Cost Accounting	16.341/441	16.341/441
32. Quantitative Methods I	22.220 *or* 22.210 *or* 22.214 *or* 22.2.6 *or* 22.218	22.535/635
33. Quantitative Methods II	22.300, 22.400 *or* 14.306/409	22.535/635 and 22.963
41. Management Accounting	No exemption	No exemption
42. Finance	16.361/461	16.361/461
43. Selected Topics	No exemption	No exemption
51. Information Systems	Graduation in Systems Option	No exemption
52. Operational Auditing	No exemption	No exemption
53. Management Processes	No exemption	No exemption

THE MUNICIPAL ADMINISTRATION EDUCATION COUNCIL OF B.C.

The Council has approved a course of studies in municipal administration which is designed to improve the competence of persons working in the field and others who are seeking such employment. Successful completion of the Municipal Administration Training Programme will insure that the student has fulfilled the academic requirements for accreditation by the B.C. Municipal Board of Examiners. However, a period of not less than four years practical experience in the field is also required before the Board will consider the granting of this certification.

The Council has designated B.C.I.T. as the principal educational institution to develop and present the courses required in the Municipal Administration Training Programme and these are available as follows:

MAEC COURSES	B.C.I.T. EQUIVALENTS		
	Directed Studies	Division of Continuing Education	Day School
Canadian Local Gov't.	—	Canadian Local Gov't. #10.956	—
Economic Theory	Principles of Ec.	Economics I & 2 10.135/235 Concepts of Economics	Economics I & 2 10.135/235
Municipal Law	—	Municipal Law 10.957	—
Principles of Accounting	Acc'tg. for Office Managers	Acc'tg. for the Manager 16.904 or Acc'tg. I & 2 16.140/240	Acc'tg. 16.140/240
Finance & Stat.	—	Public Financial Administration 16.350	Finance 16.361
Admin. Practice & Techniques	Principles of Administration	Mgmt. in Industry I & 2 10.131/232	Mgmt. in Industry 10.133 Admin. Practice 10.233
Organization & Human Behavior	—	Mgmt. Psych. I 10.221 and Organizational Behavior 10.906	Psych. in Mgmt. I 10.221 and Organizational Behavior 10.285
Elements of Personnel Mgmt.	—	Personnel Mgmt. 10.910	Personnel Admin. 10.370/470
Labour Relations & Contract Admin.	—	Labour Relations I & 2 10.325/425	Indust. Relations I & 2 10.325/425
Office Systems & Procedures	—		Office Sys. & Procedures 14.196 or 14.296
Data Processing	—	Data Proc. — Introduction 14.050	Intro. to Data Processing 14.050
Decision Making	Decision Making	Problem Solving & Decision Mkg. 10.908 or Work Study I 22.941	—
Communications	—	Business & Technical	Communications
Report Writing & Public Relations	Correspondence	Correspondence 31.910	31.101/201
		or Business Report Writing 31.912	or 31.102/202
Supervisory Skills & Leadership	—	Supervisory Skills 10.904	—

For further information contact:

Directed Studies Centre,
B.C. Institute of Technology,
3700 Willingdon Avenue,
Burnaby, B.C.
V5G 3H2
Telephone: 434-5734, Local 648

THE CANADIAN INSTITUTE OF MANAGEMENT

Students meeting the admission requirements of, and becoming members of, the Canadian Institute of Management may complete all four years of the C.I.M. certificate course in Management and Administration through courses offered in cooperation with the Division of Continuing Education & Industry Services. This course is suited to men and women for whom a University degree is not feasible. The C.I.M. course provides participants with a broad understanding of the major disciplines of management science and how they inter-relate. The personal contact with other practicing managers having a variety of business backgrounds will be of value in developing solutions for some of the student's own business situations.

The method of instruction employs both lectures and case discussions, thus affording the student the valuable experience of expressing his opinions to other class members through open discussion of assigned problems.

Entry into year 4 is permitted only after completion of the requirements for years 1, 2, and 3.

As the identical course is offered in twenty-three course centres across Canada, students may transfer, either temporarily or permanently, to another course centre at no additional charge for the current year. Student members of C.I.M. are encouraged to take part in various Vancouver branch activities and will receive our National publication "The Canadian Manager" as well as local newsletters.

Admission requirements for student members: Generally speaking the following criteria will fulfill C.I.M. admission requirements:

1. Candidates must have Grade 12 education (or equivalent) with a minimum age of 24 years and a minimum of 2 years supervisory experience or 4 years staff experience.

