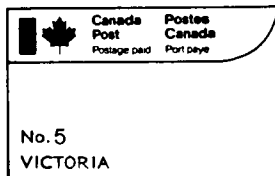


RETURN TO
BRITISH COLUMBIA
INSTITUTE OF TECHNOLOGY
3700 WILLINGDON AVENUE,
BURNABY 2, BRITISH COLUMBIA



BCIT

BCIT

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY 74/75

A
T
170.2
B76 C3
1974-
1975

74/75



← CALENDAR OF EVENTS

← GENERAL INFORMATION
— ADMISSION AND FEES
— FINANCIAL AID

← STUDENT ASSOCIATION

← PREREQUISITES

← BUSINESS DIVISION

← HEALTH DIVISION

← ENGINEERING DIVISION

← SUBJECT SUMMARIES

72348

A
T

170.2

B76C3

1974-

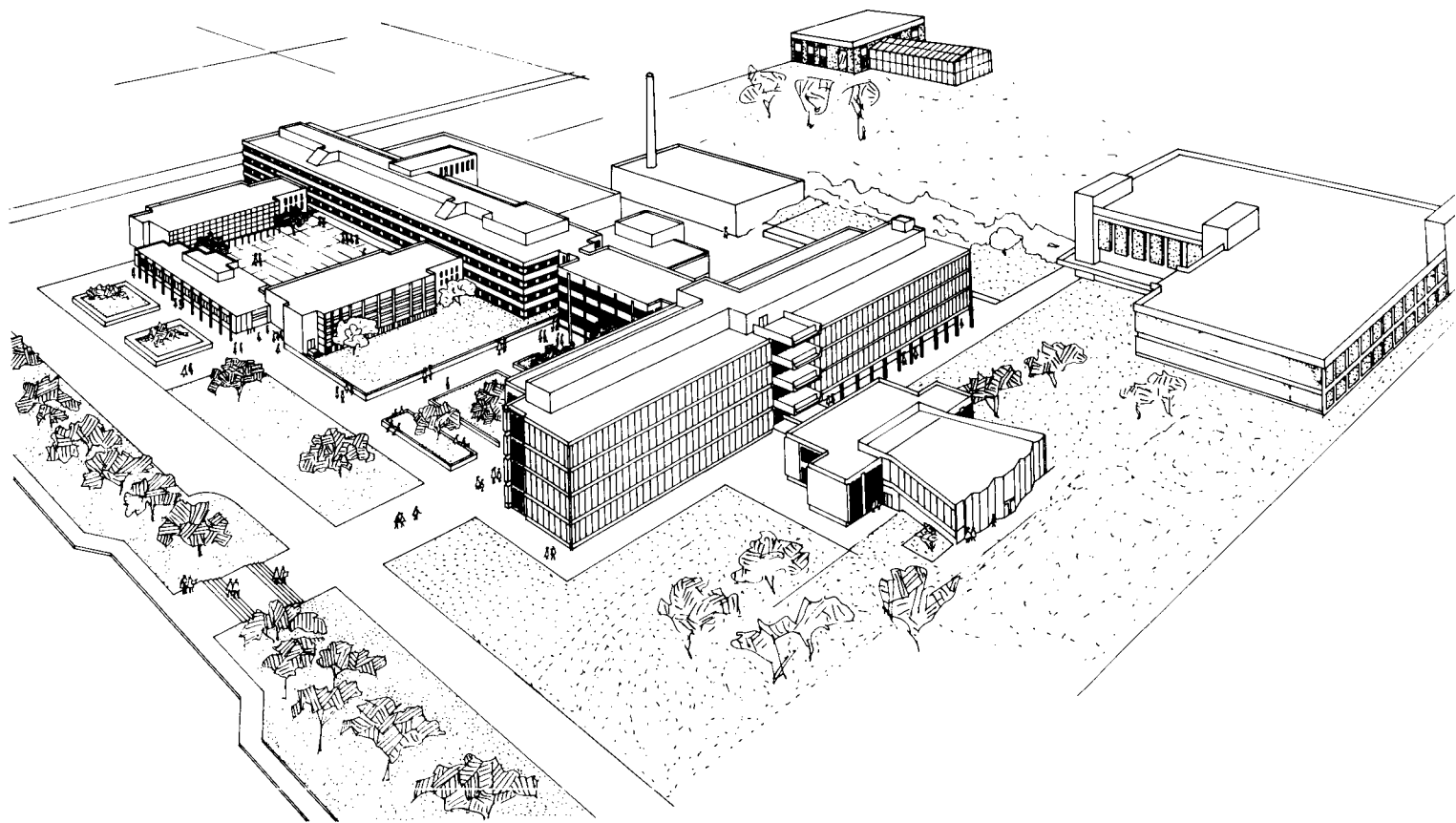
1975



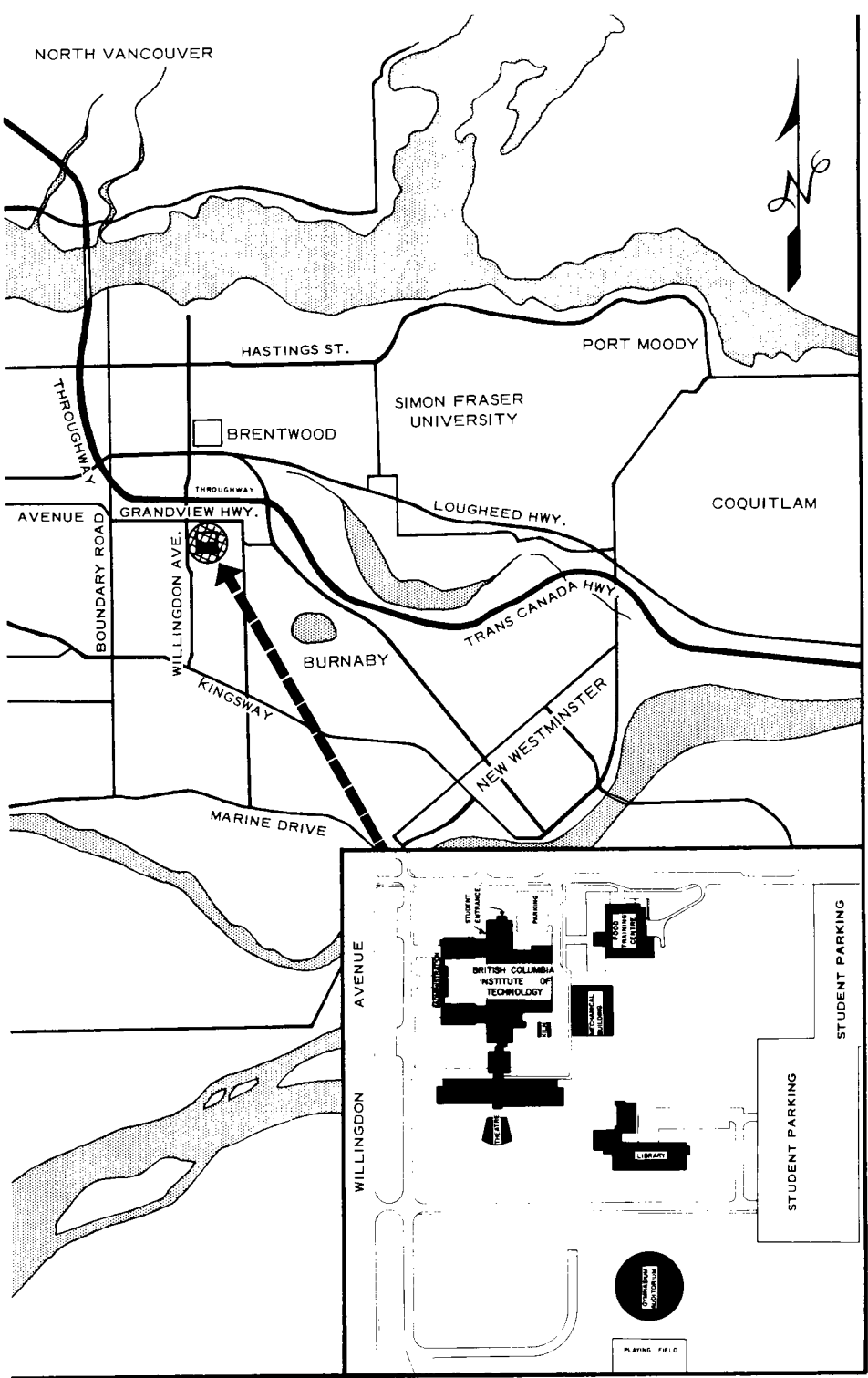
BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

**3700 Willingdon Avenue
Burnaby 2, B.C.
Telephone: (604) 434-5722**

*Sponsored jointly by the Government of the Province of British Columbia
and the Government of Canada.*



NORTH VANCOUVER





HON. EILEEN E. DAILLY, *Minister of Education*

J. R. FLEMING, *Deputy Minister of Education*

J. PHILLIPSON, *Associate Deputy Minister, Educational Operations*

A. H. SOLES, *Associate Deputy Minister, Educational Programmes*

[to be announced], *Associate Deputy Minister, Financial Administration*

Aims and Objectives

The British Columbia Institute of Technology, an institution for advanced technical education, is the first of its kind in British Columbia. Opened in 1964 under its first principal, Mr. E. C. Roper, it has already trained a large number who have established a fine reputation for the school by their work in industry as technicians or technologists.

The Institute offers a broad range of two-year technical programmes, each leading to a group of employment opportunities in the major industries of the Province. These programmes are a judicious blend of English, mathematics, the sciences, and very practical work related to the field of employment chosen by the student.

Many young graduates come directly from high school and are assisted to find their first jobs in industry. Others who have been out of school in industry for some time take advantage of these programmes to find new and more satisfying careers. It is becoming increasingly difficult for the individual to prepare himself for a career in our modern industrial society, and the Institute provides opportunities for training which open doors to suitable careers as technicians and technologists in the labour force.

The programmes of the Institute are designed to serve the industries of the region as well as the individual student. These programmes are established with the particular needs of the industries of the Province in mind. It is the aim of the Institute to produce graduates who, with additional experience, will fill many of the supervisory positions in business and industry.

BCIT, therefore, helps the individual to prepare himself for a more productive and rewarding future and at the same time helps the industry of the region by supplying well-trained employees. By helping both individual and industry to improve their productivity, the whole community is helped and the standard of living of all its members is improved.



D. H. GOARD, B.A.

Principal, British Columbia Institute of Technology

	PAGE
MAP SHOWING LOCATION OF INSTITUTE.....	3
AIMS AND OBJECTIVES.....	6
ADMINISTRATION AND ADMINISTRATIVE STAFF.....	11
CORE DEPARTMENT STAFF.....	13
ADVISORY COUNCIL.....	15
LIBRARY ADVISORY COMMITTEE.....	17
CALENDAR OF EVENTS.....	19
GENERAL INFORMATION.....	22
Institute Programme.....	23
Enrolment.....	23
Fees.....	27
Financial Assistance.....	29
Placement Service.....	30
Living Accommodation.....	30
Academic Awards.....	30
Curriculum.....	31
Regulations Regarding Conduct, Discipline, and Attendance ..	32
Changes in Curricula and Regulations.....	33
Locker Facilities.....	33
Library.....	33
Staff and Student Health Services.....	34
SCHOLARSHIP AND BURSARY FUND	35
EXTENSION DIVISION.....	58
STUDENT ASSOCIATION.....	61
PREREQUISITES FOR ADMISSION, 1974/75.....	69
PROGRAMMES.....	71
Business Division Instructional Staff.....	73
Business Division Guest Lecturers.....	76
Business Division Advisory Committees.....	80
Business Division Programmes.....	89
Administrative Management.....	93
Broadcast Communications.....	95
Computer Programming and Systems.....	99
Financial Management.....	101
Hotel, Motel, and Food Service Management	105
Marketing Management.....	107
Operations Management.....	111
Health Division Instructional Staff	113
Health Division Guest Lecturers.....	116
Health Division Advisory Committees	123
Health Division Programmes	129
Biomedical Electronics.....	133
Environmental Health Technology	137
Health Data.....	140
Medical Laboratory	144
Medical Radiography.....	148
Nuclear Medicine.....	152
Registered Nursing.....	156
Registered Psychiatric Nursing.....	160
Engineering Division Instructional Staff	165
Engineering Division Guest Lecturers	169
Engineering Division Advisory Committees	174

PROGRAMMES— <i>Continued</i>	PAGE
Engineering Division Programmes.....	184
Biological Sciences.....	188
Building.....	192
Chemical and Metallurgical.....	194
Civil and Structural.....	198
Electrical and Electronics.....	202
Forest Resource.....	206
Forestry.....	206
Forest Products.....	210
Instrumentation and Systems.....	214
Mechanical.....	216
Mining.....	220
Natural Gas and Petroleum.....	222
Surveying.....	226
SUBJECT SUMMARIES AND SUBJECT NUMBERING SYSTEM	233

- **Administration**
- **Division Directors**
- **Administrative Staff**
- **Information Resource Centre**
- **Extension Division**

ADMINISTRATION

D. H. GOARD, B.A.	-	-	-	-	<i>Principal.</i>
J. C. MCADAM, B.A.Sc., M.B.A., P.ENG.	-	-	-	-	<i>Vice-Principal.</i>
G. A. THOM, B.COM., M.B.A., M.ED.	-	-	-	-	<i>Vice-Principal, Extension.</i>
J. T. FIELD, B.COM.	-	-	-	-	<i>Director, Student Services/Registrar.</i>
D. M. MACPHERSON, C.A.	-	-	-	-	<i>Bursar.</i>

DIVISION DIRECTORS

E. W. H. BROWN, B.A. (on leave)	-	-	-	-	<i>Business.</i>
P. J. WOOLLEY, B.A., M.A., C.A.	-	-	-	-	<i>Acting Director, Business.</i>
D. K. BANNERMAN, B.A.Sc., S.M., P.ENG.	-	-	-	-	<i>Engineering.</i>
S. T. RICHARDS	-	-	-	-	<i>Health.</i>

ADMINISTRATIVE STAFF

Ms. K. P. CROLL, B.A.	-	-	-	-	<i>Head, Canada Manpower Student Placement Centre.</i>
Mrs. E. C. FENNER, P.H.N.	-	-	-	-	<i>Nurse.</i>
B. E. FERRILL, B.Sc.	-	-	-	-	<i>Canada Manpower Counsellor.</i>
S. GIBBS, B.A.	-	-	-	-	<i>Financial Aid Officer/Counsellor.</i>
Miss M. A. GRAY, B.A.	-	-	-	-	<i>Counsellor.</i>
Mrs. P. HAMBLETON	-	-	-	-	<i>Assistant to the Registrar.</i>
D. I. JONES	-	-	-	-	<i>Office Manager.</i>
G. N. LLOYD, B.Sc.	-	-	-	-	<i>Co-ordinator of Student Activities.</i>
T. B. LYTTLETON	-	-	-	-	<i>Stores Supervisor.</i>
A. M. MARSH, C.G.A.	-	-	-	-	<i>Assistant to the Bursar.</i>
C. N. MACKEOWN, B.A.Sc., P.ENG.	-	-	-	-	<i>Manager, Administrative Systems.</i>
A. S. McLEAN, B.A., B.S.W., M.S.W.	-	-	-	-	<i>Co-ordinator of Counselling.</i>
T. MILLAR	-	-	-	-	<i>Bookstore Manager.</i>
W. A. ORR, B.Sc.	-	-	-	-	<i>Assistant to the Chairman, Technological Planning Committee.</i>
E. A. SCHMUTZ	-	-	-	-	<i>Manager, Food Training Centre.</i>

INFORMATION RESOURCE CENTRE

R. HARRIS, B.A., B.L.S.	-	-	-	-	<i>Head, Information Resource Centre.</i>
G. WEEKS, B.A., B.L.S.	-	-	-	-	<i>Assistant Librarian.</i>
Mrs. M. L. ALLINGHAM, B.A., B.L.S.	-	-	-	-	<i>Reference Librarian.</i>
Mrs. M. E. RAY, B.A., B.L.S.	-	-	-	-	<i>Catalogue Librarian.</i>
Ms. B. L. STEVENSON, B.A., B.L.S.	-	-	-	-	<i>Circulation and Film Bookings Librarian.</i>
H. CHALLANS, B.A.	-	-	-	-	<i>Audio-visual Co-ordinator.</i>

EXTENSION DIVISION

D. J. SVETIC, B.A.Sc., P.ENG.	-	-	-	-	<i>Co-ordinator of Extension Career Programmes and Student Services.</i>
D. A. HUME, B.ED.	-	-	-	-	<i>Co-ordinator, Industry Services.</i>
L. A. SMITH, DIPL.TECH.	-	-	-	-	<i>Associate Co-ordinator, Industry Services.</i>
R. C. MORRIS, B.A., D.H.A.	-	-	-	-	<i>Associate Co-ordinator, Health Extension.</i>
S. L. WILLIAMS, B.A. (HONS.), F.S.R.	-	-	-	-	<i>Instructor/Co-ordinator, Health Extension.</i>
R. E. EVANS	-	-	-	-	<i>Instructor, Supervisory Training.</i>
E. A. MORSE, B.E.	-	-	-	-	<i>Associate Co-ordinator, Industry Services Programmes.</i>
L. S. MCGILL	-	-	-	-	<i>Associate Co-ordinator, Career Programmes (Business).</i>
J. I. DEAN, A.A.C.I., C.M.A.	-	-	-	-	<i>Instructor/Co-ordinator (Real Estate).</i>
F. R. HOLE, B.A.Sc., P.ENG.	-	-	-	-	<i>Instructor/Co-ordinator (Civil and Structural Programmes).</i>
C. ORCHARD, B.Sc.N., R.N.	-	-	-	-	<i>Instructor, Nursing Programmes.</i>
W. D. ROBERTSON, B.ED.	-	-	-	-	<i>Associate Co-ordinator, Directed Study Development.</i>
A. W. MORROW, B.A., B.ED., M.ED.	-	-	-	-	<i>Programmes Consultant (Counsellor).</i>



Core Departments

Departments

CHEMISTRY

C. BARNETSON, B.Sc., *Department Head.*

N. ABDURAHMAN, B.Sc., M.Sc.,
Ph.D.

G. C. ANDERSON, A.I.S.T.(U.K.).

D. W. CONDER, B.Sc., M.Sc.

M. LESLIE KAN, B.Sc., M.Sc., P.Dt.

D. A. M. LAING.

C. J. C. NICHOL, B.A., M.Sc., Ph.D.

E. E. TANG, B.Sc.

L. V. TOLANI, B.Sc.

P. W. VAN AMEYDE, H.L.S.(NETH.),

IR.N.I.R.I.A.

ENGLISH

K. BRAMBELBY, B.A. (HONS.), *Department Head*

H. ARTHUR, B.A.(HONS.).

J. J. BANKS, B.A., M.ED., M.A.

D. BEATTIE, M.A.

P. J. BURNS, B.A., M.A.

P. CORLEY-SMITH, B.A.(HONS.),
M.F.A.

WM. RIDER COOEY, B.A.(HONS.)