OR

2. Higher than Grade 12 level of formal education— be at least 23 years old— have a minimum of at least 2 years of supervisory experience or 4 years of staff experience.

OR

3. Community College in Management Sciences, be at least 22 years old and no supervisory experience required.

OR

4. University Graduate, immediately upon graduation with no experience required.

For further information please contact:

The Canadian Institute of Management
Suite 315
470 Granville Street
Vancouver, B.C. V6C 1V5
Phone: 689-9819

PURCHASING MANAGEMENT ASSOCIATION OF CANADA

The Purchasing Management Association of Canada assists members to develop their skills in the purchasing profession. Membership is open to qualified people in purchasing and related fields.

Following are the requisites for achieving the Professional Purchaser diploma:

(a) Registration with PMAC before December 31, 1982
(b) Principles of Buying course
(c) Inventory and Production Planning course
(e) Twelve PMAC seminar credits
(f) Management studies courses
(g) Five years of practical experience
(h) Board of Examiners interview
(i) Professional Purchaser diploma

BCIT co-operates with the B.C. District of the PMAC in presenting the following Management Studies courses approved by the association for credit:

MANAGEMENT STUDIES

22.941/942	Work Study 1 and 2
20.180/280	Marketing 1 and 2
10.905	Managerial Styles
10.221	Management Psychology 1
10.906	Organizational Behavior
10.924	Management by Objectives
16.140/240	Accounting 1 and 2
16.443	Management Accounting

The four-year Canadian Institute Program listed in this calendar also is accepted as credit for the Management Studies portion of the diploma program.

For information on PMAC, phone or write to:

L. R. Davidson,
P.P., Chairman, Professional Development,
Purchasing Management Association of Canada,
640 West Broadway,
Vancouver, B.C. V5Z 1G4
Telephone: 683-6811.

For information on BCIT courses, phone or write to:

The Division of Continuing Education and Industry Services,
British Columbia Institute of Technology,
3700 Willingdon Ave.,
Burnaby, B.C. V5G 3H2,
Telephone: 434-5734, Local 204 or 205.

THE INSTITUTE OF CHARTERED SECRETARIES AND ADMINISTRATORS

The Institute of Chartered Secretaries and Administrators with a global membership of over 50,000 is the leading professional body of administration executives recognized in the English-speaking world.

B.C.I.T. is pleased to cooperate with this successful organization in enrolling students to follow a programme leading to B.C.I.T. Certification and subsequently through completion of further I.C.S.A. directed studies to attain professional designation.

There are two classes of membership, Associate and Fellow. Members are entitled to describe themselves as Chartered Secretaries and to use the designation A.C.I.S. or F.C.I.S. To qualify as a member it is mandatory to pass prescribed examinations and to have appropriate practical experience. A brochure is available showing the B.C.I.T. courses which are accepted as I.C.S.A. equivalents. Ask B.C.I.T. for a copy if you are interested, 434-5734, locals 204 or 205.

No I.C.S.A. registration is required but those intending to follow the I.C.S.A. programme should pre-register with I.C.S.A. before taking B.C.I.T. courses.

B.C. Branch Office: Suite No. 1
650 Clyde Avenue
West Vancouver, B.C. V7J 1E2
Telephone: 922-0535

THE CORPORATION OF LAND SURVEYORS OF THE PROVINCE OF BRITISH COLUMBIA

The Corporation of Land Surveyors of British Columbia is the controlling agency for professional land surveyors within the province and has a board of examiners that set formal examinations for entry into the profession.

There are three main approaches to becoming a professional land surveyor, each of which requires grade 12 standard as a prerequisite. They are:

1. Pass the corporation's preliminary examinations, become articled to a B.C. land surveyor for four years and pass the corporation's intermediate and final examinations.
2. Graduate from BCIT, or an equivalent institute, become articled to a B.C. land surveyor for three years and pass the corporation's intermediate and final examinations.
3. Graduate with a bachelor's degree in civil engineering, or the equivalent, from a recognized university, then become articled for two years and pass the corporation's intermediate and final examinations.

The corporation does not offer courses to prepare candidates for these examinations.

Some of these courses at BCIT are designed to enable candidates to take these examinations, while others prepare candidates for them.