G. DOUGLAS, B.ED.

O. D. ERICKSON, B.A.(HONS.).

D. HELGESEN, B.A., M.B.A., *Senior
Instructor.*

D. J. HORAN, B.JOURN.,
B.A.(HONS.).

W. KEAN, B.A., M.A.

R. KNOTT, B.A.(HONS.), M.ED.,
Senior Instructor.

D. S. MCNEAL, B.A., M.A., Ph.D.

G. M. RAMSAY, B.A.

R. SPENCE, B.COMM., B.A.

E. STRONACH, B.A., B.ED., M.A.

K. TAKAGAKI, B.A. (HONS.).

P. H. THOMAS, B.A., B.ED., M.A.,
Senior Instructor.

D. VALE, B.A., B.ED., M.ED.

L. A. WALKER, B.Sc., Ph.D.

MATHEMATICS

W. S. SIMS, B.Sc., *Department Head.*

J. W. BROWN, B.Sc.(HONS.), M.A.

A. K. CHU, B.A.Sc., P.ENG.

C. A. COPPING, B.Sc.(HONS.).

M. DEKKER, B.Sc.(HONS.), H.T.S.

W. A. ELLINGSEN, B.Sc.

P. M. HOBBS, B.Sc.

R. D. LYNN, B.Sc.(HONS.),
A.F.I.M.A.

E. R. MARTIN, B.Sc., M.ED.

E. R. MCGUIRE, B.Sc., M.ED.,
Senior Instructor.

A. P. PARIS, B.A.Sc., M.A.Sc.,
P.ENG., *Senior Instructor.*

R. A. STERNE, B.A.Sc., P.ENG.,
Senior Instructor.

B. L. TURNER, B.Sc.

H. E. WALKER, B.A.

J. H. WARDROPER, B.Sc.(ENG.),
M.Sc., M.I.C.E., P.ENG.

PHYSICS

F. READER, B.A.Sc., P.ENG., *Department Head.*

M. BERRETTA, B.Sc., M.Sc.,
Senior Instructor.

C. BITSAKIS, B.Sc.

R. J. ENGLUND, B.Sc.

G. R. HARLAND, DIPL.T.

D. E. A. KENYON, B.Sc.

A. KSHATRIYA, B.Sc., M.Sc.

W. MALAKOFF, B.Sc., B.ED., M.Sc.

W. V. OLSON, B.Sc.,
Senior Instructor.

J. R. SAUNDERS, B.Sc.(HONS.),
M.Sc., *Senior Instructor.*

D. E. THOM, B.Sc.

K. A. YAKEL, B.Sc.(HONS.), M.Sc.

Part-time Instructional Staff, 1974/75

MRS. G. M. GRIFFITHS, B.A.Sc., M.A. - - - - - *Physics*
MRS. J. B. WARREN, B.A., M.A. - - - - - *Physics.*



Advisory Council

ADVISORY COUNCIL

Chairman:

R. F. PATTERSON, B.A.Sc., M.A.Sc., Ph.D., Vice-President, Corporate Services, Canadian Forest Products Ltd., Vancouver.

Principal:

D. H. GOARD, B.A., Principal, British Columbia Institute of Technology, Burnaby.

Members:

W. M. ARMSTRONG, B.A.Sc., P.ENG., Deputy President, University of British Columbia, Vancouver.

W. O. BANFIELD, M.A.Sc., Trustee, Vancouver General Hospital, Vancouver.

R. S. CAREY, B.A., LL.B., Chairman of the Personnel Sub-Committee of the British Columbia Institute of Technology, Burnaby.

G. R. F. ELLIOT, M.D., C.M., D.P.H., C.R.C.P.(C.), Deputy Minister of Health, Bureau of Special Health Services, Vancouver

G. S. FANE, President of the Student Association of the British Columbia Institute of Technology, Burnaby.

E. D. B. HAWKSHAW, Regional Manager, Business Development and Marketing Department, Canadian Imperial Bank of Commerce, Vancouver.

T. F. HEENAN, B.Sc., B.E.(ELECT.), Vice-President—Operations, British Columbia Telephone Company, Vancouver.

D. C. LAMBERT, B.A.Sc., P.ENG., Professional Engineers Association of British Columbia, Vancouver.

J. MACD. LECKY, B.A., Chairman, Town Planning Commission, Vancouver.

J. C. MCADAM, B.A.Sc., M.B.A., P.ENG., Vice-Principal, British Columbia Institute of Technology, Burnaby.

G. R. McMEEKIN, B.Sc., M.E.I.C., Administrative Assistant, Cominco Ltd., Trail.

R. I. NELSON, B.A.Sc., M.B.A., President and Chief Executive Officer, British Columbia Packers Limited, Richmond.

V. E. RICKARD, B.Ed., Assistant Superintendent, Department of Education, Victoria.

A. E. SOLES, B.A., M.Ed., Associate Deputy Minister, Educational Programmes, Department of Education, Victoria.

J. H. STEEDE, B.A.Sc., P.ENG., Member of Board of Directors, British Columbia Hydro and Power Authority, Vancouver.

G. A. THOM, B.COMM., M.B.A., M.Ed., Vice-Principal, Extension Division, British Columbia Institute of Technology, Burnaby.



Library Advisory Committee

LIBRARY ADVISORY COMMITTEE

Chairman:

B. STUART-STUBBS, University Librarian, University of British Columbia.

Ex Officio:

ROBERT HARRIS, Campus Librarian, Burnaby Campus.

Members:

D. BAIRD, University Librarian, Simon Fraser University.

I. F. BELL, Associate Librarian, University of British Columbia.

MRS. A. PITERNICK, Assistant Professor, School of Librarianship, University of British Columbia.

D. HALLIWELL, University Librarian, University of Victoria.

MISS A. R. LEITH, Bio-Medical Librarian, Woodward Library, University of British Columbia.

MISS A. TUFTS, Head, Business Division, Vancouver Public Library.



Calendar of Events



JANUARY							FEBRUARY							MARCH																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5							1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9	10	11	12								
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28													

APRIL							MAY							JUNE																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2	3	4														
7	8	9	10	11	12	13								5	6	7	8	9	10	11											
14	15	16	17	18	19	20								12	13	14	15	16	17	18											
21	22	23	24	25	26	27								19	20	21	22	23	24	25											
28	29	30												26	27	28	29	30	31												

JULY							AUGUST							SEPTEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2	3															
7	8	9	10	11	12	13								4	5	6	7	8	9	10											
14	15	16	17	18	19	20								11	12	13	14	15	16	17											
21	22	23	24	25	26	27								18	19	20	21	22	23	24											
28	29	30	31											25	26	27	28	29	30	31											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16	17	18	19								10	11	12	13	14	15	16											
20	21	22	23	24	25	26								17	18	19	20	21	22	23											
27	28	29	30	31										24	25	26	27	28	29	30											

OCTOBER							NOVEMBER							DECEMBER																	
SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT	SAT	SUN	MON	TUES	WED	THUR	FR	SAT
			1	2	3	4	5	6						1	2																
6	7	8	9	10	11	12								3	4	5	6	7	8	9											
13	14	15	16																												



JANUARY	FEBRUARY	MARCH
<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div>1</div><div>2</div><div>3</div><div>4</div><div></div> </div> <div> <div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div> </div> <div> <div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div><div>18</div> </div> <div> <div>19</div><div>20</div><div>21</div><div>22</div><div>23</div><div>24</div><div>25</div> </div> <div> <div>26</div><div>27</div><div>28</div><div>29</div><div>30</div><div>31</div><div></div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>
APRIL	MAY	JUNE
<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div>1</div><div>2</div><div>3</div> </div> <div> <div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div> </div> <div> <div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div> </div> <div> <div>18</div><div>19</div><div>20</div><div>21</div><div>22</div><div>23</div><div>24</div> </div> <div> <div>25</div><div>26</div><div>27</div><div>28</div><div>29</div><div>30</div><div>31</div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>
JULY	AUGUST	SEPTEMBER
<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div>1</div><div>2</div><div>3</div><div>4</div> </div> <div> <div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div> </div> <div> <div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div><div>18</div> </div> <div> <div>19</div><div>20</div><div>21</div><div>22</div><div>23</div><div>24</div><div>25</div> </div> <div> <div>26</div><div>27</div><div>28</div><div>29</div><div>30</div><div>31</div><div></div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>
OCTOBER	NOVEMBER	DECEMBER
<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div>1</div><div>2</div><div>3</div> </div> <div> <div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div> </div> <div> <div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div> </div> <div> <div>18</div><div>19</div><div>20</div><div>21</div><div>22</div><div>23</div><div>24</div> </div> <div> <div>25</div><div>26</div><div>27</div><div>28</div><div>29</div><div>30</div><div>31</div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>	<div> <div>SUN MON TUE WED THUR FRI SAT</div> <div> <div></div><div></div><div></div><div></div><div></div><div></div><div>1</div> </div> <div> <div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div> </div> <div> <div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div> </div> <div> <div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div> </div> <div> <div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div> </div> </div>

Calendar of Events, Academic Year 1974/75

For students on four-term (two-year) cycle (all Business and Engineering Technology students except Electrical and Electronics).

1974

September 3	-	-	-	Registration of students.
September 4	-	-	-	First and third term—classes begin.
October 14	-	-	-	Thanksgiving Day holiday.
November 11	-	-	-	Remembrance Day holiday.
December 9 to 13	-	-	-	First and third term examinations.

1975

January 6	-	-	-	Second and fourth term—classes begin.
March 3 to 7	-	-	-	Student spring break.
March 28	-	-	-	Good Friday holiday.
March 31	-	-	-	Easter Monday holiday.
May 19	-	-	-	Victoria Day holiday.
May 20 to 26	-	-	-	Second and fourth term examinations.
June 13	-	-	-	Convocation.

For students on quarterly cycle (all Health Division students, Electrical and Electronics Technology students).

Quarters A and E

September 3, 1974	-	-	-	Registration of students.
September 4, 1974	-	-	-	Classes commence.
[to be announced]	-	-	-	Shinerama.
October 14	-	-	-	Thanksgiving Day holiday.
November 11	-	-	-	Remembrance Day holiday.
November 22, 1974	-	-	-	Quarter terminates.

Quarters B and F

December 2, 1974	-	-	-	Classes commence.
December 21, 1974	-	-	-	Christmas vacation commences.
January 6, 1975	-	-	-	Classes recommence.
February 28, 1975	-	-	-	Quarter terminates.

Quarters C and G

March 10, 1975	-	-	-	Classes commence.
March 28	-	-	-	Good Friday holiday.
March 31	-	-	-	Easter Monday holiday.
May 19	-	-	-	Victoria Day holiday.
May 30, 1975	-	-	-	Quarter terminates.

Quarters D and H (Nurses Only)

June 9, 1975	-	-	-	Classes commence.
June 12, 1975	-	-	-	Convocation for graduating students.
July 1	-	-	-	Dominion Day holiday.
August 22, 1975	-	-	-	Quarter terminates.



General Information

THE INSTITUTE PROGRAMME

The objective of the Institute programme is to provide graduate technologists equipped to meet the needs of industry. Changes in the courses are made only after careful consideration and on the advice of members of the Advisory Committee, employers of graduates, and representatives of various professional organizations.

In the first year there is a common programme of study for most technologies. The subjects have been selected to give students the fundamental principles common to all branches of the technologies.

In both years basic principles and their applications are stressed in the lecture room, and these principles are tested and verified in the laboratories. The laboratory work is organized into groups of experiments. These experiments have been developed to permit students to test ideas formulated in the lecture room, to acquire familiarity with testing and designing techniques, and to develop dexterity in handling experimental equipment. The effectiveness of this approach is reflected in the increased number of students seeking admission to the various programmes and in the demand on the part of industry for services of the graduates of institutes of technology.

I. ENROLMENT

A. CONDITIONS OF ADMISSION

1. *Prerequisites*—Graduation from senior secondary school, as prescribed by the Department of Education for the Province of British Columbia, with special prerequisites.

Graduation from the Selected or Combined Studies Programme.

Students are referred to page 69 for the additional special prerequisites required for the various technologies.

Because the Institute's requirements for admission are new to the British Columbia school system, and because all secondary schools do not offer all the desirable prerequisites, unavoidable deficiencies in draughting, chemistry, physics, or biology will not necessarily preclude admission to an Institute programme.

2. Applicants educated outside of British Columbia should submit their qualifications and Immigration Identification Card to the Registrar's Office of the Institute.

(a) *Competence in English*—Because English is the language of instruction at BCIT, students whose first or native language is not English will be required to write a test to

satisfy the Registrar that their knowledge of English is sufficient to permit the successful pursuit of their studies.

(i) Students applying from outside Canada will be required to write the Test of English as a Foreign Language (TOEFL) before their admittance to BCIT can be considered. There are three test dates in 1974:

January 5

March 23

June

To obtain a bulletin of information that outlines world-wide test locations and application procedures, students are advised to write as soon as possible to:

Test of English as a Foreign Language

Box 899

Princeton, New Jersey 08540

U.S.A.

(ii) Students applying from within Canada whose first or native language is not English will be required to write either the Test of English as a Foreign Language (TOEFL) or the Vancouver City College Placement Test, Vancouver, B.C., before their admittance to BCIT can be considered. This test can be written on Wednesdays.

Information regarding TOEFL is given in Section A. Information regarding the Vancouver City College Placement Test may be obtained by writing to the Office of the Registrar, BCIT.

(b) Students admitted to BCIT may be required to take a remedial reading and writing course if, in the opinion of the English Department and the technology concerned, their level of competence in English is substandard.

3. All prospective students must be at least 16 years of age. However, there is no upper age limit.

4. A person whose education has been interrupted who, though lacking some of the formal admission requirements, can give evidence of probable success in a course may be admitted as a mature student. Such applications are dealt with on an individual basis. Persons interested should inquire at the Registrar's Office.

5. All students seeking enrolment or re-enrolment will forward applications to the Registrar's Office.

6. The Board of Admissions is responsible for the final selection of all candidates.

7. The Board reserves the right to accept only those applicants who appear to have the capabilities necessary for success in the programme.

8. Applicants who have successfully completed one or more years of study at a level equal to or higher than that of a British Columbia Institute of Technology course will be permitted to enter at the level of the course for which the application has been made if the work previously covered is similar in content to the work of the Institute's courses, and if, in the opinion of the Board of Admissions, the applicant's record justifies giving him advanced standing.

Students requesting consideration for course credit for individual subjects should make application at Registrar's Office as soon as possible following notification that they have been selected for a programme of studies.

Last date for application for course credit is the second Wednesday after term or quarter commences.

B. PROCEDURE FOR ADMISSION

The majority of BCIT programmes are able to enrol all qualified applicants.

Certain programmes are very well known, very popular, and the competition to enrol is keen. A place in such programmes is somewhat difficult to obtain.

In either case you should apply *early* and you will be advised as soon as possible whether or not you can be accepted for the programme of your choice.

If you have indicated a second-choice programme, early application will help us direct you to this programme if your first choice is not available.

In order to help us serve you better, the following procedures are open to you:

1. If student applies and *is accepted and makes no payment*, his place will be held for one month and, if no further confirmation of interest is received, the space may be offered to another candidate.

2. If student applies and *is accepted and makes payment* of \$30 following confirmation of acceptance, then his space will be held for him. If he pays on or before August 9 the full fee for the year (\$187), he will receive a \$15 discount. (Refer to section regarding fees.)

3. After August 1, all students who are accepted will be expected to deposit \$30 as part payment of fees which will hold the place in class until registration date.

4. If at any time a student applies and is accepted and is unable to make the \$30 part payment of fees, he may write to the Registrar proposing a method of payment which is acceptable to him.

5. Applications should be received by July 12, 1974. After this date applications will still be considered, but acceptances will be limited by vacancies. *Where vacancies occur, applications will be considered until September 30, 1974.*

(a) Application forms may be obtained from the Registrar's Office.

(b) The following documents and material must accompany the application:

- (i) A secondary school transcript and a statement of university marks showing necessary credits and grades for admittance to programme desired; or
- (ii) A statement from the principal of a senior secondary school stating that applicant is expecting to obtain necessary grades for admittance to the programme desired. *This statement must be substantiated by secondary school transcript when it becomes available.*
- (iii) Academic documents will not be returned whether an applicant is accepted or not accepted for enrolment by the Board of Admissions.

(c) A medical questionnaire must be completed, and medical fitness determined prior to final acceptance.

(d) All Health Technology students will be required to show evidence of having had a recent chest X-ray and having completed an immunization programme prior to registration. If, due to extenuating circumstances, supporting documentation is not available at the time of registration, students will be required to complete the necessary procedures at the Institute's health service clinic.

(e) Registration date is September 3, 1974. Students will be notified as to exact time they are required to register. All enrolling students must appear at the Institute or clarify their intentions by letter or wire before noon of the day of registration, otherwise their position may be forfeited.

C. STUDENT COUNSELLING SERVICES

Counselling services are available to students, prospective students, and parents at no cost. The service will assist students with academic, personal, and financial concerns.

The reception office is located in Room 207A, and the offices are open from 9 a.m. to 5 p.m. each week-day. Appointments are not mandatory but may be made personally or by phoning 434-5722 (Local 327). In addition to the counsellors, the department heads and instructional staff are also available to assist the students.

II. FEES

A. ANNUAL FEES FOR 1974/75 ACADEMIC YEAR

1. The annual fees amount to a total of \$187; however, these are subject to change from time to time, and are presently under review. The annual fees consist of the following:

General tuition	\$150
Student activity	25
Caution account	10
Accident insurance	2
<hr/>	
Total	\$187
<hr/>	

(NOTE—Refer to section regarding Procedures for Admission for possible \$15 discount.)

2. Fees for the entire year are payable prior to the commencement of classes; however, students may, at time of registration, apply through the Bursar's Office to defer up to \$75 of the above-mentioned general tuition fees until January 1975 (*see* paragraph 4 below).

3. All cheques and money orders must be payable to the British Columbia Institute of Technology.

4. A student whose fees are not paid within 14 days after the commencement of first-term classes will be excluded from classes and his registration cancelled. A student whose deferred fees (as mentioned in paragraph 2 above) are not paid by January 10, 1975, will be excluded from classes and his registration cancelled.

5. If a student whose registration has been cancelled because of nonpayment of fees applies for reinstatement and his reinstatement has been approved by the Registrar, he will be required to pay a reinstatement fee of \$10, together with all outstanding fees before he is permitted to resume classes.

6. A student withdrawing from the Institute within 14 days of commencement of classes will be charged a \$10 registration fee, refer to refund of fees on following page.

B. MISCELLANEOUS FEES

Re-read of final marks	\$5.00
Transcript of marks	1.00
Duplicate diploma	3.00
Reinstatement fee	10.00
Registration fee	10.00

C. REFUND OF FEES

(a) From the date of commencement of classes until 14 days later, inclusive of both dates:

- (1) General tuition—complete refund, minus \$10 registration fee.
- (2) Caution account—balance of account.
- (3) Student activity—complete refund.
- (4) Accident insurance—complete refund.

(b) From the day following the last day specified in (a) above until 14 days later, inclusive of both dates:

- (1) General tuition—50 per cent refund.
- (2) Caution account—balance of account.

(c) From the day following the last day specified in (b) above until 14 days later, inclusive of both dates:

- (1) General tuition—25 per cent.
- (2) Caution account—balance of account.

(d) From the day following the last day specified in (c) above until the end of the term:

- (1) General tuition—no refund.
- (2) Caution account—balance of account.

D. WITHDRAWAL

Students must withdraw officially through the Registrar's Office.

Students who are requested to withdraw from a course for reasons of discipline or unsatisfactory progress may forfeit any right to a refund under this section.

E. ADDITIONAL EXPENDITURES

1. *Textbooks, instruments, and supplies*—The cost of textbooks, instruments, and supplies varies according to the programme, from approximately \$100 to \$175. The Institute bookstore carries a complete line of draughting and writing supplies. Students are advised not to make any purchases until they have received a book list showing the required texts.

2. *Field trips*—Students are advised that, in some technologies, periodic field trips are a part of the programme. These expenses are the responsibility of the student. Accommodation and food costs vary from \$25 to \$100.

3. *Medical insurance*—Students may obtain medical insurance by arrangement with the British Columbia Medical Plan. By Order in Council of the Provincial Government, all private companies have been prohibited by an Act of the Provincial Legislature from paying for physicians' and surgeons' services effective July 1, 1968. Students are advised to confirm that they are covered under their parents' British Columbia Medical Plan; should this not be

the case, students are advised to make their own arrangements with the British Columbia Medical Plan. Pamphlets outlining the details are available from the Registrar's Office.

III. FINANCIAL ASSISTANCE

A. B.C. PROVINCIAL GOVERNMENT FINANCIAL AWARDS AND ASSISTANCE PROGRAMME

The Government of the Province of British Columbia has several programmes of financial awards and financial assistance for students undertaking studies in designated Post-secondary Educational Institutions. These programmes have been under review in order to bring them up to date. A detailed announcement will be made by the Government early in 1974 covering all aspects of these programmes.

A student wishing to obtain financial aid for a Programme of Post-secondary study in the academic year 1974/75 is advised to communicate with the Financial Awards Officer of the institution to be attended and to request a copy of the pamphlet on *Student Aid* to be distributed by the Provincial Government in the spring of 1974.

B. THE GOVERNMENT OF CANADA STUDENT LOANS PLAN

This is a plan introduced by the Federal Government to assist students who, without loan assistance, would be unable to pursue full-time post-secondary studies at a specified educational institution. The maximum loan for an academic year is \$1,400. Total loans to any student cannot exceed \$9,800. A loan of up to \$700 may be authorized for a single semester which is part of a longer programme of study. Borrowers under the plan are required to repay principal and interest by regular monthly instalments. Payments commence six months after the borrower ceases to be a full-time student at a specified educational institution. No payments are made while the borrower is a full-time student nor for six months thereafter. Interest during this period is paid by the Federal Government on behalf of the student. Need for loan assistance is determined by Provincial Loan Authorities in accordance with administrative criteria established for use throughout Canada. A parental contribution table is an integral part of the criteria and is applied in all cases where the student has not established financial independence as defined in The Canada Student Loans Plan. When the application is completed it must be submitted to the Financial Aid Officer of the British Columbia educational institution to be attended. Students planning to attend institutions outside British Columbia will send applications directly

to Student Affairs Branch, Division of Post-secondary Services, Department of Education, Parliament Buildings, Victoria, B.C.

C. BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY SCHOLARSHIP AND BURSARY FUND

The British Columbia Institute of Technology Scholarship and Bursary Fund has been established through private means, whereby awards are made annually by the trustees of the Fund to deserving students of the Institute. Private contributions from commerce and industry and other interested persons are being received and may or may not be designated for use in encouraging study in a particular course of study given by the Institute. Such contributions will be deductible for income tax purposes. Pages 35 to 57 contain the details of the contributions. Inquiries concerning financial aid should be directed to the Counselling Department.

IV. PLACEMENT SERVICE

The Student Placement Centre, staffed by Canada Manpower personnel, is available to all students of the Institute.

This office, besides providing a counselling and employment service, arranges seminars and interviews with national and local employers of the technologist.

To assist the student in further development of his career plan, a current library of information on careers in many industries is maintained in the Centre.

V. LIVING ACCOMMODATION

There are no dormitories connected with the Institute. Students may obtain room and board in the vicinity of the campus at a reasonable rate (approximately \$100 to \$120 a month for three meals a day).

A list of accommodations will be available to students at the Counsellors' Offices (207A), and a list will be issued to students at registration. An excellent cafeteria provides economical services for students.

VI. ACADEMIC AWARDS

A. DIPLOMAS (DIPL.T.)

Graduates of the British Columbia Institute of Technology will be awarded a nationally recognized diploma of technology. An honours diploma will be awarded to those students who obtain a first-class honours standing (80 per cent average or better) in each of Terms 3 and 4.

B. THE BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY HONOUR AWARDS

The Academic Award will be presented to the top academic student in his graduating year.

The Citizenship Award will be presented to the graduating student who shows reasonable academic standing, a reputation for mature personal relations with both staff and students, and a record of active participation in student activities.

The Principal's Award will be presented to a student for outstanding personal contribution to BCIT.

C. CONVOCATION EXERCISES

Convocation exercises take place as announced in the yearly academic calendar, and nationally recognized diplomas of technology are presented at these exercises.

VII. THE CURRICULUM

A. PROGRAMME OF STUDIES

Examinations are written and credit is given for the successful completion of each term. Students may interrupt their studies after completion of any term. Permission by the Board of Admissions is required before a student is allowed to change his programme.

B. DETERMINATION OF STANDING

Final standing is determined on the basis of term work and the results of examinations. A minimum of 50 per cent in each subject is required for a credit standing. Standing is computed according to the following schedule:

First class	80% or more
Second class	65% to 79%
Pass	50% to 64%
Failure	Below 50%

The symbol "A" (ægrotat) indicates that the student was absent from the final examination because of medical reasons but was granted standing on the basis of the year's work. "Ægrotat" standing may apply to all subjects or to a single subject. A copy of the final report is mailed to the student's home address as soon as possible after the results are known.

C. FAILURE AND REPETITION

A student who fails a term may be permitted to repeat the term only at the discretion of the Principal.

D. APPEALS IN REGARD TO FINAL MARKS

Final examinations may be re-read if a written request is submitted to the Registrar within 10 school-days after the results are mailed to students. A fee of \$5 is required for each paper which is appealed. This fee will be refunded in full if, as a result of re-reading, the original mark is favourably adjusted.

E. TRANSCRIPTS

A fee of \$1 is charged for each additional transcript of an undergraduate's or graduate's marks. Transcripts are available from the Registrar's Office.

VIII. REGULATIONS REGARDING CONDUCT, DISCIPLINE, AND ATTENDANCE

It is assumed that all students enrolled at the British Columbia Institute of Technology come for a serious purpose, and that they will conform cheerfully to all regulations.

- (a) Students are expected to conduct themselves in an exemplary fashion at all times and pay diligent attention to their studies. If the Principal believes a student's conduct is such that it is detrimental to the interest of the Institute, he may be excluded from further attendance. In assessing a student's capability, the Principal will take into consideration his conduct and attitude, both on and off the campus. A student who has been expelled or suspended will not be admitted to the Institute grounds or buildings.
- (b) The Institute cannot be held responsible for debts incurred by student organizations.
- (c) If, through his carelessness or negligence, a student damages the property of the Institute, he shall be held responsible. If the damage is caused by students whose names are not known, the cost of repairing the damage may be assessed equally among all students enrolled at the Institute.
- (d) A student will not be permitted to borrow or remove any apparatus or tools except by the written authority of the Principal or his delegate.
- (e) General supervision over all forms of entertainment given under the auspices of a student organization come under the jurisdiction of the Principal.
- (f) It is the policy of BCIT to rely on the judgment of students to maintain a reasonable standard of dress and appearance. The choice of dress is left to the individual student, subject to the following considerations:

- (i) In some field-trip and laboratory situations, safety considerations require that special head-gear, shoes, or other clothing and other safety equipment must be worn.
- (ii) Where programmes involve regular periods of scheduled experience, for example, in industry or hospital, the student may be required to wear a uniform (as in a hospital) or otherwise dress himself to be acceptable to the co-operating agency.

Based on experience to date, BCIT faculty believe that there is a positive relationship between general dress standards and employment of graduates. Technology faculty are always prepared to give advice on dress matters to students.

- (g) Regular attendance in lectures, seminars, and laboratory periods is required of all students. If a student is absent for any cause other than illness for more than 10 per cent of the time prescribed for any subject, he or she may be prohibited from writing the final examination in that subject. In case of illness or other unavoidable cause of absence, the student should communicate immediately with his department head, stating the cause of absence. Special regulations governing attendance in clinical experience areas are prescribed by the Health Division.

IX. CHANGES IN CURRICULA AND REGULATIONS

Although it is proposed to adhere to the programme of study as set forth in the Calendar, the Institute reserves the right to make, without prior notice, whatever changes are deemed necessary to either the programmes of study or the regulations. The Institute reserves the right to cancel any programme.

X. LOCKER FACILITIES

Full-length locker space is provided for the safe storage of personal effects. Students are warned to have identification marks—preferably names and addresses—on all their books, instruments, and other effects. All personal valuables should be kept on the student's person or secured in his locker. The Institute cannot accept responsibility for any loss of, or damage to, student's personal property.

XI. LIBRARY

The Library building, with seating capacity for over 500 students and space for over 100,000 volumes, was opened in the fall of 1968.

The Library collections number over 44,000 volumes, including representative works in all fields in which the Institute, the British Columbia Vocational School—Burnaby, and the University of British Columbia's Division of Industrial Education give instruction. In addition, the Library subscribes to over 1,200 periodicals and a variety of other materials selected to support these curriculums. Free access to the reference and general collections is permitted to all students at all times, with the exception of those materials in heavy demand which have been placed on "reserve" at the circulation desk.

The Library provides study carrels, microfilm readers, copying machines, and a student typing-room where calculators are also available. Tapes, filmstrips, filmloops, etc., may be used in specially equipped audio-visual carrels.

Students are urged to obtain a copy of the handbook describing the Library's facilities, services, and regulations. This handbook is available at all times in the Library.

Students are permitted limited use of media facilities in instructional projects.

XII. STAFF AND STUDENT HEALTH SERVICES

A staff and student health service is available in the East Wing of the Student Activity Centre. Personnel comprises a part-time doctor and a full-time public health nurse.

The aim of the service is to prevent disease. This is done by immunizing students, where necessary, against those diseases for which an efficient agent has been developed. Though not mandatory, all students are encouraged to take advantage of this protection. Through the Department of Tuberculosis Control, a chest survey is offered to all personnel once a year. It is hoped in the future to offer some type of dental programme.

For those diseases for which no recognized prevention is available, the health service offers a first-line defence. This is done by counselling, and treatment of the acute phase of illnesses or injuries.

At all times it is the object of the health service to co-operate with the individual's practising physician, reference being made to them when definite or long-term treatment is necessary.

There is no dentist on staff, but the Health Service can usually arrange a dental appointment for those students who do not have a resident dentist.

The British Columbia Scholarship and Bursary Fund was established by the Minister of Education on May 25, 1964.

The purpose of the Fund is to make scholarship and bursary awards available to as many deserving students of the British Columbia Institute of Technology as the Scholarship and Bursary Committee, in its unfettered discretion, shall determine.

The Scholarship and Bursary Committee is composed of the following:

- Trustee D. H. Goard.
- Trustee E. D. B. Hawkshaw.
- Trustee J. MacD. Lecky.
- Trustee G. R. McMeekin.
- Secretary J. T. Field.
- Treasurer D. M. Macpherson.
- Resource J. C. McAdam.

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY SCHOLARSHIP AND BURSARY FUND

Contributors, 1973

ACRES CONSULTING SERVICES LIMITED (\$150)

Acres Consulting Services Limited contributed \$150 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

AKHURST UBJ MACHINERY LIMITED (\$100)

Akhurst UBJ Machinery Limited contributed a \$100 scholarship to be awarded to a student in the Mechanical Technology.

AMALGAMATED CONSTRUCTION ASSOCIATION OF B.C. (\$150)

Amalgamated Construction Association of B.C. contributed a \$150 scholarship to be awarded to a second-year student in the Building Technology.

AMERICAN SMELTING AND REFINING COMPANY (\$200)

American Smelting and Refining Company contributed \$200 for bursaries to be awarded to students in the Mining Technology.

AMERICAN SOCIETY FOR METALS (\$150)

American Society for Metals contributed a \$150 scholarship to be awarded to a student in the Chemical and Metallurgical Technology.

ANACONDA CANADA LIMITED (\$500)

Anaconda Britannia Mines, division of Anaconda Canada Limited, contributed \$500 to be awarded to deserving students in the Mining Technology or Chemical and Metallurgical Technology.

APLIN & MARTIN ENGINEERING LTD. (\$150)

Aplin & Martin Engineering Ltd. contributed a \$150 bursary to be awarded to a student in the Engineering Division.

APLIN & MURRAY, PROFESSIONAL ENGINEERS (\$150)

Aplin & Murray, Professional Engineers, contributed a \$150 bursary to be awarded to a deserving student in the Surveying Technology.

ARGUS INSTALLATIONS LTD. (\$125)

Argus Installations Ltd. contributed \$125 for a deserving student at the Institute of Technology to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

BAY FOREST PRODUCTS LTD. (\$100)

Bay Forest Products Ltd. contributed \$100 for a bursary to be awarded to a student in the Forest Resource Technology.

BETHLEHEM COPPER CORPORATION LTD. (\$500)

Bethlehem Copper Corporation Ltd. contributed two \$250 bursaries to be awarded to students in the Chemical and Metallurgical Technology.

THE BIRKS FAMILY FOUNDATION (\$100)

The Birks Family Foundation contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

BRALORNE RESOURCES LIMITED (\$250)

Bralorne Resources Limited contributed \$250 to be awarded to a deserving student in the Mining Technology.

BRITISH COLUMBIA ASSOCIATION OF BROADCASTERS (\$300)

The British Columbia Association of Broadcasters contributed three \$100 scholarships to be awarded in each of the following electives of Broadcast Communications Technology: Radio, Television, and Electronic Journalism.

B.C. BIO-MEDICAL LABORATORIES LTD. (\$100)

B.C. Bio-Medical Laboratories Ltd. contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

B.C. COUNCIL OF GARDEN CLUBS (\$50)

The B.C. Council of Garden Clubs contributed a \$50 scholarship to be awarded to a student in the Biological Sciences Technology.

B.C. EQUIPMENT COMPANY LTD. (\$250)

B.C. Equipment Company Ltd. contributed a \$250 bursary to be awarded to a deserving student in the Business Management Division.

BRITISH COLUMBIA FOREST PRODUCTS LIMITED (\$500)

British Columbia Forest Products Limited contributed two \$250 scholarships—one to be awarded to a student in the Forest Resource Technology, and one to be awarded to a student in the Instrumentation and Systems Technology.

BRITISH COLUMBIA HOTELS' ASSOCIATION (\$600)

British Columbia Hotels' Association contributed two \$300 scholarships to be awarded to students in the Hotel, Motel, and Food Service Management Technology.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY (\$750)

British Columbia Hydro and Power Authority contributed four scholarships and one bursary of \$150 each to be awarded to students in the Electrical and Electronics and Natural Gas and Petroleum Technologies or students in other Engineering Programmes having a direct interest to a public utility.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY, ON BEHALF OF INTERNATIONAL POWER AND ENGINEERING CONSULTANTS (IPEC) (\$450)

British Columbia Hydro and Power Authority, on behalf of International Power and Engineering Consultants (IPEC), contributed three \$150 bursaries to be awarded to students in each of the following technologies: Civil and Structural, Electrical and Electronics, and Mechanical.

BCIT INTER VARSITY CHRISTIAN FELLOWSHIP (\$200)

BCIT Inter Varsity Christian Fellowship contributed \$200 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

BRITISH COLUMBIA MOTELS, RESORTS AND TRAILER PARKS ASSOCIATION (\$100)

The British Columbia Motels, Resorts and Trailer Parks Association contributed a \$100 bursary to be awarded to a student in the Hotel, Motel, and Food Service Management Technology.

BRITISH COLUMBIA PACKERS LTD. (\$500)

British Columbia Packers Limited contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

BRITISH COLUMBIA SUGAR REFINING COMPANY, LIMITED (\$750)

The British Columbia Refining Company, Limited contributed \$750 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

B.C. WILDLIFE FEDERATION (\$300)

The B.C. Wildlife Federation contributed two \$150 bursaries to be awarded to second-year students in the Fish, Wildlife, and Recreation Option of the Forest Resource Technology.

BUCKERFIELD'S LIMITED (\$100)

Buckerfield's Limited contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CANADA CEMENT LAFARGE LTD. (\$250)

Canada Cement Lafarge Ltd. contributed \$250 for a scholarship to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CANADA PACKERS LIMITED (\$150)

Canada Packers Limited contributed \$150 for a scholarship to be awarded to a student in the Biological Sciences Technology.

CANADA SAFEWAY LIMITED (\$200)

Canada Safeway Limited contributed \$200 for a bursary to be awarded to a student in the Marketing Management Technology.

CANADIAN AUTO CARRIERS LTD. (\$100)

Canadian Auto Carriers Ltd. contributed a \$100 bursary to be awarded to a student in either the Administrative Management Technology or Financial Management Technology.

CANADIAN CAR (PACIFIC), DIVISION OF HAWKER SIDDELEY CANADA LTD. (\$250)

Canadian Car (Pacific), division of Hawker Siddeley Canada Ltd., contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CANADIAN FOREST PRODUCTS LTD. (\$500)

Canadian Forest Products Ltd. contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CANADIAN FORESTRY ASSOCIATION OF BRITISH COLUMBIA (\$200)

Canadian Forestry Association of British Columbia contributed \$200 for bursaries to be awarded to students in the Forest Resource Technology.

CANADIAN KENWORTH LTD. (\$100)

Canadian Kenworth Ltd. contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CANADIAN OCCIDENTAL PETROLEUM LTD. (\$50)

Canadian Occidental Petroleum Ltd. contributed \$50 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CANADIAN PULP AND PAPER ASSOCIATION (\$250)

The Canadian Pulp and Paper Association contributed two \$125 bursaries to be awarded to students in the Pulp and Paper Option of the Forest Resource Technology.

CANADIAN RESTAURANT ASSOCIATION FOUNDATION (\$200)

The Canadian Restaurant Association Foundation contributed a \$200 bursary to be awarded to a student in the Hotel, Motel, and Food Service Management Technology.

CANADIAN TELEPHONES AND SUPPLIES LTD. (\$50)

Canadian Telephones and Supplies Ltd. contributed \$50 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CARPER'S SERVICE LIMITED (\$250)

Carper's Service Limited contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CASSIAR ASBESTOS CORPORATION LIMITED (\$1,500)

Cassiar Asbestos Corporation Limited contributed three \$500 scholarships, known as the "Cassiar-Bell Asbestos Scholarship," to be awarded to students in technologies closely allied to the mining industry.

THE CERTIFIED GENERAL ACCOUNTANTS ASSOCIATION OF BRITISH COLUMBIA (\$250)

The Certified General Accountants Association of British Columbia contributed \$250 in the form of a Continuing Education Tuition Scholarship to a student in the Financial Management Technology.

**CLUB MANAGERS' ASSOCIATION OF AMERICA—
DOGWOOD CHAPTER OF B.C. (\$175)**

The Club Managers' Association of America—Dogwood Chapter of B.C., contributed a \$175 bursary to be awarded to a student in the Hotel, Motel, and Food Service Management Technology.

COLUMBIA BREWING CO. LTD. (\$200)

Columbia Brewing Co. Ltd. contributed \$200 to be awarded to a deserving student in the Hotel, Motel, and Food Service Management Technology.

COMINCO LTD. (\$500)

Cominco Ltd. contributed two \$250 scholarships—one to be awarded to a student in the Chemical and Metallurgical Technology, and one to be awarded to a student in the Mining Technology.

CRAIGMONT MINES LIMITED (\$700)

Craigmont Mines Limited contributed two \$350 scholarships to be awarded to students in any of the following technologies: Chemical and Metallurgical, Mining, or Surveying.

CROSSIN, E. C. (\$100)

E. C. Crossin contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

CROWN ZELLERBACH CANADA FOUNDATION (\$250)

Crown Zellerbach Canada Foundation contributed \$250 for a deserving student at the Institute of Technology to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

DATA PROCESSING MANAGEMENT ASSOCIATION (\$150)

Data Processing Management Association contributed a \$150 scholarship to be awarded to a student in the Computer Programming and Systems Technology.

THE JOHN DAVIDSON COMPANY (\$500)

The John Davidson Company contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

THE GEORGE DAVIS MEMORIAL FUND (\$150)

The George Davis Memorial Fund contributed a \$150 bursary for a deserving student in the second year of the Fish, Wildlife, and Recreation Option of the Forest Resource Technology. The Fund is supported by an annual contribution of \$150 from the Western Guides and Outfitters Association.

DELTA HOTELS (\$250)

Delta Hotels contributed a \$250 scholarship to be awarded to a student in the Hotel, Motel, and Food Service Management Technology.

DILLINGHAM CORPORATION CANADA LTD. (\$250)

Dillingham Corporation Canada Ltd. contributed \$250 for a bursary to be awarded to a student in the Civil and Structural Technology.

DOMINION CONSTRUCTION Co. LTD. (\$250)

Dominion Construction Co. Ltd. contributed \$250 for a bursary to be awarded to a student in the Building Technology.

DOMTAR CONSTRUCTION MATERIALS LTD. (\$250)

Domtar Construction Materials Ltd. contributed \$250 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

DURAND MACHINE COMPANY LTD. (\$250)

Durand Machine Company Ltd. contributed \$250 for a bursary to be awarded to a student in the Mechanical Technology.

THE T. EATON CO. LIMITED (\$250)

The T. Eaton Co. Limited awarded \$250 to a student in the Marketing or Retailing Option of the Marketing Management Technology in the Business Management Division.

EL DORADO MANUFACTURING LTD. (\$50)

El Dorado Manufacturing Ltd. contributed \$50 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

ELWORTHY AND COMPANY LIMITED (\$100)

Elworthy and Company Limited contributed \$100 for a bursary to be awarded to a student in the Electrical and Electronics Technology.

THE EMPRESS HOTEL (\$250)

The Empress Hotel contributed a \$250 scholarship to be awarded to a student in the Hotel, Motel, and Food Service Management Technology.

ENDAKO MINES, DIVISION OF CANEX PLACER LIMITED (\$700)

Endako Mines, division of Canex Placer Limited, contributed two \$350 scholarships to be awarded to students in any of the following technologies: Chemical and Metallurgical, Mining, or Surveying.

EUROCAN PULP & PAPER CO. LTD. (\$250)

Eurocan Pulp & Paper Co. Ltd. contributed a \$250 bursary to be awarded to a student in the Forest Resource Technology, Pulp and Paper Option.