Enquire about B.C. land surveyor examinations and courses from:

The Corporation of Land Surveyors of the Province of B.C.
101-655 Douglas Street
Victoria, B.C. V8V 2P9
Telephone: 382-4323

THE CANADIAN INSTITUTE OF QUANTITY SURVEYORS

The Canadian Institute of Quantity Surveyors has an academic program comprising 22 separate subjects. Credit may be obtained as follows:

1. Graduates from the full-time day school Building Technology Course (Economics Major) at BCIT receive credit for 13 of the 22 subjects. Candidates for these 13 subjects may arrange to attend BCIT day school if there is space in the program.
2. Credit will be granted for seven of the remaining nine subjects for successful completion of evening courses through the Division of Continuing Education and Industry Services.
3. Preparatory courses for writing the CIOS final examination for the remaining two subjects are also held in the evening by the Division of Continuing Education and Industry Services.

Before signing for any subjects at BCIT, you must obtain approval of prospective credit from:

The Chairman, Education Committee
Quantity Surveyors Society of B.C.
1250 Homer Street
Vancouver, B.C. V6B 2Y5
Telephone: 681-0296

THE ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA

The Architectural Institute of British Columbia, in association with the Royal Architectural Institute of Canada, has an apprenticeship system generally referred to as the Syllabus of Studies Program. This program lists 22 examinations or submissions for completion, and BCIT day school graduates received credit for 11 of these when entering the program.

Consequently, other students in the Syllabus of Studies Programs may claim credit for any of the same 11 subjects and take them through the Division of Continuing Education and Industry Services in either day school or night school classes. The Syllabus of Studies Program is being reviewed and should be determined shortly.

Before signing for any subjects at BCIT, you must obtain approval of prospective credit from:

The Co-ordinator, Syllabus of Studies Program
Royal Architectural Institute of Canada
Second Floor, 448 Seymour Street
Vancouver, B.C. V6B 3H3
Telephone: 669-9830