FALCONBRIDGE NICKEL MINES LIMITED (\$300)

Falconbridge Nickel Mines Limited contributed \$300 for bursaries to be awarded to students in the Mining or Surveying Technologies.

FIELD'S STORES LEW ROGERS MEMORIAL BURSARY (\$150)

Field's Stores Limited contributed \$150 for a bursary to be known as the Field's Stores Lew Rogers Memorial Bursary, to be awarded to a student in the Marketing Management Technology.

FINNING TRACTOR & EQUIPMENT CO. LTD. (\$600)

Finning Tractor & Equipment Co. Ltd. contributed three \$200 scholarships—one to be awarded to a student in the Business Division, one to be awarded to a student in the Engineering Division, and one to be awarded to a student in the Health Division.

FISHERIES ASSOCIATION OF BRITISH COLUMBIA (\$150)

The Fisheries Association of British Columbia contributed \$150 for a bursary to be awarded to a student in the Biological Science Technology, Food Processing Option.

FOREST TECHNOLOGISTS ASSOCIATION OF BRITISH COLUMBIA (\$100)

Forest Technologists Association of British Columbia contributed two \$50 bursaries. One to be known as the A. C. Buckland Bursary to be awarded to a student in the Forestry Programme, and the other to be awarded to a student in the Fish, Wildlife, and Recreation Option of the Forest Resource Technology.

FRASER VALLEY MILK PRODUCERS ASSOCIATION (\$150)

The Fraser Valley Milk Producers Association contributed \$150 for a bursary to be awarded to a student in the Biological Sciences Technology.

FRESH PAK LIMITED (\$100)

Fresh Pak Limited contributed a \$100 bursary to be awarded to a student in the Hotel, Motel, and Food Service Technology.

GARLAND COMMERCIAL RANGES LTD. (\$100)

Garland Commercial Ranges Ltd. contributed a \$100 scholarship for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

GIBSONS WILDLIFE CLUB (\$50)

The Gibsons Wildlife Club contributed \$50 for a bursary to be awarded to a second-year student in the Fish, Wildlife, and Recreation Option of the Forest Resource Technology.

GOARD, DEAN H. (\$100)

Dean H. Goard, Principal of the British Columbia Institute of Technology, contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

GRAY BEVERAGE COMPANY LTD. (\$150)

Gray Beverage Company Ltd. contributed a \$150 bursary to be awarded to a student in the Marketing Management Technology.

HARD CORPS (WESTERN INTERNATIONAL HOTELS SCHOLARSHIPS FOUNDATION) (\$400)

Hard Corps (Western International Hotels Scholarships Foundation) contributed \$400 scholarships to be awarded to deserving students in the Hotel, Motel, and Food Service Management Technology.

HOFFARS LIMITED (\$250)

Hoffars Limited contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

HOME OIL DISTRIBUTORS LTD. (\$125)

Home Oil Distributors Ltd. contributed \$125 to a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

THE HOUSE OF SEAGRAM LTD. (\$250)

On behalf of Joseph E. Seagram and Sons Ltd., Thomas Adams Distillers Ltd., Canadian Distillers Ltd., and the B.C. Distillery Co. Ltd., The House of Seagram Ltd. contributed \$250 to a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

HUDSON'S BAY COMPANY (\$500)

Hudson's Bay Company contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

SAM HUGHES MEMORIAL BURSARY FUND (\$300)

The Sam Hughes Memorial Bursary Fund has been established to honour the memory of the late Sam Hughes, principal of Mill and Timber Products Ltd. The fund is to contribute two \$150 bursaries, one to be awarded to a deserving student in the Forest Resources Technology and one to be awarded to a deserving student in the Business Management Division. The fund was supported by

an initial contribution of \$2,049, representing the total proceeds of donations to the Sam Hughes Memorial Fund.

IMPERIAL OIL LIMITED (\$250)

Imperial Oil Limited contributed \$250 to a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

IMPERIAL ORDER DAUGHTERS OF THE EMPIRE—MT. SEYMOUR CHAPTER (\$150)

Imperial Order Daughters of the Empire—Mt. Seymour Chapter contributed \$150 to be awarded in the Nursing Programme of the Health Division.

IMPERIAL ORDER DAUGHTERS OF THE EMPIRE—RUSKIN CHAPTER (\$150)

Imperial Order Daughters of the Empire—Ruskin Chapter contributed \$150 to be awarded in the Nursing Programme of the Health Division.

INTERNATIONAL BUSINESS MACHINES COMPANY LIMITED (\$200)

International Business Machines Company Limited contributed \$200 for a bursary to be awarded to a student in the Computer Programming and Systems Technology.

I.C.L. ENGINEERING LIMITED (\$300)

I.C.L. Engineering Limited contributed \$300 for a bursary or bursaries to be awarded to a student or students in the Mechanical Technology.

THE INTERNATIONAL NICKEL COMPANY OF CANADA LIMITED (\$300)

The International Nickel Company of Canada Limited contributed \$300 for bursaries, with a value from a minimum of \$100 to a maximum of \$300, to be awarded to students in the Engineering Division.

JOHNSON, WALTON, STEAMSHIPS LTD. (\$25)

Johnson, Walton, Steamships Ltd. contributed \$25 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

JOHNSTON TERMINALS LIMITED (\$150)

Johnston Terminals Limited contributed \$150 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

KELLY, DOUGLAS & COMPANY LIMITED (\$100)

Kelly, Douglas & Company Limited contributed a \$100 scholarship to be awarded to a student in the Marketing Management Technology.

KENNCO EXPLORATIONS, (WESTERN) LIMITED (\$250)

Kennco Explorations, (Western) Limited contributed \$250 for a bursary to be awarded to a student in the Mining Technology.

THE LEON & THEA KOERNER FOUNDATION (\$500)

The Leon & Thea Koerner Foundation contributed \$500 for scholarships to be awarded to students in the Fish, Wildlife, and Recreation Option of the Forest Resource Technology.

L. & K. LUMBER (NORTH SHORE) LIMITED (\$250)

L. & K. Lumber (North Shore) Limited contributed \$250 to a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

LABATT BREWERIES OF BRITISH COLUMBIA LIMITED (\$250) (\$100)

Labatt Breweries of British Columbia Limited contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

LAPIDARY ROCK & MINERAL SOCIETY OF BRITISH COLUMBIA (\$50)

The Lapidary Rock & Mineral Society of British Columbia contributed two \$25 bursaries to be awarded to students in the Mining Technology.

LAURENTIDE FINANCIAL CORPORATION LTD. (\$200)

Laurentide Financial Corporation Ltd. contributed a \$200 scholarship to be awarded to a student in the Financial Management Technology.

LECKY, JOHN MACD. (\$300)

John MacD. Lecky contributed \$300 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

MACMILLAN BLOEDEL LIMITED (\$700)

MacMillan Bloedel Limited contributed two \$350 scholarships to be awarded to a student in each of the Forestry Programme and Forest Products Programme of the Forest Resource Technology.

MCCARTER, NAIRNE & PARTNERS (\$150)

McCarter, Nairne & Partners contributed a \$150 scholarship to be awarded to a student in the Building Technology.

MOHAWK OIL Co. LTD. (\$1,000)

Mohawk Oil Co. Ltd. contributed \$1,000, to be distributed as follows: One \$250 bursary to a deserving student in the Marketing Management Technology, one \$250 bursary to a deserving student in the Operations Management Technology, and two \$250 bursaries to deserving students in the Natural Gas and Petroleum Technology.

MORRISSEY, JOSEPH (\$100)

Joseph Morrissey contributed \$100 to be awarded to a deserving student in the Department of Patient Care Services.

NEWMONT MINING CORPORATION OF CANADA LIMITED (\$1,000)

Newmont Mining Corporation of Canada Limited contributed \$1,000 for bursaries for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund, but preference to be given to students in technologies closely allied to the mining industry.

NORMAN MANNING LIMITED (\$100)

Norman Manning Limited contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

NORTHWEST LATH & PLASTER BUREAU (\$200)

Northwest Lath & Plaster Bureau contributed a \$200 scholarship to be awarded to a student in the Building Technology.

PACIFIC COAST TERMINALS Co. LTD. (\$250)

Pacific Coast Terminals Co. Ltd. contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

PACIFIC LOGGING COMPANY LIMITED (\$500)

Pacific Logging Company Limited contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

PACIFIC PRESS LIMITED (\$250)

Pacific Press Limited contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

PACIFIC WESTERN AIRLINES LTD. (\$250)

Pacific Western Airlines Ltd. contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

E. B. PEERLESS LTD. (\$25)

E. B. Peerless Ltd. contributed \$25 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

PLACER DEVELOPMENT, LIMITED (\$700)

Placer Development, Limited contributed two \$350 scholarships to be awarded to students in any of the following technologies: Chemical and Metallurgical, Mining, or Surveying.

RAYONIER CANADA (B.C.) LIMITED (\$1,050)

Rayonier Canada (B.C.) Limited contributed three \$350 scholarships—one to be awarded to a student in the Wood Option and one to be awarded to a student in the Pulp and Paper Option of the Forest Products Programme, and the third to be awarded to a student in the Forestry Programme, all in the Forest Resource Technology.

READ JONES CHRISTOFFERSON LIMITED (\$100)

Read Jones Christofferson Limited contributed \$100 for a bursary to be awarded to a student in either the Building Technology or the Civil and Structural Technology.

ROYAL CITY FOODS LTD. (\$150)

Royal City Foods Ltd. contributed \$150 for a scholarship to be awarded to a student in the Biological Sciences Technology.

RUSSELL FOOD EQUIPMENT LIMITED (\$300)

Russell Food Equipment Limited contributed two \$150 bursaries to be awarded to students in the Hotel, Motel, and Food Service Management Technology.

SANDWELL & COMPANY LIMITED, BEAK CONSULTANTS DIVISION (\$300)

Sandwell & Company Limited, Beak Consultants Division, contributed \$300 for a scholarship to be awarded to a student in the Forest Products Programme of the Forest Resource Technology.

SAPPERTON FISH AND GAME CLUB (\$100)

Sapperton Fish and Game Club contributed \$100 for a bursary to be awarded to a student in second year of the Fish, Wildlife, and Recreation Option of the Forest Resource Technology.

SAUDER INDUSTRIES LIMITED (\$500)

Sauder Industries Limited contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

SEASpan INTERNATIONAL LTD. (\$200)

Seaspan International Ltd. contributed \$200 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

R. P. SHAFLIK ENGINEERING LIMITED (\$30)

R. P. Shaflik Engineering Limited contributed \$30 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

SHELL CANADA LIMITED (\$250)

Shell Canada Limited contributed a \$250 bursary for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

H. A. SIMONS (INTERNATIONAL) LTD. (\$1,000)

H. A. Simons (International) Ltd. contributed \$1,000 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

SMITHRITE DISPOSAL LTD. (\$250)

Smithrite Disposal Ltd. contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

SPRUCE CITY WILDLIFE ASSOCIATION (\$500)

Spruce City Wildlife Association contributed two \$250 bursaries to be awarded to students from the Central Interior in the Fish, Wildlife, and Recreation Option of the Forest Resource Technology.

STANDARD OIL COMPANY OF BRITISH COLUMBIA LIMITED (\$500)

Standard Oil Company of British Columbia Limited contributed two \$250 bursaries to be awarded to students in the Business Management Division.

STEEL BROTHERS CANADA LTD. (\$100)

Steel Brothers Canada Ltd. contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

SUN-RYPE PRODUCTS LTD. (\$150)

Sun-Rype Products Ltd. contributed \$150 for a scholarship to be awarded to a student in the Biological Sciences Technology.

TAHSIS COMPANY LTD. (\$500)

Tahsis Company Ltd. contributed two \$250 scholarships—one to be awarded to a student in the Forest Products Programme, and one to be awarded to a student in the Forestry Programme of the Forest Resource Technology.

THOMPSON, BERWICK, PRATT & PARTNERS (\$150)

Thompson, Berwick, Pratt & Partners contributed a \$150 scholarship to be awarded to a student in the Building Technology.

THURSTON, F. R. (\$250)

F. R. Thurston contributed \$250 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

TRANS MOUNTAIN OIL AND PIPE LINE COMPANY (\$250)

Trans Mountain Oil and Pipe Line Company contributed \$250 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

TRANSCO MILLS LIMITED (\$90)

Transco Mills Limited contributed \$90 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

UTAH MINES LTD. (\$750)

Utah Mines Ltd. contributed \$750 for deserving students at the Institute of Technology who graduated from North Island Secondary School.

VANCOUVER EXECUTIVES' ASSOCIATION (\$200)

The Vancouver Executives' Association contributed \$200 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

VANCOUVER MILK FOUNDATION (\$500)

The Vancouver Milk Foundation contributed \$10,000 during 1972 to provide on an annual basis two \$250 bursaries to deserving students entering or in the Biological Sciences Technology.

L. A. VARAH LTD. (\$100)

L. A. Varah Ltd. contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

VENICE BAKERY LTD. (\$250)

Venice Bakery Ltd. contributed \$250 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

VICTORIA MILK FOUNDATION (\$500)

The Victoria Milk Foundation contributed \$10,000 during 1972 to provide on an annual basis two \$250 bursaries to deserving students from Vancouver Island entering or in the Biological Sciences Technology.

A. C. WEEKS LIMITED (\$100)

A. C. Weeks Limited contributed \$100 for a deserving student at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

WEISER LOCK CO. LTD. (\$150)

Weiser Lock Co. Ltd. contributed \$150 to be awarded to a deserving student in the Mechanical Technology.

WELDWOOD OF CANADA LIMITED (\$500)

Weldwood of Canada Limited contributed two \$250 bursaries to be awarded to deserving students in the Forest Resource Technology.

WILKINSON COMPANY LIMITED (\$250)

Wilkinson Company Limited contributed \$250 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

WILLIAM ROBINSON LIMITED (\$150)

William Robinson Limited contributed a \$150 bursary to be awarded to a deserving student in the Biological Sciences Technology.

JACK WOODWARD MEMORIAL SCHOLARSHIP AND BURSARY FUND (\$200)

The Jack Woodward Memorial Scholarship and Bursary Fund has been established to honour the memory of the late head of the Chemical and Metallurgical Technology. The Fund is supported by an annual contribution of \$200 from Eldorado Nuclear Limited.

WOODWARD STORES LTD. (\$300)

Woodward Stores Ltd. contributed two \$150 bursaries—one to be awarded to a student in the Biological Sciences Technology, and one to be awarded to a student in the Marketing Management Technology.

WRIGHT ENGINEERING LIMITED (\$250)

Wright Engineering Limited contributed a \$250 scholarship to be awarded to a student in the Mechanical Technology.

XEROX OF CANADA LIMITED (\$500)

Xerox of Canada Limited contributed \$500 for deserving students at the Institute of Technology, to be awarded at the discretion of the trustees of the Scholarship and Bursary Fund.

Business Management Director's Fund

This Fund is available without restrictions to the Director of Business Management Division for special projects and activities. Organizations and companies that have contributed to this fund are:

B.C. Association of Broadcasters.	The Institute of Chartered Accountants.
B.C. Television Broadcasting System Ltd.	Johnston Terminals Ltd.
Canadian Lead and Alloys Ltd.	Pemberton Securities Limited.
Canadian Pacific Airlines.	Real Estate Council of B.C.
Canadian Pacific Hotels Ltd.	Scott Paper Limited.
T. Eaton Company Ltd.	Simpsons-Sears Limited.
The Hotel Vancouver.	Society of Industrial Accountants of B.C.
Hudson's Bay Company.	Trans Mountain Pipe Line Company Ltd.

Hudson's Bay Company Service Awards

These awards are available to first-year students proceeding to their second year in one of the Business Management Technologies. The award comprises payment of tuition fees and dues for the second year, summer employment, and part-time employment according to availability during the academic year. Applicants for these awards should have some interest in and aptitude for retailing, but no obligation of any kind devolves on a successful candidate. Applications are invited from first-year students in March of each year. Selections of recipients are from a list recommended by the Institute.

Academic Medals

Silver medals are awarded annually to the graduate who has achieved the highest academic standing in his programme of studies. The following medals were awarded at the 1973 Convocation Ceremonies. As indicated, most of the awards include a \$100 prize.

OUTSTANDING ACADEMIC ACHIEVEMENT—The Governor General's Silver Medal.

BUSINESS MANAGEMENT DIVISION:

- Administrative Management (Administration Option)—The T. Eaton Co. Limited Award (\$100).
- Administrative Management (Manpower Option)—The Finning Tractor & Equipment Co. Ltd. Award (\$100).
- Broadcast Communications—The British Columbia Association of Broadcasters' Award (\$100).
- Computer Programming and Systems—The British Columbia Telephone Company Award (\$100).
- Financial Management (Accounting Option)—The Society of Industrial Accountants of British Columbia (\$100).
- Financial Management (Finance Option)—BCIT Alumni Award (\$100).
- Hotel, Motel, and Food Service Management—The British Columbia Hotels' Association Award (\$100).
- Marketing Management—The Vancouver Sun Award (\$100).
- Traffic and Transportation Management—The Dow Chemical of Canada, Limited Award (\$125).

ENGINEERING DIVISION:

Biological Sciences:

- Food Production—Agricultural Chemical Industry of Vancouver (\$100).
- Food Processing—Food Executives Club of Vancouver Award (\$100).
- Landscape Horticulture—The British Columbia Nursery Trades Association Award (\$100).
- Building—The Architectural Institute of British Columbia Award (\$100).

Chemical and Metallurgical:

- Industrial Chemistry—The Chemical Institute of Canada Award.
- Physical Metallurgy—The Wire Rope Industries of Canada, Limited Award (\$100).

Civil and Structural—The Col. W. G. Swan Award (\$100).

Electrical and Electronics:

- Electronics—The Lenkurt Electric Co. of Canada, Ltd. Award (\$100).
- Power—The Federal Pioneer Limited Award (\$100).

Forest Resources:

Forestry—The Council of the Forest Industries of British Columbia Award (\$100).

Forest Products (Wood Option)—The Council of the Forest Industries of British Columbia Award (\$100).

Forest Products (Pulp and Paper Option)—The British Columbia Institute of Technology Award (\$100).

Instrumentation and Systems—The Instrument Society of America, the J. J. Garey Memorial Award (\$100).

Mechanical — The Canadian Manufacturers' Association Award (\$100).

Mining—The British Columbia Section, Canadian Institute of Mining and Metallurgy Award (\$100).

Natural Gas and Petroleum—The British Columbia Institute of Technology Award (\$100).

Surveying—The David H. Burnett and Associate Award (\$100).

HEALTH DIVISION:

Medical Laboratory—The British Columbia Society of Medical Technologists Award (\$100).

Medical Radiography — The British Columbia Radiological Society Award (\$100).

Nursing—The Nurses' Association of Lions Gate Hospital Award (\$100).

Prizes

The following prizes were awarded at the 1973 Convocation Ceremonies to graduates who had gained the highest standing in specific subjects related to the pertinent industry or who had shown the greatest combination of academic ability and leadership to warrant unusual recognition.

BUSINESS MANAGEMENT DIVISION

Administrative Management

BLOCK BROS. REALTY LTD. awarded four prizes of \$50 each to four students who had obtained outstanding achievement in Real Estate Management.

THE CHARTERED INSTITUTE OF SECRETARIES, BRITISH COLUMBIA BRANCH, awarded a prize of \$100 to the outstanding graduate in the following course: Business Law 10.360 and 10.460.

Financial Management

CANADA PERMANENT MORTGAGE CORPORATION awarded a prize of \$100 to the outstanding graduate in the following course: Finance 16.361 and 16.461.

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF BRITISH COLUMBIA awarded a prize of \$25 to the students who had attained the highest marks in Auditing 16.346 and 16.446.

THE DOW JONES AND COMPANY INC. awarded a prize to the outstanding student in the Finance Option of the Financial Management Technology.

Hotel, Motel, and Food Service Management Technology

THE BAYSHORE INN prize of \$200 was awarded to an outstanding student in the Hotel, Motel, and Food Service Management Technology.

THE CANADIAN RESTAURANT ASSOCIATION, B.C. DIVISION, awarded a prize of \$100 to an outstanding student in the Hotel, Motel, and Food Service Management Technology.

THE GEORGIA HOTEL prize of \$125 was awarded to a student in the Hotel, Motel, and Food Service Management Technology.

THE HARRISON HOTEL awarded a prize to two students in Human Relations.

THE HOTEL VANCOUVER awarded a prize of \$250 to an outstanding student in the Hotel, Motel, and Food Service Management Technology.

WHITE SPOT LIMITED awarded two prizes, one of \$300 and one of \$200 to two students who had obtained outstanding achievement in the Hotel, Motel, and Food Service Management Technology.

ENGINEERING DIVISION

Building

THE AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS awarded a prize of \$200 to a student who had obtained outstanding achievement in Building Technology Services Option.

THE CANADIAN STRUCTURAL CLAY ASSOCIATION awarded a prize of \$50 to the student who had obtained outstanding achievement in the Building Technology.

P. B. FORD AND CO. awarded \$50 to a student who had obtained outstanding achievement in the Building Technology.

THE JOURNAL OF COMMERCE awarded a prize of \$50 to the student who had obtained outstanding achievement in the Building Technology.

THE ROYAL INSTITUTION OF CHARTERED SURVEYORS Book Prize of \$50 was awarded to the outstanding student in Construction Specifications and Estimating, 40.304, 40.404.

Forest Resource

THE CANADIAN INSTITUTE OF FORESTRY Prize was awarded to the outstanding graduate in the Forestry Programme of the Forest Resource Technology.

THE CANADIAN PULP AND PAPER ASSOCIATION (PACIFIC COAST BRANCH) awarded a prize of \$250 and a scroll to the outstanding graduate in the Pulp and Paper Option of the Forest Resource Technology.

THE COUNCIL OF FOREST INDUSTRIES OF BRITISH COLUMBIA (QUALITY CONTROL DEPARTMENT) awarded a prize of \$100 to the Forest Products student who obtained the highest mark in the lumber-grading examination.

THE VANCOUVER HOO HOO CLUB awarded two prizes of \$125 each to outstanding students in the Wood Option of the Forest Resource Technology.

Mechanical

THE INSTITUTION OF MECHANICAL ENGINEERS Book Prize was awarded to the graduate in the Mechanical Technology who gained the highest marks in the other option from that followed by the student who was awarded the Canadian Manufacturers' Association medallion.

Surveying

THE CORPORATION OF BRITISH COLUMBIA LAND SURVEYORS' Prize was awarded to the outstanding graduating student in the Surveying Technology.

HEALTH DIVISION

THE METROPOLITAN BIO-MEDICAL LABORATORIES LTD. awarded two prizes of \$100 each to the best student in Bacteriology and Bio-Chemistry.

THE ORTHO PHARMACEUTICAL (CANADA) LTD. awarded a prize of \$50 to the outstanding graduate in the Medical Laboratory Programme who had gained the highest standing in Blood Banking.

THE WARNER-CHILCOTT LABORATORIES CO. LIMITED awarded a prize of \$100 to the top academic student in the Medical Laboratory Programme—General Proficiency.

SHERWOOD MEDICAL INDUSTRIES INC. awarded the Paraplast Award of \$100 to the top academic student in the Medical Laboratory Programme—Histology.

New Donations and Awards for 1974

FOOD SERVICE EXECUTIVES ASSOCIATION (\$200)

Food Service Executives Association has informed BCIT that it will award two prizes of \$100 each to two graduates of the Hotel, Motel, and Food Service Management Technology. The prizes are to be awarded at the 1974 Convocation Ceremonies.

DOORMAN AGENCIES LIMITED (\$600)

Doorman Agencies Limited has informed BCIT that the following companies will contribute scholarships of \$200 each to students in the Hotel, Motel, and Food Service Management Technology:

1. C.D.C. — Compagnie Generale des Produits Dubonnet, Paris, France.
2. Marnier Lapostolle (Grand Marnier), Paris, France.
3. Heineken Breweries, Amsterdam, the Netherlands.

Miscellaneous Bursaries

Rotary Club.

Soroptimist Club.

Cal Callahan Memorial Bursary.

(Pipe-line Construction Ind.)

Emergency Fund for Overseas Students.

British Columbia Youth Foundation.

Vancouver Foundation Bursaries.

Vancouver Business and Professional Women's Club.

Vancouver City Hall Employees Bursary.

Washington Pulp & Paper Foundation.

Royal Canadian Legion Awards.

Premier's Athletic Awards.

Hockey Canada Scholarships and Bursary.

Various Nursing Awards.

Molson Awards.

Students wishing further information regarding financial assistance are invited to discuss their needs with the Financial Aid Officer at the Counselling counter. The phone number is 434-5722, local 327.



**Extension
Division**

EXTENSION DIVISION

I. INFORMATION

For complete information on the Extension Division, write Vice-Principal, Extension, British Columbia Institute of Technology, 3700 Willingdon Avenue, Burnaby 2, B.C., or phone 434-5722.

II. AIMS AND OBJECTIVES

The British Columbia Institute of Technology is an institution for advanced technical education, and will continue to make its excellent facilities available for continuing education in the evening in a variety of technical and commercial fields.

Any of the evening programmes offered demand not only ability, but strong motivation and serious effort on the part of the student.

As the demand grows, the Institute, in co-operation with industry through its advisory committees, will expand the number of subjects offered to satisfy the post-secondary technical training needs of almost every segment of trade, commerce, and industry.

The function of the Extension Division is to determine and, if necessary, attach priorities to the advanced technical training needs of adults in industry and then to design programmes and courses to meet these needs so that adults may quickly and efficiently obtain needed skills and knowledge and at the same time integrate this new knowledge with their respective backgrounds.

Continuing education at an advanced level with high standards of instruction is our goal.

III. WHAT THE EXTENSION DIVISION OFFERS

1. The Extension Division of the British Columbia Institute of Technology will give priority to post-secondary training programmes at the level and generally related to the full-time programmes in engineering, business, or health, provided there is both a demand and need for such training. British Columbia Institute of Technology was designed and equipped and is expected to serve these needs.

2. The Extension Division of the British Columbia Institute of Technology will co-operate with organizations to present advanced technical training to assist students to complete the syllabi of associations. Where possible this education will be offered through regular extension courses available under programmes in 1. The Extension Division also will encourage these associations to accept BCIT examinations as credit for their respective programmes.

3. Some students seek only one course in a subject. They may do so even though a course may be part of a programme. The

Extension Division will also offer some general non-programme courses.

4. The British Columbia Institute of Technology will assist in the design and offer advanced technical courses to a company, but preferably to an industry, provided such training is not already available at a convenient time or in the form needed.

5. A further important function of the Extension Division is to provide a service of continuing education to the graduates of this Institute or of similar programmes.

6. The Extension Division, as a by-product of its regular function, will provide a service to day students who could not be accommodated. Students with advanced credit may require Extension courses to proceed to the next level in the day programme. Similarly, students of the day programme who fail some subjects may wish to repeat these subjects through the Extension Division while working and then return to full-time day studies at the next level.

7. The Extension Division has assumed some responsibility to carry on the work of the British Columbia Work Study Centre.

8. The Extension Division may also provide preparatory courses to entry to the British Columbia Institute of Technology if this need must be met and is not adequately served through other educational institutions in the community.

9. When space permits, the Extension Division will facilitate and encourage meetings and seminars of an educational nature or value. These should be related to the educational scope of the Institute.



**Student
Association**

STUDENT ASSOCIATION

All students registered at BCIT are members of the BCIT Student Association and entitled to use of the Student Association facilities. It is the prime concern of the Student Association to provide services for the students of BCIT in a manner which is pleasing to all involved and will serve as much of the student body as possible.

The Student Association is headed by the President and his Executive, six of whom are elected in April of each year, they are the Vice-President Internal, Vice-President External, Treasurer, Activities Chairman, Sports Chairman, and the Publications Chairman, who is appointed. The responsibilities of each of the members of the Executive is explained in their titles; their prime function is to act on behalf of the Student Body of BCIT and provide the Student Body with as many benefits as possible during their two-year stay.

BUSINESS MANAGER

A Business Manager is hired by the Student Association to aid the Executive in the financial dealings of budgets and co-ordinating the Student Offices. Phil Henderson provides the Student Association with assistance and guidance throughout each school-year. If you have any questions that cannot be answered elsewhere, Phil is a good source for information.



OPERATIONS MANAGER

An Operations Manager was hired for the first time during the 1973/74 school-year to handle the operations of the Student Activity Centre for such things as pubs and dances. Because he is in the office on a five-day-a-week basis, more contact can be made with agencies to screen talent which is hired for these events.

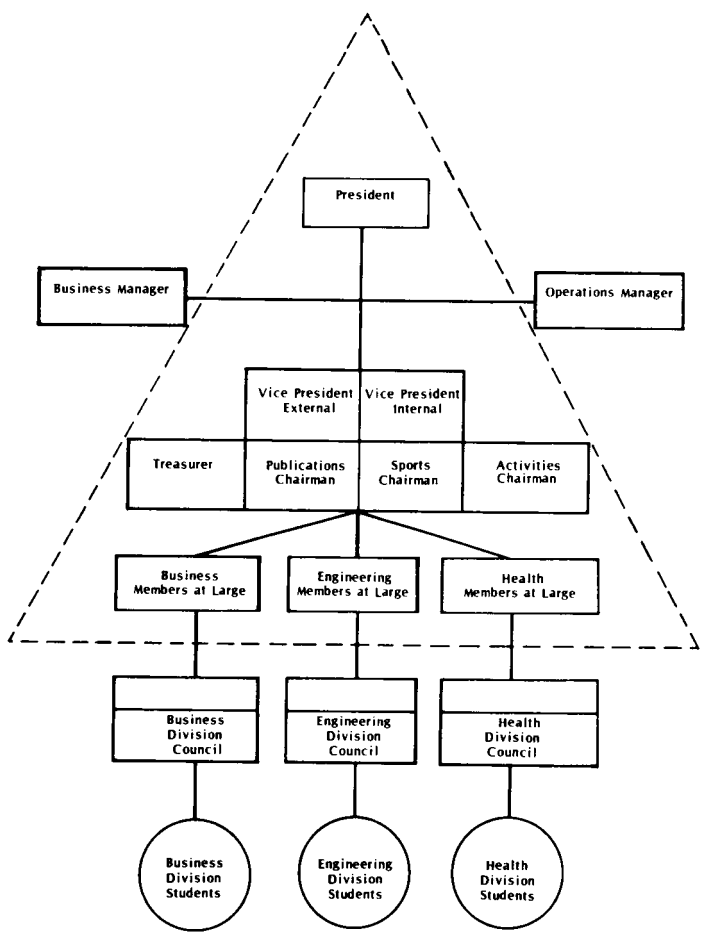
Students wishing information concerning the Student Activity Centre and facilities available should see the Operations Manager in the Student Association office in the SAC.

The third person hired by the Student Association is a secretary who is responsible for the main office of the Student Association. The office is open from 8.30 to 5.30, week-days, and questions concerning the Student Association can be directed at this person.

DIVISION COUNCILS

Under the present Student Association structure, each division of BCIT has a president who is responsible for its individual

STUDENT ASSOCIATION STRUCTURE



division council. Health, Business, and Engineering all have a Societies Office in the SAC. Each president is responsible to both Student Executive and the students of their division. Each division is given a budget for the school-year and sponsors student events. Students wishing activities should see their division council representative or Division president.

STUDENT ACTIVITY CENTRE

The Student Activity Centre is the home of the Student Association and the centre of leisure-time activity for students attending BCIT. Within this building there is a full-size gymnasium, weight room, change rooms, and equipment centre, cafeteria, health service office, Total Emage Hairstyling, TNT Campus Shop, and committee room.

Services available to students in the SAC are pool tables, pin-ball machines, air hockey, ping-pong, and equipment rental for use of equipment in the gym as well as the outdoor tennis and basketball courts.

HEALTH SERVICES

A Health Service office is maintained in the SAC solely for the use of BCIT students, a nurse is on duty during the school-day, and a doctor is in five days a week. At all times there is a doctor on call and the Burnaby General Hospital is within 10 minutes of the campus. All students attending BCIT are urged to take advantage of this service, especially those who are from other parts of the Province.

TNT CAMPUS SHOP

The TNT Campus Shop is maintained by the Student Association for the benefit of BCIT students. It is run on a nonprofit basis and stocks everything for student needs from school supplies to handicrafts. The TNT is now conveniently located in the SAC building and open until 8 o'clock week-nights. A full range of periodicals and reading material is available for your enjoyment. Take advantage of the low student prices.

TOTAL EMAGE HAIRSTYLING

BCIT students are also fortunate enough to have a hairstyling boutique right on campus and at low-budget prices. For top hairstyling for both men and women, check the Total Emage in the East Mall of the SAC, so convenient that you can be serviced during your lunch-hour.



BCIT Campus



Shinerama



Pub Nights

USED BOOKSTORE

The Used Bookstore is operated by the Student Association on a nonprofit basis. Students can sell their old books and buy new ones of good quality and save money at the same time. The Used Bookstore is set up on Registration Day for all students to utilize.

THREE-HOUR BREAK

Every Wednesday during the school-year, BCIT students are given a three-hour break from 11.30 a.m. to 2.30 p.m. This three-hour break enables the Student Association to schedule concerts and guest speakers for the benefit of the entire student body. It also gives the Sports Chairman a time in which to schedule most of his intramural sports activities so a maximum of students can take part. Keep a close watch to see what is scheduled during the Wednesday three-hour breaks.

PUBS

BCIT has been given a cabaret licence by the Provincial Government and operates pubs almost every Friday and Saturday night. Top-name groups from the Lower Mainland are booked for student entertainment. Such annual events as Shinerama, Frosh Queen, Help Hope, Grease Night, and Beerfest are popular. These events are run under the auspices of the Activities Chairman, with the guidance of the Operations Manager.

ATHLETICS

Intramural sports are popular programmes run under the Sports Chairman; activities are usually held during the three-hour break and include football, ice hockey, floor hockey, and volleyball for both male and female students.

An extramural sports programme is also administered by Athletic Co-ordinator Gerry Lloyd; BCIT is a member of the Totem Conference and plays against other community colleges around the Province in ice hockey, soccer, rugby, basketball, and golf, just to name a few.

An Athletics banquet is held annually to recognize the many BCIT students who have participated.

ACTIVITIES

Clubs fall high on the Student Association agenda; students who have interests in such things as motorsports, scuba diving, wine-tasting, kung fu, karate, band, and outdoors have access to good equipment. Students wishing to form clubs should see the Activities Chairman in the Student Association Offices.



Intramural Sports

RESIDENCES

In September 1973, the Minister of Education, Mrs. E. Dailly, announced that BCIT was to make use of the Willingdon School for Girls as a much needed temporary residence. Facilities, including pool, gym, and outdoor track are utilized by many students of BCIT. As these premises are on loan, it is not definite what the future of BCIT residences will be. There is adequate accommodation for 100 students.

The counselling office is responsible for Housing and Allocation of Premises.



Schedule of Prerequisites

Schedule of Prerequisites

Graduation from senior secondary school as prescribed by the Department of Education for the Province of British Columbia, with special prerequisites: Graduation from the Selected or Combined Studies Programme.

BUSINESS MANAGEMENT DIVISION

TECHNOLOGY

- Administrative Management.
- *Broadcast Communications.
- Computer Programming.
- Financial Management.
- *Hotel, Motel, and Food Service Management.
- Marketing Management.
- Operations Management.

SPECIAL PREREQUISITES

- Math. 11.
- Nil.*
- Math. 11.
- Math. 11.
- Nil.*
- Math. 11.
- Math. 12.

HEALTH DIVISION

TECHNOLOGY

- Biomedical Electronics
- Environmental Health.
- Health Data.
- Medical Laboratory.
- Medical Radiography.
- Nuclear Medicine.
- *Registered Psychiatric Nursing.
- *Registered Nursing.

SPECIAL PREREQUISITES

- Math. 12; Phys. 11; Chem. 11.
- Math. 12; two Science 11's; one Science 12 (Chemistry 12 and Physics 11 suggested).
- Math. 12; Type. 11.
- Math. 12; Chem. 11; Chem. 12; and one other Science 11.
- Math. 12; two Science 11's; one Science 12 (Physics, Chemistry, or Biology).
- Math. 12; two Science 11's; Chem. 12.
- One Science 12.
- One Science 12.

ENGINEERING DIVISION

TECHNOLOGY

- Biological Sciences.
- Building.
- Chemical and Metallurgical.
- Civil and Structural.
- Electrical and Electronics.
- Forest Resource—
†Forestry.
- Fish, Wildlife, and Recreation.
- Forest Products—
Pulp and Paper Option.
- Wood Products Option.
- Instrumentation and Systems.
- Mechanical.
- Mining.
- Natural Gas and Petroleum.
- Surveying.

SPECIAL PREREQUISITES

- Math. 12; Chem. 11.
- Math. 12; Phys. 11.
- Math. 12; Chem. 11.
- Math. 12; Phys. 11.
- Math. 12; Chem. 11; Phys. 11.
- Math. 12 plus a Science 11 (Biology preferred).
- Math. 12; Biology 11.
- Math. 12; Chem. 11.
- Math. 12; and one other Science 11.
- Math. 12; Phys. 11; Chem. 11.
- Math. 12; Phys. 11.
- Math. 12; Phys. 11; Chem. 11.
- Math. 12; Phys. 11; or Chem. 11.
- Math. 12; Phys. 11.

† Changes from last year.

* Recommendations on course content page.



List of Programmes

LIST OF PROGRAMMES

BUSINESS MANAGEMENT DIVISION

Administrative Management
Broadcast Communications
Computer Programming and Systems
Financial Management
Hotel, Motel, and Food Service Management
Marketing Management
Operations Management

ENGINEERING DIVISION

Biological Sciences
Building
Chemical and Metallurgical
Civil and Structural
Electrical and Electronics
Forest Resource—
 Forestry
 Forest Products
Instrumentation and Systems
Mechanical
Mining
Natural Gas and Petroleum
Surveying

HEALTH DIVISION

Biomedical Electronics
Environmental Health Technology
Health Data
Medical Laboratory
Medical Radiography
Nuclear Medicine Technology
Registered Nursing (R.N.)
Registered Psychiatric Nursing



**Business Division
Instructional Staff**

BUSINESS MANAGEMENT DIVISION

E. W. H. BROWN, B.A., *Director* (on leave).

P. J. WOOLLEY, B.A., M.A., C.A., *Acting Director*.

ADMINISTRATIVE MANAGEMENT TECHNOLOGY

R. A. CRADOCK, B.COM., M.B.A., R.I.A., *Department Head*.

G. BELL, B.COM., M.A., *Chief Instructor*.

G. E. BISSELL, B.COM., M.A.

MRS. J. P. DEAN, B.A., M.A.

C. J. DICKHOFF, B.A., M.A.(ECON.),
M.A.(PUBLIC ADMIN.), *Senior Instructor*.

L. E. JOHNSON, B.A., M.B.A.

R. M. KINGAN, B.COM., C.P.M.,
R.I.(B.C.).

A. G. LIDDLE, M.B.A.

R. M. SHARP, B.A.Sc., M.B.A.,
P.ENG.

W. D. SPROULE, B.COM., C.A.,
R.I.(B.C.), F.R.I. (on leave of
absence).

N. E. STROMGREN, B.A.

J. A. VERNER, B.A.Sc., M.B.A.

J. H. VIGER, B.COM.

F. C. WILLIAMS, B.A.(HONS.)

R. A. YATLS, LL.B., M.B.A.

BROADCAST COMMUNICATIONS TECHNOLOGY

L. S. H. IRVINE, *Department Head*.

L. J. DAMER.

K. W. HUGHES.

M. C. HUGHES.

R. H. B. NASON, B.A.

L. D. ROSE, B.A.

F. L. SANDERSON, B.Th., *Senior Instructor*.

D. W. SHORT.

COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

D. BRECKNER, B.A.(HONS.), M.A.(HONS.), *Department Head*.

P. ABEL, B.A.(HONS.), C.G.A.

J. W. COOKE, C.G.A., *Senior Instructor*.

A. CZERNIN.

K. E. HOLDEN, R.I.A.

R. B. LONG, C.G.A.

R. MCGOWAN.

E. N. NEWTON, B.VOC.ED.

M. SRIABIN, M.B.A.

F. SENIOR, B.A.(HONS.), *Senior Instructor*.

A. Y. W. WONG, B.A.Sc., P.ENG.

FINANCIAL MANAGEMENT TECHNOLOGY

MISS C. M. BRISCALL, B.COM. M.B.A., R.I.A., *Acting Department Head*.