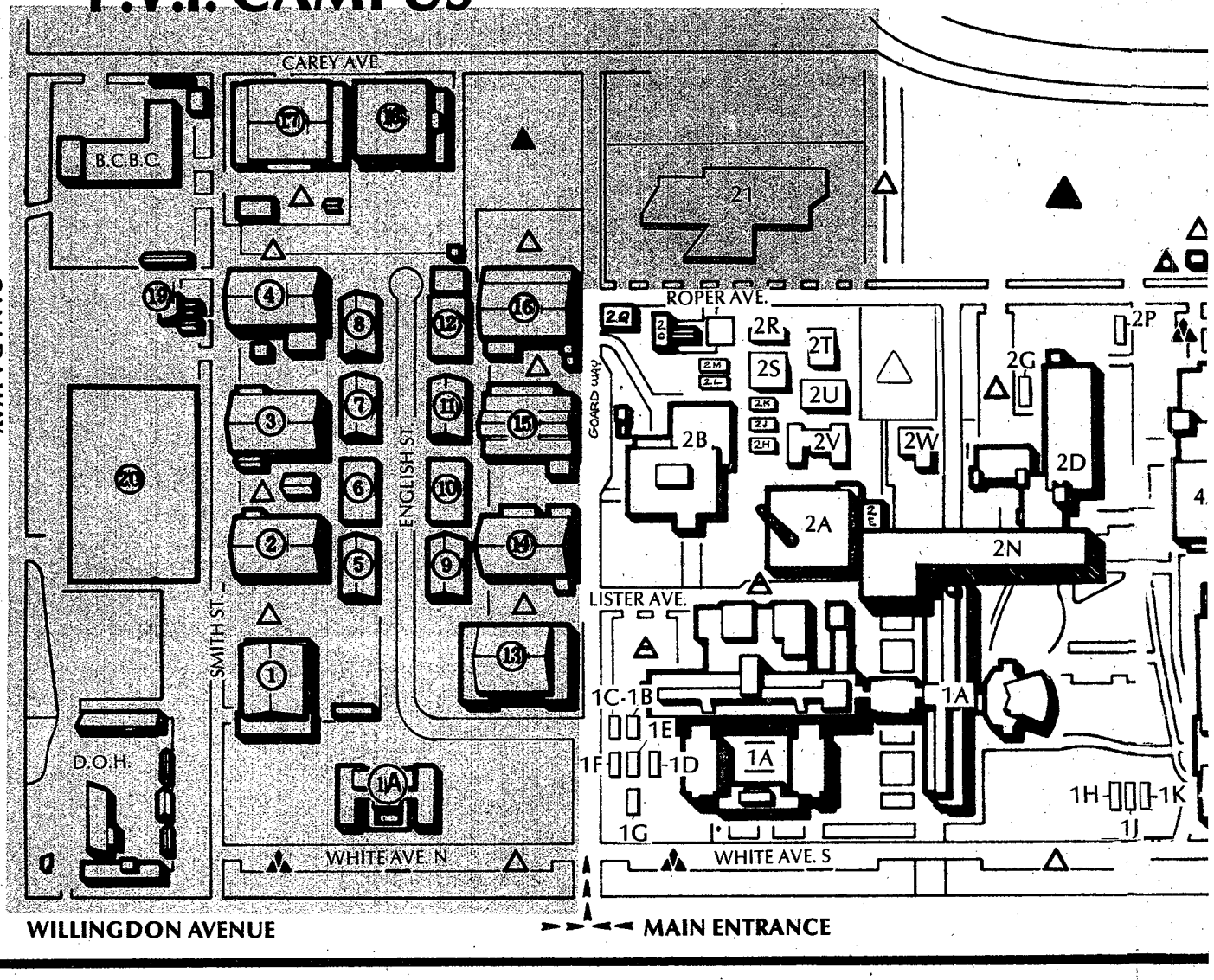
NOTES

NOTES

NOTES

NOTES

P.V.I. CAMPUS



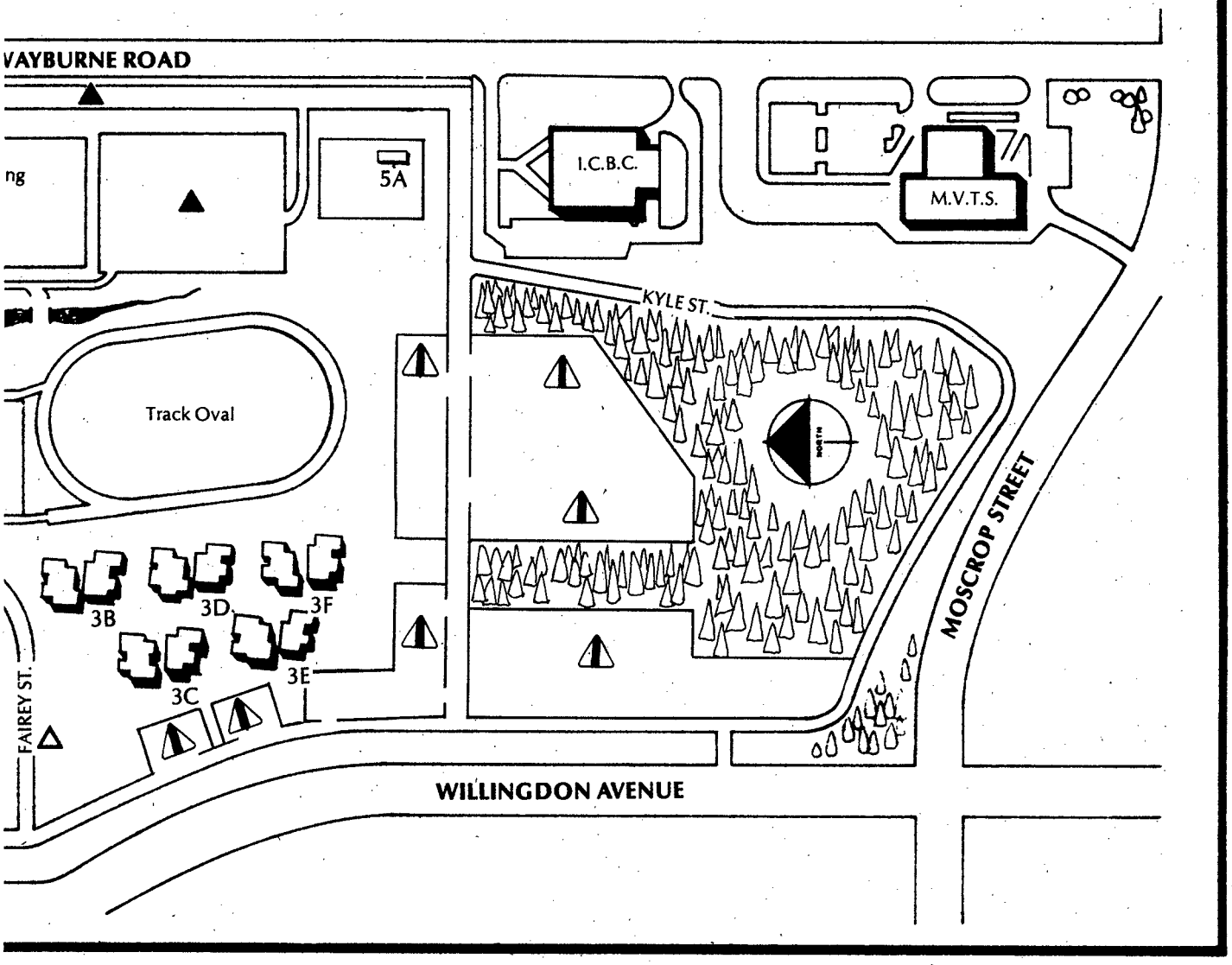
PVI CAMPUS

Building No.
- **1A** Vocational Administration
- **1** Aircraft Maintenance
- **2** Boat Building/Benchwork & Joinery
- **3** Carpentry/Glaziers
- **4** Plumbing/Sheet Metal Steamfitting
- **5** Classrooms
- **6** Classroom
- **7** Classroom
- **8** Industrial Instrumentation
- **9** Classroom
- **10** Classrooms
- **11** Classrooms
- **12** Classrooms
- **13** Machine Shop
- **14** Welding
- **15** Automotive Mechanics
- **16** Heavy Duty Mechanics
- **17** Trowel Trades/Painting/Decorating/Sign Painting
- **18** Ironworkers/Steel Fabrication/Boilermakers
- **19** Practical Horticulture
- **20** Multi-Discipline
- **21** Electrical Trades
  BTSD Electronics Sheet Metal Millwright Drafting Business Careers Appliance Repair Building Service Work

BCIT CAMPUS

- **1A** 1962/67 Classroom/Laboratory; Administration; Contin Education
- **1B** Continuing Education
- **1C** Continuing Education
- **1D** Financial Aid
- **1E** Information Services; Mathematics
- **1F** Mathematics
- **1G** Industry Services
- **1H** Nursing
- **1J** Psychiatric Nursing
- **1K** RN & RPN Administrati
- **2A** Mechanical
- **2B** Food Services and Train
- **2C** Greenhouse; Animal Holding
- **2D** Library; A/V; PEMC
- **2E** Telephone Exchange
- **2F** Electrical Sub-station
- **2G** PEMC

— BCIT CAMPUS



Program Development
Directed Study Centre
Food Services
Food Services
Food Training; PVI
1976 Classroom/Laboratory; Computer Centre; Central Stores
Student Services