J. R. H. CURTIS, B.COM.

H. DICK, B.COM.

R. J. DOLAN, B.B.A., M.B.A.

G. H. FARRELL, DIPL.T., R.I.A.

R. W. JACKSON, M.C.I.

E. C. MCINTOSH, B.COM., C.G.A.

M. F. THURGOOD, B.COM., R.I.A.,
M.B.A.

H. B. YACKNESS, B.COM., M.B.A.,
C.A.

HOTEL, MOTEL, AND FOOD SERVICE MANAGEMENT TECHNOLOGY

M. M. COLTMAN, M.B.A., C.G.A., *Department Head*.

R. A. BRETT, DIPL.T.

E. J. COOKE.

B. J. FERNANDES.

R. J. GRIFFITHS, DIPL.T. (on leave
of absence).

K. F. KRUEGER, *Chief Instructor*.

J. G. LINDENLAUB (on leave of
absence).

MARKETING MANAGEMENT TECHNOLOGY

G. H. ABBOTT, B.COM., M.B.A., *Department Head.*

E. M. IANNAcone, B.COM., M.B.A.,
Senior Instructor.

G. T. JACOB, B.A.(HIST. & ECON.),
B.A.(BUS. ADMIN.), M.B.A.

E. Y. MAITLAND.

MRS. D. MICHAELS, B.Sc.,
B.A.(HONS.).

E. T. OSBORN, B.S.A., M.B.A., P.Ag.

W. A. SMITH.

R. W. VANDERMARK, B.A.

WM. A. E. WALLEY, B.A.

OPERATIONS MANAGEMENT TECHNOLOGY

R. G. SMYLLIE, B.A.Sc., P.ENG., *Department Head.*

F. L. GRUEN, B.MGT.ENG.,
M.A.Sc., *Senior Instructor.*

T. L. HART.

K. C. HARTLEY, B.A.Sc.

A. S. LEE, B.ENG., P.ENG.

E. MASON, B.A.Sc., P.ENG.

J. A. I. MILLETTE, B.A.

B. R. M. MORROW, B.COM., *Senior Instructor.*

W. J. SHERIFF, B.A., B.Sc.

E. L. TOTH, B.Sc.

Part-time Instructional Staff, 1973-74

D. MURRAY, LL.B. - - - - *Administrative Management.*

G. McCANCE - - - - *Broadcast Communications.*

M. E. LAMOUREUX - - - - *Marketing Management.*



Business Division
Guest Lecturers

BUSINESS MANAGEMENT DIVISION

GUEST LECTURERS

ADMINISTRATIVE MANAGEMENT TECHNOLOGY

- W. M. FERRIE, Director of Personnel, Scott Paper Limited.
L. A. FINGERSON, Consultant, Vancouver.
L. F. HAGGMAN, Regional Personnel Manager, Department of Manpower and Immigration, Pacific Region.
R. G. HERBERT, Faculty of Law, University of British Columbia.
D. A. KING, Senior Industrial Engineer, Management and Productivity Centre, British Columbia Research Council.
R. C. MILLER, President, G.R.I. Developments Ltd.

BROADCAST COMMUNICATIONS TECHNOLOGY

- B. ANTONSON, Production Assistant, Radio Station CKNW.
B. CLARKE, Commentator, Radio Station CKWX.
M. COOPER, General Manager, Radio Station CFAX.
H. L. DAVIS, Programme Director, Radio Station CKNW.
K. DUNCAN, Director of Photography, Canwest Film Productions Ltd.
W. C. ELLIOTT, Vice-President/Production, CHAN-TV.
J. EMSLIE, Environmental Meteorologist, Federal Environmental Department, Vancouver International Airport.
F. ENGEL, Film Operations Manager, CBC-TV, Vancouver.
D. E. HAMILTON, President, Canadian Association of Broadcasters.
G. HANNEY, News Editor, CHAN-TV.
R. HENNESSY, Music Director, Radio CKLG.
REV. A. HIVES, Communications Consultant.
G. KERN, Recording Engineer, Radio Station CKWX.
B. LANE, Television Producer, British Columbia Television Ltd., CHAN-TV.
D. LIDDELL, Producer, Cable 10, Vancouver Cablevision Ltd.
MRS. B. NAKATSU, Make-up Artist, CBUT.
L. M. PARRY, President, Lew Parry Film Productions Ltd.
R. W. SERVICE, Television Production Manager, CBC-TV, Vancouver.
B. TACHEUCHI, Make-up Artist, CBC-TV, Vancouver.

COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

- D. ELLIOTT, Systems Analyst, British Columbia Telephone Company.
A. J. GAITENS, Systems Development Manager, Nissan Automobile Co. (Canada) Ltd.
G. T. KIDD, Academic Systems Director, Simon Fraser University.

FINANCIAL MANAGEMENT TECHNOLOGY

- H. J. BOW, Superintendent, International Banking, Bank of British Columbia.
K. BUSFIELD, Vice-President, Real Estate and Mortgage Division, Laurentide Financial Corporation Ltd.
G. H. EATON, Vice-President, Bank of British Columbia.
J. FINSSON, Credit Manager, Takahashi Ltd.
D. FOREMAN, Richardson Securities Ltd.
W. M. GOODLET, Credit Manager, Home Oil Distributors Ltd.
H. K. NAYLOR, Assistant General Manager, Western Division, Canada Permanent Trust Co.
THE HONOURABLE R. M. STRACHAN, Minister of Transport and Communications, British Columbia.
G. G. WALLACE, Branch Manager, Prudential Assurance Co. Ltd. of England.

HOTEL, MOTEL, AND FOOD SERVICE MANAGEMENT TECHNOLOGY

- D. ALLAN, General Sales Manager, Fletcher's Fine Foods.
R. S. D. ALPEN, Sales Representative, Andrés Wines (B.C.) Ltd.
G. BARTEL, President, Bartel Tours Ltd.
B. BEAN, Sales Representative, National Cash Register Co. of Canada Ltd.
W. BLAIR, Division Sales Manager, Southam Farwest Printing Ltd.
F. BOKENFOHR, Alcoholism Foundation of B.C.
R. BROWN, Menu Consultant, Brock Webber Co. Ltd.
L. COPELAND, Public Health Inspector, Burnaby Health Unit.
P. J. DINEEN, Promotional Sales Representative, Swift Edible Oil Division, Swift Canadian Co. Ltd.
R. DRAKE, Sales Director, Hotel Vancouver.
W. P. DOVER, Regional Manager, Canadian Food Service Management Ltd.
B. DOYLE, General Sales Plant Manager, B.C. Packers Ltd.
J. A. ELLIOTT, Sales Representative, Burke & Associates.
D. P. FORSTER, Consultant, Planning & Design.
W. A. GOODBRAND, Consultant, W. A. Goodbrand & Associates Ltd.
G. HARVEY, Public Health Inspector, Burnaby Health Unit.
X. HETZMANN, Executive Chef, Bayshore Inn.
MISS J. HOWARTH, Home Economist, B.C. Packers Ltd.
J. C. LEACH, Western Representative, Pan American Coffee Bureau.
K. LEITCH, Food Merchandising Consultant, Lamex Industries Ltd.
B. F. MACNEILL, Sales Representative, B.C. Packers Ltd.
E. PERKINS, Production Manager, Southam Farwest Printing Ltd.
J. PHILLIPS, Union Agent, Local No. 835, Burnaby.
C. POETES, Western Supervisor, Canadian Food Service Management Ltd.
H. POLLACCO, Sales Representative, Sweda International Ltd.
P. F. RENNER, Burnaby.
E. RUELE, Advertising Manager, McDonald Restaurants.
G. SAWYER, Sales Representative, Anker Co.
H. SCHAAD, Food & Beverage Manager, Georgia Hotel.
R. SCOTT, B.C. Government.
MRS. L. SIDDAWAY, Employment Director, Western Institute for Deaf.
M. STEWART, Sales Representative, Andrés Wines (B.C.) Ltd.
L. A. TERRY, Sales Supervisor, Food Service Division, Swift Canadian Co. Limited.
K. THOMPSON, Sales Supervisor, Garland Commercial Ranges.

MARKETING MANAGEMENT TECHNOLOGY

- R. ALBORG, Unemployment Insurance Commission.
G. T. BATES, Manager, Marketing & Sales, Canadian Pacific Rail.
R. BURNIE, Buyer, Ralph S. Plant Ltd.
J. CAMPBELL, Manager, Canadian Freightways, Burnaby.
E. CASOLA, District Port Appraiser, Department of National Revenue, Customs and Excise Division, District Port Appraisal Branch.
C. CLAGUE, Sales Manager, Victoria Sawmill Division, B.C. Forest Products Ltd.
R. H. CLARKSON, Restaurant & Hotel Representative, Dairyland.
A. W. CROSS, Director, Customer Service Training, Pacific Western Airlines, Vancouver International Airport.
MRS. JANE DURANT, Placement Officer, Pacific Western Airlines, Vancouver International Airport.

P. EPP, Systems Engineering Analyst, Finning Tractor and Equipment Co. Ltd.
 I. FROESE, President, Canadian Trucking Association.
 R. GARTON, Owner/Manager, Big 'N Tall Shop Ltd.
 W. HENDERSON, Sales Manager, B.C. Region, Cottrell Forwarding Co. Ltd.
 J. HUGHES, Accounts Executive, B.C. Management Recruiters.
 R. E. HURRY, Assistant Sales Manager, Dairyland.
 R. G. JOHNSON, General Manager, Crown Zellerbach Stores Ltd.
 P. KAINES, General Manager, Grey Beverage Ltd.
 CAPT. J. W. KAVENAUUGH, Port Manager, Fraser River Harbour Commission.
 H. J. MALCOLM, Vice-President, Allied Van Lines Ltd.
 CAPT. S. S. MARTIN, Marine Manager, Imperial Oil Ltd.
 G. MOXON, Sales Representative, B.C. District Telegraph Co. Ltd.
 G. MURRAY, Systems/Operations Analyst, Buckerfield's Ltd.
 A. H. PEARCE, Manager, Personnel, Pacific Western Airlines, Vancouver International Airport.
 K. J. PEARSON, Supervisor, Customer Service Training, Pacific Western Airlines, Vancouver International Airport.
 DR. V. S. PENDAKUR, Department of Economics, University of British Columbia.
 J. PESKETT, Director/Home Services, Nabob Foods.
 L. REICHERT, Copywriter Chief, Radio Station CJOR.
 M. RICHARDSON, Store Manager, Beaver Lumber Co. Ltd.
 D. SZABO, Marketing Research Manager, Wood Products, Weldwood of Canada Ltd.
 M. WALLEY, President, Pacific Tariff Service Ltd.
 J. WATERS, Account Executive, Vickers & Benson (Western) Ltd.
 P. WESTWOOD, Systems Analyst, Hudson's Bay Company.
 A. H. WHITELAW, Regional Distribution Superintendent, Simpsons-Sears Ltd.
 D. M. ZEHNDER, District Manager (Pacific Northwest), Emery Air Freight Corporation.

OPERATIONS MANAGEMENT TECHNOLOGY

G. BROWN, Production Control, Canron Ltd.
 J. C. CLAPHAM, Partner, Kates, Peat, Marwick & Co.
 A. TURNER, Head, Operations Research Section, B.C. Research Council.

TEACHING ASSOCIATES

BROADCAST COMMUNICATIONS TECHNOLOGY

BY STAFF OF

CBUT.	CFJC, KAMLOOPS.
CHAN-TV.	CKNL, KAMLOOPS.
CKNW.	CKXR, SALMON ARM.
CKLG.	KGMI, BELLINGHAM.
CKWX.	KING-TV, SEATTLE.
CHWK, CHILLIWACK.	KIRO-TV, SEATTLE.
CKOK, PENTICTON.	KOMO-TV, SEATTLE.
CKOV, KELOWNA.	VANCOUVER CABLEVISION.
CHBC-TV, KELOWNA.	

SPECIAL VISITING LECTURERS

RALPH S. CAREY, Archivist, B.C.I.T.
 JOHN MACD. LECKY, Chairman, Vancouver Town Planning Commission.

ADMINISTRATIVE MANAGEMENT

ADMINISTRATION OPTION ADVISORY COMMITTEE

Chairman:

F. W. VANSTONE, Vice-President, Finance, Neonex International Ltd., Vancouver.

Ex Officio:

E. W. H. BROWN, Director (on leave).

P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.

R. A. CRADOCK, Department Head, Administrative Management Technology, British Columbia Institute of Technology, Burnaby.

Members:

W. A. ALLEN, Vice-President, Bank of British Columbia, Vancouver.

R. B. ASHFORTH, Assistant General Manager, The Royal Bank of Canada, Vancouver.

V. P. BONAME, Vice-President, Ira Young & Associates, Vancouver.

T. P. BOYLE, Corporate Controller, MacMillan Bloedel Ltd., Vancouver.

G. T. CORLETT, Vice-President & General Manager, The Toronto Dominion Bank, Pacific Division, Vancouver.

R. H. DOWNEY, Manager, Manpower & Organization Planning, B.C. Hydro & Power Authority, Vancouver.

J. R. ECCLES, Controller, Westminster Volkswagen Ltd., New Westminster.

W. J. EGLETON, Supervisor, Security Credit Card Supplies Ltd., Vancouver.

D. A. GRAY, Vice-President, Technical Services, Canadian Pacific Air, Vancouver.

J. E. HOEGG, President, Grouse Mountain Resorts Ltd., Vancouver.

J. HOWES, Treasurer, Dominion Construction Co. Ltd., Vancouver.

D. O. HUNTER, Assistant Treasurer, West Coast Transmission Company Limited, Vancouver.

R. J. KAYSER, Senior Vice-President, The Bank of Montreal, Vancouver.

MISS M. H. MACMILLAN, Regional Director of Personnel, Unemployment Insurance Commission, Vancouver.

R. C. STAGG, Director of Education, Block Bros. Realty Ltd., Vancouver.

B. VAN DER WOERD, Director of Personnel Services, Insurance Corporation of British Columbia, Vancouver.

B. C. WARD, General Manager, B.C. Operations Simpsons-Sears Ltd., Burnaby.

J. B. WYNN, Personnel Manager, Woodward Stores Ltd., Vancouver.

MANPOWER MANAGEMENT OPTION ADVISORY COMMITTEE

Chairman:

W. M. FERRIE, Director of Personnel, Scott Paper Limited, New Westminster.

Ex Officio:

E. W. H. BROWN, Director (on leave).

P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.

R. A. CRADOCK, Department Head, Administrative Management Technology, British Columbia Institute of Technology, Burnaby.

G. BELL, Chief Instructor, Administrative Management Technology, British Columbia Institute of Technology, Burnaby.

Student Representative:

MISS JEANIE WILLIAMSON, Manpower Management Option.

Members:

- W. I. BEEBY, Employment Development Consultant, Département of Manpower & Immigration, Pacific Region, Vancouver.
- L. E. BRIDGE, Personnel Superintendent, Hudson's Bay Company, Vancouver.
- P. F. CHISHOLM, Administrative Manager, Shellburn Refinery, Shell (Canada) Ltd., North Burnaby.
- R. D. CUMMING, Administrative Superintendent, Anaconda Britannia Mine, Division of Anaconda (Canada) Ltd., Britannia.
- MRS. C. E. DOWAD (Alumni Rep.), Personnel Officer, Pearson Hospital, Vancouver.
- W. G. GODDARD, Assistant Director, Personnel Services, MacMillan Bloedel Ltd., Vancouver.
- G. GRIFFITHS, Manager, Manpower Development & Educational Services, British Columbia Hydro and Power Authority, Vancouver.
- S. J. HATCHETT, Director of Employee Development, B.C. Telephone Company, Vancouver.
- R. D. HIGGINS, Chief Personnel Officer, Public Service Commission, Victoria.
- W. H. HORNER, Manager, Employee Relations, Trans Mountain Pipe Line Co. Ltd., Vancouver.
- A. J. KEYLOCK, Industrial Relations Director, Employers' Council of B.C., Vancouver.
- D. H. LAWSON, Manager, Personnel Services, Crown Zellerbach (Canada) Ltd., Vancouver.
- G. D. M. LESLIE, Director, Municipal Labour Relations Bureau, Burnaby.
- W. C. SHELLARD, Regional Educational Liaison Officer, Public Service Commission of Canada, Vancouver.
- B. P. STROMGREN, Area Personnel Manager, Finning Tractor & Equipment Co. Ltd., Prince George.
- G. H. TAYLOR, Director of Employee Relations, H. A. Simons Ltd., Consulting Engineers, Vancouver.

BROADCAST COMMUNICATIONS ADVISORY COMMITTEE

Chairman:

W. C. ELLIOTT, Vice-President, Production, British Columbia Television Broadcasting System, Ltd., Burnaby.

Ex Officio:

- E. W. H. BROWN, Director (on leave).
- P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
- L. S. H. IRVINE, Department Head, Broadcast Communications Technology, British Columbia Institute of Technology, Burnaby.
- F. L. SANDERSON, Senior Instructor, Broadcast Communications Technology, British Columbia Institute of Technology, Burnaby.

Members:

- B. A. ANTONSON, DIPL.T. (Alumni Rep.), Production Assistant, Radio Station CKNW, New Westminster.
- J. ASHBRIDGE, Radio-Television News Directors' Association, Vancouver.

D. BARKMAN, President and General Manager, CHWK, Chilliwack.
 C. COPELAND, Radio Station CFAX, Victoria.
 S. W. DAVIS, President, Broadcast Technical Services Ltd., Vancouver.
 J. D. ELTON, General Manager, Radio Station, CKWX, Vancouver.
 W. HUGHES, Executive Vice-President, Western Broadcasting Co. Ltd., Vancouver.
 H. M. PALMER, Director of Television, Canadian Broadcasting Corporation, Vancouver.
 R. W. SERVICE, Television Production Manager, Canadian Broadcasting Corporation, Vancouver.
 R. SHARPE, Sales Manager, CHBC-TV, Kelowna.

COMPUTER PROGRAMMING AND SYSTEMS ADVISORY COMMITTEE

Chairman:

J. R. P. POWELL, Manager, Data Processing, MacMillan Bloedel Limited, Vancouver.

Ex Officio:

E. W. H. BROWN, Director (on leave).
 P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
 D. BRECKNER, Department Head, Computer Programming and Systems Technology, British Columbia Institute of Technology, Burnaby.
 C. N. MACKEOWN, Manager, Administrative Systems, British Columbia Institute of Technology, Burnaby.

Members:

J. BAIRD, Director of Data Processing and Research, Transportation and Communications, Parliament Buildings, Victoria.
 MRS. B. BERG, Vancouver.
 A. COLBECK (Alumni Rep.), Senior Programmer, E.D.P. Services, MacMillan Bloedel Limited, Vancouver.
 W. R. ELLWOOD, Director, Computer Services, CP Air, Vancouver.
 E. S. GARDNER, Manager, Data Processing, British Columbia Hydro and Power Authority, Vancouver.
 DR. J. M. KENNEDY, Director of Computing Centre, University of British Columbia, Vancouver.
 J. M. LEVY, Controller, Hudson's Bay Co., Vancouver.
 J. G. PIKET, Manager, Computer Systems, Block Bros. Realty Ltd., Vancouver.
 W. H. SMITH, Manager, Data Processing, Malkin's Division of Westfair Foods Ltd., Vancouver.

FINANCIAL MANAGEMENT ADVISORY COMMITTEE

Chairman:

L. N. DYER, Director and Secretary-Treasurer, The Canadian Fishing Company Limited, Vancouver.

Ex Officio:

E. W. H. BROWN, Director (on leave).
 P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
 MISS C. M. BRISCALL, Acting Department Head, Financial Management Technology, British Columbia Institute of Technology, Burnaby.

Members:

- E. L. AFFLECK, Director of Education, Institute of Chartered Accountants of British Columbia, Vancouver.
W. C. EILERS, Vice-President, Pemberton Securities Limited, Vancouver.
J. B. FERGUSON, Vice-President, Gulf of Georgia Towing Co. Ltd., Vancouver.
P. G. HARRIS, Chairman, Education Committee, Society of Industrial Accountants of British Columbia, Vancouver.
R. E. LAPP, Co-ordinator, Institute of Canadian Bankers, Vancouver.
W. C. MCCALPIN, President, McCalpin, Leche & Company Limited, Vancouver.
R. G. SPELLISCY, Vice-President and Controller, Canada Safeway Limited, Vancouver.
L. R. SPRINGALL (Alumni Rep.), Controller and Secretary, E.D.P. Industries Ltd., Vancouver.
C. J. TRUNKFIELD, Director of Education, General Accountants Association of Canada, Vancouver.
D. G. USHER, Partner, Thorne, Gunn, Helliwell & Christenson, Vancouver.
M. H. W. VINCENT, Director of Undergraduate Affairs, Certified General Accountants Association of British Columbia, Vancouver.

**HOTEL, MOTEL, AND FOOD SERVICE MANAGEMENT
ADVISORY COMMITTEE**

Chairman:

- R. J. STOUT, Vice-President, White Spot Ltd., Vancouver.

Ex Officio:

- E. W. H. BROWN, Director (on leave).
P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
M. M. COLTMAN, Department Head, Hotel, Motel, and Food Service Management Technology, British Columbia Institute of Technology, Burnaby.
K. F. KRUEGER, Chief Instructor, Hotel, Motel, and Food Service Management Technology, British Columbia Institute of Technology, Burnaby.

Members:

- D. BELLAMY, Managing Director, Canadian Restaurant Association, British Columbia Division, Vancouver.
V. T. BURT, General Manager, Hotel Vancouver, Vancouver.
J. M. BYROM, Secretary-Manager, The University Club of Vancouver, Vancouver.
MRS. J. DANN, Executive Secretary, British Columbia Motels, Resorts, and Trailer Parks Association, Vancouver.
B. JENSEN (Alumni Rep.), Branch Manager, Flight Kitchen, Cara Operations Ltd., Richmond.
T. A. KILBY, General Manager, Travelodge Delta, Scottsdale, Delta.
R. LECOURS, Regional Supervisor, Canadian Food Service Management Limited, Vancouver.
R. LYON, General Manager, Grosvenor Hotel, Vancouver.
L. W. MANUEL, Managing Director, British Columbia Hotels' Association, Vancouver.

- A. OADES, General Manager, Bayshore Inn, Vancouver.
 W. PATTISON, President, Delta Hotels Ltd., Vancouver.
 D. M. RICHARDS, (Alumni Rep.), Director of Sales, Century Plaza Hotel, Vancouver.
 J. A. ROBSON, General Manager, Vancouver Lawn Tennis and Badminton Club, Vancouver.
 K. H. G. SCHUMANN, General Manager, Stuart Anderson's Black Angus Restaurants, Vancouver.
 J. H. SYRETT, Area Food Services Manager, Eaton's Food Services Ltd., Vancouver.

MARKETING MANAGEMENT

MARKETING MANAGEMENT ADVISORY COMMITTEE

Chairman:

- R. T. STEWART, Vice-President, Marketing, Scott Paper Limited, Vancouver.

Ex Officio:

- E. W. H. BROWN, Director (on leave).
 P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
 G. H. ABBOTT, Department Head, Marketing Management Technology, British Columbia Institute of Technology, Burnaby.

Members:

- P. H. E. BJARNASON, Chairman of the Board, Koffler Stores Limited, Cunningham Division, Vancouver.
 D. G. BUCKLEY, General Manager, Western Region, Hudson's Bay Company, Vancouver.
 J. L. DAMPIER, Vice-President and General Manager, Nabob Foods, Burnaby.
 MISS K. DURNIN (Alumni Rep.), Research Assistant, Hamilton Harvey Department Stores, Vancouver.
 T. R. FARRELL, President, Woodward Stores Ltd., Vancouver.
 J. I. GOURLAY, National Drug & Chemical Company Ltd., Vancouver.
 D. J. HUDSON, General Manager, Eaton's, B.C. Stores, Vancouver.
 J. MACD. LECKY, Chairman, Vancouver Town Planning Commission.
 J. NAIRN, Manager, Market Research and Statistics, British Columbia Hydro and Power Authority, Vancouver.
 S. M. OBERG, D.B.A., Associate Professor, Faculty of Commerce and Business Administration, University of British Columbia, Vancouver.
 BRUCE C. WARD, General Manager, British Columbia, Simpsons-Sears Limited, Burnaby.
 W. C. WRIGHT, President and General Manager, Gault Bros. Ltd., Vancouver.

TRAFFIC AND TRANSPORTATION MANAGEMENT ADVISORY COMMITTEE

Chairman:

- W. E. MCKINNEY, Vice-President, Sales, Johnston Terminals Ltd., Vancouver.

Ex Officio:

- E. W. H. BROWN, Director (on leave).
- P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
- G. H. ABBOTT, Department Head, Marketing Management Technology, British Columbia Institute of Technology, Burnaby.
- E. M. IANNACONE, Senior Instructor, Traffic and Transportation Option, British Columbia Institute of Technology, Burnaby.

Members:

- H. L. ANDERSON, Manager, Purchasing and Traffic, Dow Chemical of Canada Ltd., Delta, and Past National Director of Education, Canadian Industrial Traffic League.
- C. N. ARMSTRONG, Industrial Engineer, Plywood Division, MacMillan Bloedel Ltd., Vancouver, and Past Educational Chairman, B.C. Chapter, International Materials Management Society.
- J. C. BENEDETTI, Administrative Assistant to Vice-President, CP Rail, Vancouver.
- S. J. BOGGIS, Traffic Manager, Woodward Stores Ltd., Vancouver.
- F. BUCHANAN, Manager, Steamship Department, Balfour Guthrie (Canada) Ltd., Vancouver.
- J. CAMPBELL, Manager, Canadian Freightways, Burnaby.
- T. D. HEAVER, Lecturer, Faculty of Commerce and Business Administration, University of British Columbia, Vancouver.
- B. C. O'MALLEY, Traffic Manager, Leith & Dyke Ltd., Vancouver.
- A. D. RUSSELL, Cargo Sales and Service Regional Manager, Air Canada, Vancouver.
- R. E. SEIDELMAN (Alumni Rep.), Operations & Transportation Division, Standard Oil Co. of B.C. Ltd., Vancouver.

OPERATIONS MANAGEMENT ADVISORY COMMITTEE

Chairman:

[To be appointed.]

Ex Officio:

- E. W. H. BROWN, Director (on leave).
- P. J. WOOLLEY, Acting Director, Business Management Division, British Columbia Institute of Technology, Burnaby.
- R. G. SMYLLIE, Department Head, Technical Management Technology, British Columbia Institute of Technology, Burnaby.

Members:

- S. F. CROCKER, President, B.C. Equipment Co. Ltd., Vancouver.
- G. R. DAWSON, President, Dawson Construction Ltd. and Dawson & Hall Ltd., Vancouver.
- B. G. GINTER, President, Tartan Brewing Ltd., Prince George.
- R. JENS (Alumni Rep.), Methods Analyst, Finning Tractor & Equipment Co. Ltd., Vancouver.
- L. KELLOGG, Vice-President, Stevenson & Kellogg Ltd., Vancouver.
- D. A. KING, Industrial Engineer, British Columbia Research Council, Vancouver.

- C. N. MACKEOWN, Manager, Administrative Systems, British Columbia Institute of Technology, Burnaby.
- E. H. McCAFFERY, Secretary-Manager, British Columbia Branch, Canadian Plumbing and Mechanical Contractors' Association, Vancouver.
- J. W. MILLER, Executive Vice-President, Fleck Bros. Ltd., Vancouver.
- J. PATTERSON, Vice-President, Peter Kiewit & Sons of Canada Ltd., Vancouver.
- A. S. RENDELL, President, Rendell Tractor & Equipment Co. Ltd., Vancouver.
- D. S. SMITH, Head, Division of Technical Services, British Columbia Research Council, Vancouver.
- E. D. SUTCLIFFE, General Manager, British Columbia Operations, Dominion Construction Co. Ltd., Vancouver.
- F. TEMPLETON, President, Wing Machinery Ltd., Vancouver.





Business Division Programmes



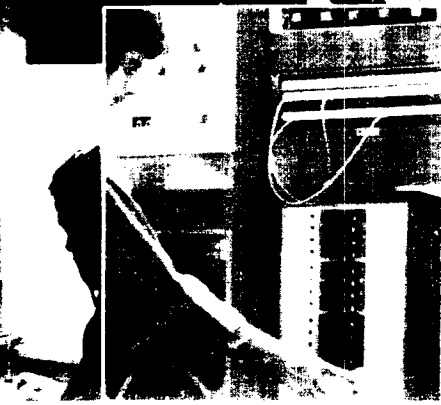
Business Management Division

The Business Management Division offers a two-year full-time programme in a number of important areas of business. The division graduates approximately 350 students each year and has an enviable placement record. Most technologies achieve a 100 per cent placement of their graduates and in recent years the placement of graduates by the September following graduation has not been below 90 per cent for any technology.

The reason for this high demand for BCIT graduates from the Business Management Division is not difficult to find. The business programmes are set up with the expert guidance of advisory committees. The programmes are well established and relevant to the needs of the students and the business community. Last, but not least, over the years the graduates from the Business Management Division have proved their worth in the actual job situation.

Business today is not a simple matter. In former times it was considered satisfactory for a high school graduate to start "at the bottom rung of the ladder." Nowadays the entrant into the business world must have basic skills and preferably also specialized knowledge and a direction in which to go. For this reason you are invited to examine the various programmes offered in the following pages by the different technologies of the Business Management Division. For your convenience, a summary of the Business Management Division technologies is given below:

- Administrative Management
 - Administration Option
 - Manpower Management Option
- Broadcast Communications
- Computer Programming and Systems
 - Business Systems Option
 - Management Science Option
- Financial Management
 - Accounting Option
 - Finance Option
- Hotel, Motel, and Food Service Management
 - Hotel, Motel, and Food Service Option
 - Tourism Option
- Marketing Management
 - Marketing Management Option
 - Traffic and Transportation Management Option
- Operations Management



Business Management Division

Administrative Management Technology

The Administrative Management Technology is designed to give a broad yet thorough understanding of modern business practices, and to fit the student for efficient administrative performance.

The first year is utilized for basic groundwork. In the second year of the programme, students may specialize in one of three fields by selecting a particular option. The options available are Administration and Manpower Management.

Administration Option

This option is broad in scope and gives the student a foundation in a variety of administrative subjects useful in entering a wide selection of business enterprises.

Administrative positions in this area involve such functions as planning, research, finance, and business organization. After appropriate job experience, opportunities would be at the intermediate level, such as office manager, department or branch manager.

Manpower Management Option

It is increasingly recognized that productivity in business and industry depends to a great extent on the development and utilization of human resources.

This option emphasizes those areas which are important to this purpose. The selection and placement of manpower, principles of psychology applied to administration, relations between management and labour, the training and development of manpower on the job are areas of study which are peculiar to the option.

Students electing to enter the Manpower Management Option should have a strong desire to take part in the management of people and should be prepared to examine and evaluate objectively the results of recent research in this field. Positions available in this area will involve the many aspects of manpower management, such as training and development, personnel selection, industrial relations, and organization development.

BUSINESS MANAGEMENT DIVISION
ADMINISTRATIVE MANAGEMENT TECHNOLOGY

YEAR 1	Term 1	Classroom Hrs. per Wk.
10.131	Management in Industry	3
10.135	Economics	3
14.050	Introduction to Data Processing	4
14.182	Office Equipment	3
16.140	Accounting	5
20.191	Marketing	3
22.110	Business Mathematics	4
31.102	Communication	4
	Library and Research	6
		<hr/> 35

	Term 2	
10.221	Psychology in Management I	3
10.231	Administrative Practices	4
10.235	Economics	3
14.296	Office Systems and Procedures	3
16.240	Accounting	5
20.291	Marketing	3
22.210	Business Statistics	4
31.202	Communication	4
	Library and Research	6
		<hr/> 35

YEAR 2	Term 3	ADMIN. OPTION Classroom Hrs. per Wk.	MAN. MGT. OPTION Classroom Hrs. per Wk.
No.	Subject		
10.321	Psychology in Management II		3
10.325	Industrial Relations	4	4
10.327	Organization Renewal and Development		3
10.332	Real Estate Management	3	
10.360	Business Law	3	3
10.380	Interpersonal and Organizational Behaviour	3	
10.383	Personnel Administration		3
14.052	Computers in Business	4	4
16.345*	Credit and Collections	4	
16.361	Finance	4	4
22.310	Management Engineering I	3	3
	Library and Research	7	8
		<hr/> 35	<hr/> 35

	Term 4	
10.425	Industrial Relations	3
10.427	Training and Development	3
10.428	Project in Industry	6
10.432	Real Estate Management	3
10.434	Managerial Policy	3
10.460	Business Law	3
10.483	Personnel Administration	4
16.443	Management Accounting	4
16.461	Finance	4
22.410	Management Engineering II	4
	Library and Research	8
		<hr/> 35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: Mathematics 11.

* Alternative elective, 20.323 Sales Management.

Business Management Division

Broadcast Communications Technology

The Broadcast Communications programme was initiated through the combined efforts of the private sector of the industry and the Canadian Broadcasting Corporation in this Province. The need for trained personnel continues to grow, both in radio and television broadcasting, and particularly since the advent of cablecasting and increased interest in the audio-visual field.

The educational emphasis is upon versatility, so that a graduate may find employment in a variety of occupations within the broadcast industry. To this end, all students have the opportunity of selecting one of three electives in their second year of studies—Radio Production, Television Production, and Electronic Journalism.

Applicants are reminded that the Institute can accept only a limited number of students in this technology, and they should, therefore, be certain to include with their applications full details as to related experience and extra-curricular courses or aptitude for the field. Wherever possible, the applicant should apply for an interview with the Institute Counselling Service and, following that, with departmental personnel of Broadcast Communications. If such an interview is not possible, write to the Department Head, and an interview in the field may be arranged.

The prospective student is expected to have a thorough knowledge of English. Previous studies in the areas of Civics and Current Events will also prove of value.

The Communications Industry offers graduates interesting, challenging, and rewarding work, with good opportunities for advancement in such varied areas as Radio and Television Broadcasting, Electronic Journalism, Public Relations, Advertising, Cablecasting, and Audio-Visual work.

Early application to this technology is highly recommended.



BUSINESS MANAGEMENT DIVISION
BROADCAST COMMUNICATIONS TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
10.161	Law for Broadcasters		2
12.101	Introduction to Radio	}	12
12.102	Introduction to Television		
12.103	Introduction to Electronic Journalism		
12.105	Industry Organization		5
20.190	Writing and Sales		4
31.105	Communication for Broadcasters		3
	Library and Research		7
			35

		Term 2	
12.201	Introduction to Radio	}	12
12.202	Introduction to Television		
12.203	Introduction to Electronic Journalism		2
12.205	Industry Organization		5
12.206	History and Current Events		2
20.290	Writing and Sales		4
31.205	Communication for Broadcasters		3
	Library and Research		7
			35

YEAR 2		Term 3	
10.381	Interpersonal and Organizational Behaviour		3
*12.307	Production Techniques I	}	3
*12.308	Production Techniques II		
12.311	Radio Production	}	22
12.312	Television Production		
12.313	Electronic Journalism		
31.305	Communication for Broadcasters		3
	Library and Research		4
			35

		Term 4	
12.406	History and Current Events		3
12.407	Production Techniques I	}	3
12.408	Production Techniques II		
12.411	Radio Production	}	22
12.412	Television Production		
12.413	Electronic Journalism		
31.405	Communication for Broadcasters		3
	Library and Research		4
			35

* NOTE—Students in Radio and Electronic Journalism Electives will take 12.307/407 Production Techniques I, while students in the Television Elective take 12.308/408 Production Techniques II. All students serve a four-week practicum in Term 4.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: Nil.

Recommended Subjects: Typing, English Literature 12, History 12, Geography 12, and such subjects as Economics and Law.

TOTAL PASSENGERS

(Thousands)

500

450

400

350

300

250

200

150

100

50

0

1968

1969

1970

1971

1972

GROUSE MOUNTAIN RESORTS LTD.



EARNINGS PER SHARE



\$.18

.11

.29

Business Management Division

Computer Programming and Systems Technology

The development in the last few years of the electronic computer has resulted in what has been called a "second industrial revolution." Almost every field of human endeavour has been affected by this development, and computers are now used in such diversified areas as banking, libraries, business accounting, air-line ticket reservations, space flight, controlling railroads, predicting weather, calculating statistics for insurance companies, scientific research, and automatic control of factories, refineries, and power plants.

These applications of the electronic computer cannot be successfully established without an enormous amount of human planning and preparation. The computer is an extremely fast and reliable calculating device, but it must be given completely detailed instructions for every step in the calculation. This involves three main steps in the application of a computer to a problem. First, a complete analysis must be made of the problem, taking into account every conceivable situation that can arise. Next, an approach to the solution must be formulated showing the action to be taken in each different circumstance. Finally, the solution must be expressed in the form of a set of instructions to the computer.

The Computer Programming and Systems Technology is designed to train students to meet the demand for programmers and systems analysts. In the first year, basic business subjects such as accounting, economics, office equipment, etc., are studied, as well as the introductory courses in programming and systems. In the second year, students have the choice of concentrating either on business data processing systems or on the application of mathematical techniques to managerial, engineering, or medical problems.

They should be interested in the practical application of equipment to solving problems in an industrial environment. This will involve an appreciation of human factors as well as a mere interest in machines.

Students wishing to enter this programme should have an analytical mind with a strong aptitude for logical reasoning, as well as a capacity for painstaking attention to detail.

Some experience in business is also an asset.

BUSINESS MANAGEMENT DIVISION
COMPUTER PROGRAMMING AND SYSTEMS TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
10.132	Management in Industry		3
14.160	Computer Programming I		4
14.170	Computer Systems I		2
14.182	Office Equipment		3
16.140	Accounting		5
20.090	Marketing		4
22.114	Applied Mathematics		5
31.102	Communication		4
	Common Tutorial		1
	Library and Research		4
			<hr/> 35

		Term 2	
10.236	Economics		3
14.260	Computer Programming II		6
14.270	Computer Systems II		5
14.296	Office Systems and Procedures		3
16.240	Accounting		5
22.214	Statistics in Business and Industry		3
31.202	Communication		4
	Common Tutorial		1
	Library and Research		5
			<hr/> 35

YEAR 2		Term 3	
No.	Subject	BUSINESS SYSTEMS OPTION Classroom Hours per Week	MANAGEMENT SCIENCE OPTION Classroom Hours per Week
10.381	Interpersonal and Organizational Behaviour	3	...
14.306	Probability and Simulation .....	...	8
14.360	Computer Programming III	8	8
14.370	Computer Systems III	8	8
14.380	Operating Systems	2	2
16.341	Cost and Managerial Accounting	4	...
16.343	Cost Accounting .....	...	4
22.314	Introduction to Operations Research	3	...
22.334	Management Engineering I	3	...
	Library and Research	4	5
		<hr/> 35	<hr/> 35

		Term 4	
10.434	Managerial Policy	3	3
14.409	Operations Research Techniques .....	...	8
14.460	Computer Programming IV	8	8
14.470	Computer Systems IV	8	8
14.480	Operating Systems	2	2
16.441	Cost and Managerial Accounting	4	...
22.434	Management Engineering II	4	...
	Library and Research	6	6
		<hr/> 35	<hr/> 35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: Mathematics 11.

Business Management Division

Financial Management Technology

Financial management is a vital aspect of business life and continues to grow in importance as modern management techniques are developed and applied. The Financial Management Technology will enable students to train in this field by taking a general course of studies in their first year followed in the second by specialized training in either Accounting or Finance.

Accounting Option

Accounting, which has frequently been called the "language of business," can be broken down into three parts—accounting systems, financial reporting, and auditing. The Accounting Option is concerned with all three aspects of accounting. They are introduced in the first-year courses in accounting, data processing, and systems. More specialization is provided in financial and cost accounting in the second year.