Security & Parking
Staff Offices
Classrooms
Physical Resources
Classrooms
Faculty Offices
Classrooms
UBC Industrial Education
F Maquinna Residences
S.A.C. Gymnasium; Health Services Loggers Sports

PARKING

- Paid Staff Available at Night
- Free Scramble
- Free Visitor
- Free Motorcycle
- Staff Reserved
- Student Reserved

UNIVERSITY OF BRITISH COLUMBIA
SEA ISLAND
RICHMOND
BURRARD INLET
WEST VANCOUVER
NORTH VANCOUVER
GRANVILLE STREET
OAK STREET
MAIN STREET
BROADWAY
41 ST AVENUE
CITY OF VANCOUVER
12 TH AVENUE
BOUNDARY ROAD
THROUGHWAY
GRANDVIEW HWY.
WILLINGDON AVE.
MARINE DRIVE
KNIGHT WAY
BURNABY
BRENTWOOD
HASTINGS ST.
SIMON FRASER UNIVERSITY
LOUGHEED HWY.
TRANS CANADA HWY.
NEW WESTMINSTER
PORT MOODY
COQUITLAM
WILLINGDON AVENUE
STUDENT ENTRANCE
BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
THEATRE
PARKING
MECHANICAL BUILDING
FOOD TRAINING CENTRE
LIBRARY
GYMNASIUM AUDITORIUM
STUDENT PARKING
STUDENT PARKING

1979

JANUARY						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

OCTOBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

DECEMBER						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

1980

JANUARY						
S	M	T	W	T	F	S
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

MARCH						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

APRIL						
S	M	T	W	T	F	S
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

SEPTEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

DECEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

RETURN TO
BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
3700 WILLINGDON AVENUE,
BURNABY, BRITISH COLUMBIA
V5G 3H2