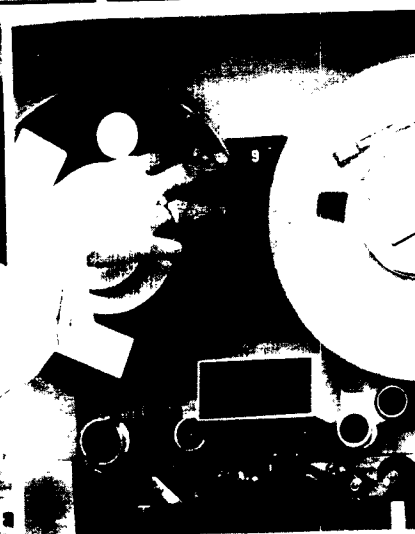
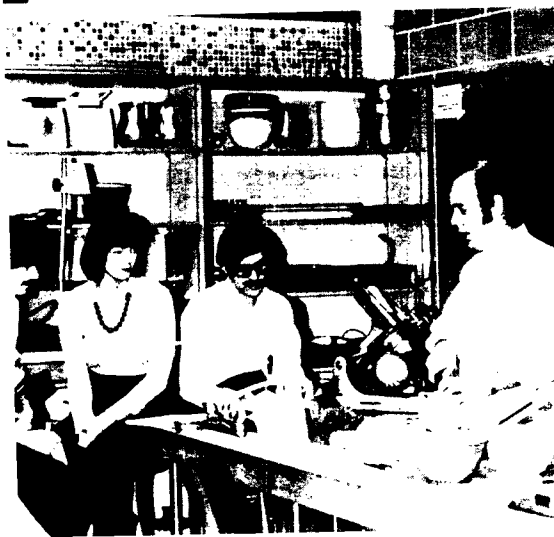
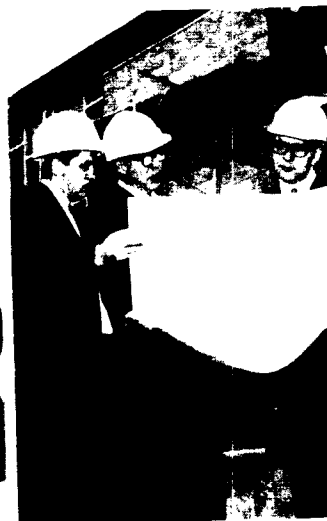
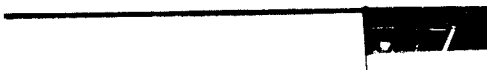
Large organizations maintain departments to perform the accounting functions of financial accounting, cost accounting, internal audit, and budget preparation. Many jobs are open in these departments at the middle management level. That the graduate can enter accounting positions upon leaving the British Columbia Institute of Technology does not mean that his training should be considered at an end. The faculty of the option maintain active and close liaison with the professional accounting associations in British Columbia, and the graduate who wants to undertake the training they offer is in an advantageous position as a result of the courses he has taken at the Institute.

Finance Option

Finance is an essential part of business management. No undertaking can begin or continue unless it has financing. Finance is the concern of business firms as they seek funds for existing and new operations. Finance is the concern of financial institutions, as they provide funds for the business firms. Background for the study of finance is provided in the financial accounting courses. Decision-making in the finance field is dealt with in depth in the specialized second-year courses.

Many job opportunities exist for graduates in this option. Financial institutions such as banks, trust companies, insurance companies, and finance companies offer a wide range of occupations. These institutions are increasingly aware of the need for post-high-school training. Business firms also offer opportunities in their finance departments for option graduates. After appropriate job experience, opportunity for advancement to the intermediate level of branch manager and beyond would exist.

A student wishing to enter either the Accounting Option or the Finance Option should have an inquiring mind and enjoy working with people. A capacity to reason clearly and to work hard is also required. A student who comes with these qualities and a determination to succeed will be assured of employment in a field of absorbing interest and continuing challenge.



**BUSINESS MANAGEMENT DIVISION
FINANCIAL MANAGEMENT TECHNOLOGY**

YEAR 1		Term 1		Classroom
No.	Subject			Hours per Week
10.133	Management in Industry			3
10.137	Economics			3
14.050	Introduction to Data Processing			4
14.182	Office Equipment			3
16.140	Accounting			5
20.191	Marketing			3
22.116	Business Mathematics			5
31.102	Communication			4
	Library and Research			5
				<hr/>
				35
Term 2				
10.233	Administrative Practices			3
10.237	Economics			3
14.296	Office Systems and Procedures			3
16.240	Accounting			5
16.245	Credit and Collections			3
20.291	Marketing			3
22.216	Business Statistics			5
31.202	Communication			4
	Library and Research			6
				<hr/>
				35
YEAR 2		Term 3		
No.	Subject	ACCOUNTING OPTION Classroom Hours per Week	FINANCE OPTION Classroom Hours per Week	
10.332	Real Estate Management			3
10.360	Business Law	3		3
10.381	Interpersonal and Organizational Behav- iour	3		3
14.052	Computers in Business	5		
16.341	Cost and Managerial Accounting	4		
16.346	Auditing	4		
16.347	Financial Accounting	6		6
16.361	Finance	4		5
16.365	Money and Banking			4
16.366	Security Analysis			5
	Library and Research	6		6
		<hr/>	<hr/>	
		35		35
Term 4				
10.432	Real Estate Management			3
10.434	Managerial Policy	3		3
10.460	Business Law	3		3
14.053	Business Computer Programming	4		
16.441	Cost and Managerial Accounting	4		
16.446	Auditing	4		
16.447	Financial Accounting	6		6
16.461	Finance	4		5
16.465	Money and Banking			4
16.466	Security Analysis			5
	Library and Research	7		6
		<hr/>	<hr/>	
		35		35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: Mathematics 11.



Business Management Division

Hotel, Motel, and Food Service Management Technology

The "hospitality" industry is in a state of rapid expansion. Receipts from tourists to Canada have more than doubled in the last few years. This rate of growth is expected to continue. Every tourist establishment must be staffed by trained managers and employees to serve the tourist trade and travelling public. At present the demand for qualified administrative personnel exceeds the supply, a situation likely to become even more serious in the next few years. The need is for well-trained managers with the ability to look ahead and plan, with the flexibility of mind to adapt to rapidly changing conditions.

With this training, supplemented by three months of *mandatory* practical experience in a hospitality/tourism job between the first and second years, graduates should find ample employment opportunities.

Graduates should be prepared to work irregular hours if necessary and be able to associate harmoniously with fellow employees and the public in general. Some practical experience is advisable before applying for this programme.

Two options are available in this technology. The first is in Hotel, Motel, and Food Service Management and the second, proposed for commencement in October 1974, in Tourism Management. Both options share a common first year.

Hotel, Motel, and Food Service Option

In this option, students obtain intensive theoretical and practical training not only in general business procedures, but also in every aspect of hotel or restaurant operations. The hotel and restaurant laboratory area at the Institute is outfitted with a fully furnished lobby and lounge, and a front desk equipped with the latest automatic billing and audit machine. Students will train in the school's cafeteria and dining-room, and food production and research laboratory, learning the fundamentals of food operations from the purchase of food through its preparation to the serving of a top-quality meal.

Job opportunities lie not only in the field of hotels, motels, and restaurants, but also in department store, industrial, and air-line catering, and in other organizations associated with the problems of feeding and housing, such as hospitals and universities.

Tourism Option (which may be offered commencing in October 1974)

In this option students will take the same first-year programme as the students in the Hotel, Motel, and Food Service Option. This first year includes courses in general business procedures and some introductory courses in hotel and restaurant management. Second-year courses will be more oriented toward the general field of tourism, leading to job opportunities with travel/tour agencies, surface or air transportation companies, or with one of the Government departments active in the tourist business.

BUSINESS MANAGEMENT DIVISION
HOTEL, MOTEL, AND FOOD SERVICE MANAGEMENT
TECHNOLOGY

No.	YEAR 1 Subject	Term 1	Classroom Hours per Week
10.138	Economics .....	.....	3
16.140	Accounting .....	.....	5
16.145	Credit and Collection .....	.....	4
18.101	Bar and Rooms Management .....	.....	3
18.102	Food and Beverage Management .....	.....	5
18.111	English Speech .....	.....	2
22.118	Business Mathematics .....	.....	4
31.102	Communication .....	.....	4
	Library and Research .....	.....	5
			<hr/> 35

Term 2			
10.238	Economics .....	.....	3
14.050	Introduction to Data Processing .....	.....	3
16.240	Accounting .....	.....	5
18.202	Food and Beverage Management .....	.....	5
18.203	Front Office Management .....	.....	3
22.218	Business Statistics .....	.....	4
31.202	Communication .....	.....	4
	Library and Research .....	.....	8
			<hr/> 35

YEAR 2		Term 3		HOTEL OPTION	TOURISM* OPTION
No.	Subject	Classroom Hours per Week	Classroom Hours per Week		
18.300	Summer Work Practicum .....	.....	.....
18.302	Food and Beverage Management	3	.....	
18.305	Food Production and Service	6	.....	
18.313	Food and Beverage Control	4	.....	
18.316	Human Relations	2	2		
18.325	Marketing and Sales Promotion	5	5		
18.330	Tourism and Travel .....	.....	4		
18.331	Recreation Facilities Management .....	.....	4		
18.332	Tourist Destinations Study .....	.....	4		
20.332	Transportation Economics .....	.....	4		
22.318	Basic Management Engineering	3	3		
31.302	Communication	2	2		
40.307	Planning and Design	4	.....	
	Library and Research	6	7		
		<hr/> 35	<hr/> 35		

Term 4			
10.417	Hospitality Industry Law	3	.....
18.402	Food and Beverage Management	4	.....
18.405	Food Production and Service	6	.....
18.413	Hospitality Industry Accounting	4	.....
18.416	Human Relations	2	2
18.418	Front Office Accounting	3	.....
18.425	Marketing and Sales Promotion	5	5
18.430	Tourism and Travel .....	.....	4
18.432	Tourist Destinations Study .....	.....	4
18.435	Ticketing and Documentation .....	.....	3
18.450	Research Project	3	3
20.432	Transportation Economics .....	.....	4
40.409	Tourist Facilities Design .....	.....	4
	Library and Research	5	6
		<hr/> 35	<hr/> 35

* May be offered commencing in 1974.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: Nil.

Recommended Subjects: Foods 12B and subjects of commercial nature.

Business Management Division

Marketing Management Technology

The stature of marketing within our society continues to grow.

The tremendous growth of our productive capacity, made possible by the accelerating rate of technological innovation, demands dynamic marketing practices, intense cultivation of markets, and intelligent, resourceful, trained marketing staff.

Marketing personnel must be equipped with an understanding of the objectives, concepts, principles, methods, and problems of marketing. They should have an aptitude and flair for responding to the challenges of a dynamic society where wants and needs are continually changing.

In order to meet this need, the Institute makes extensive use of the most modern methods of instruction, provides for guests from industry to lecture in their respective fields of specialization, and requires active participation of the student in business settings, through field trips, group projects, seminars, and case studies.

As a consequence of growth, both in enrolments and career opportunities, provision has been made for additional specialization within the marketing field. The objective of this change is to bring the student closer to the point where he can make an effective contribution to society in his chosen field.

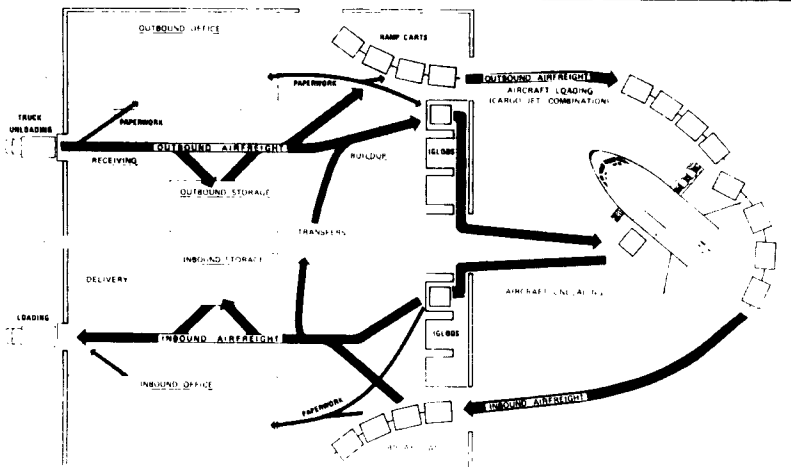
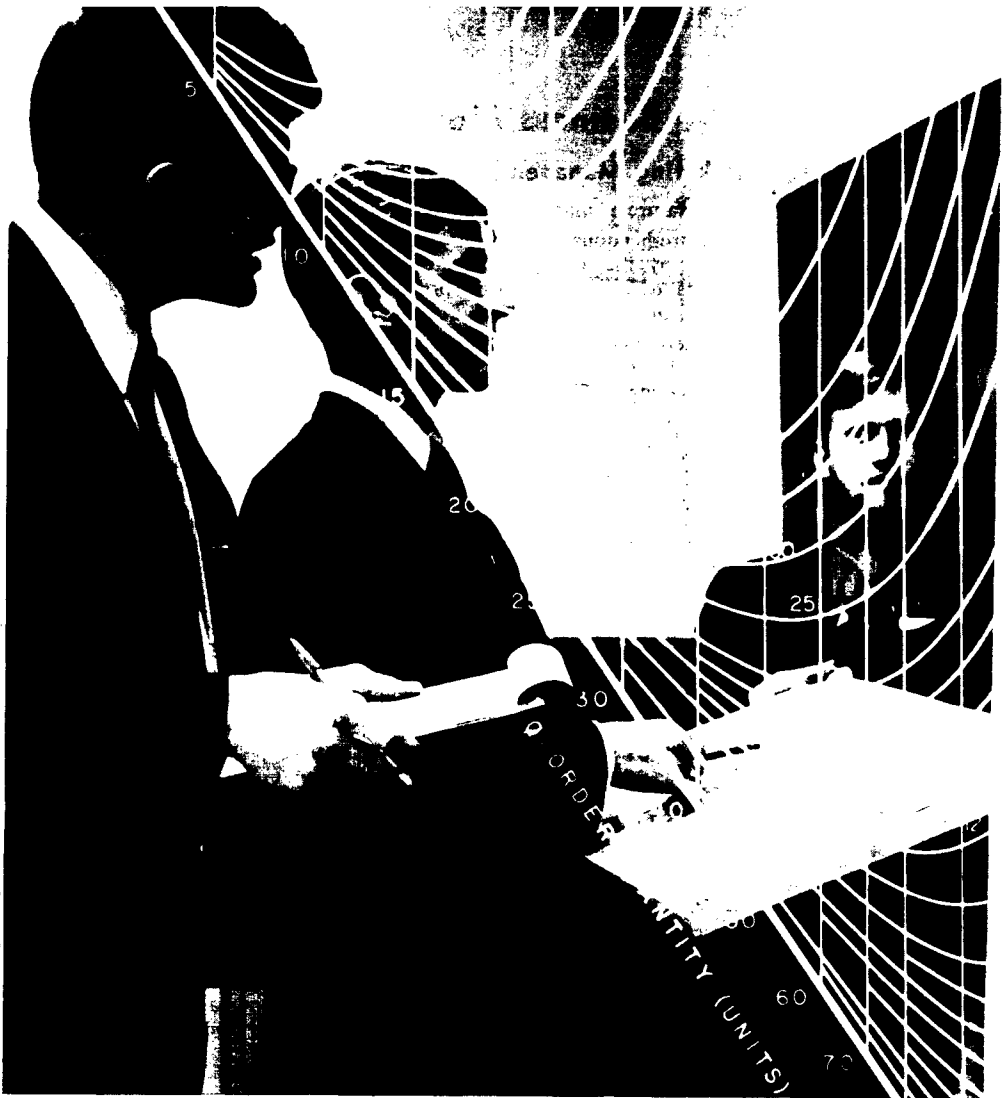
Two options are available in the Marketing programme following a common first year. Both of these options lead to careers in fields where the rewards for accomplishment are prompt and substantial.

Marketing Management Option

This option prepares students for careers in retailing, which covers a broad spectrum of activities and types of business involved in selling goods to ultimate consumers; in wholesaling where the businesses and activities are concerned with serving industrial customers and retailing firms; in sales and sales management, advertising and sales promotion, product and market development, and marketing research.

Traffic and Transportation Management Option

To achieve marketing objectives, enter new markets, and enjoy increased sales in highly competitive markets and to achieve significant marketing economies, a firm must employ sound marketing logistics. Students electing this option will specialize in storage, traffic, and transportation and will receive a sound grounding in distribution economics, materials handling, movement services, and storage facilities.



BUSINESS MANAGEMENT DIVISION MARKETING MANAGEMENT TECHNOLOGY

YEAR 1 *Term 1*

No.	Subject	Classroom Hrs. per Wk.
10.134	Management in Industry	3
10.139	Economics	3
14.050	Introduction to Data Processing	3
14.182	Office Equipment	3
16.140	Accounting	5
20.180	Marketing	3
22.120	Business Mathematics	4
31.102	Communication	4
	Library and Research	7
		<u>35</u>

Term 2

No.	Subject	MARKET. MGT. OPTION Classroom Hrs. per Wk.
10.239	Economics	3
14.296	Office Systems and Procedures	3
16.240	Accounting	5
16.245	Credit and Collections	3
20.275	Salesmanship	3
20.280	Marketing	3
22.220	Business Statistics	4
31.202	Communication	4
	Library and Research	7
		<u>35</u>

YEAR 2 *Term 3*

No.	Subject	MARKET MGT. OPTION Classroom Hrs. per Wk.	TRAF. AND TRANSP. MGT. OPTION Classroom Hrs. per Wk.
10.325	Industrial Relations		4
10.360	Business Law	3	3
14.052	Computers in Business		5
16.342	Merchandise Accounting	4	
20.310	Retailing	4	
20.322	Marketing Management	4	
20.323	Sales Management*	4*	
20.331	Modes of Transportation		5
20.332	Transportation Economics		4
20.333	International Trade		3
20.371	Advertising and Sales Promotion	4	
20.372	Consumer Behaviour	4	
20.381	Interpersonal and Organizational Behaviour		3
20.382	Marketing Research	4	
22.320	Management Engineering I		3
	Library and Research	4	5
		<u>35</u>	<u>35</u>

Term 4

10.460	Business Law	3	3
16.442	Merchandise Accounting	4	
16.443	Management Accounting		4
20.411	Merchandising	3	
20.422	Marketing Management	3	
20.432	Transportation Economics		4
20.434	Transportation Regulation		3
20.435	Distribution Management		3
20.436	Transportation Trends		4
20.437	Marketing Research for Transportation		5
20.482	Marketing Research	3	
20.483	Management of Human Resources	4	
20.484	Transportation and Materials Handling*	3*	
20.490	Directed Studies	7	
22.420	Management Engineering II		4
	Library and Research	5	5
		<u>35</u>	<u>35</u>

* Alternative elective: 10.332 and 10.432 Real Estate Management.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.
Special Prerequisite: Mathematics 11.

Business Management Division

Operations Management Technology

Business and industry are staffed with specialists at almost any level of responsibility that one might consider. Regardless of the type of work that a person might do, after doing the job for a few years the person is essentially a specialist in the job. A quick look at a few business organization charts will show that the various departmental managers are specialists—Sales Manager, Chief Engineer, Plant Manager, Personnel Manager, Accounting Manager, etc., and the same holds true at the lower management levels, for example, Shipper, Cost Accountant, Chief Draughtsman, and so on.

Over the years the job of running a business has become progressively more complex and the tools required to operate the business successfully have become increasingly more sophisticated. In comparatively recent years, business and industry have recognized the need for well-trained professionals who are capable of cutting across the interface between departments and who are able to talk both the language of business and the language of engineering in order to do a special kind of job in industry. These professionals must have analytical minds, they must be good communicators and get along well with people, and they must be dedicated to the idea of changing things in order to make improvements. Today we call these people Industrial Engineers.

In essence, the Operations Management course at BCIT is a short Industrial Engineering course, made up of Engineering, Business, and Human Relations. However, the students in Operations Management cover most of the same core areas that are covered by the Industrial Engineers at a university. Consequently, our graduates discover that they can take a job, either with or without an Industrial Engineer supervising them, and perform productive work as soon as they start.

Some of the areas of work for which the Operations Management technologist is trained are Method Study, Work Measurement, Plant Layout, Materials Handling, Production Control, Systems and Procedures Design, Feasibility Studies, Quality Control, Inventory Control, Cost Control, Cost Reduction, etc.

The field of Operations Management cannot be defined in a capsule summary because it extends right across the business and industrial spectrum. The technologist might be working on an inventory problem in the storage yard one week, and on a forms design problem in the accounting department the next week. This type of work can be interesting and rewarding. It is also an excellent and natural stepping-stone to management positions and greater responsibilities.

The demand for Operations Management graduates has been steadily increasing and the scope of job opportunities is extensive. There is room for improvement in all businesses and industries. The Operations Management technologist is trained to discover and to make those improvements.

BUSINESS MANAGEMENT DIVISION
OPERATIONS MANAGEMENT TECHNOLOGY

YEAR 1

Term 1

No.	Subject	Classroom Hours per Week
14.050	Introduction to Data Processing	3
16.140	Accounting	5
22.100	Applied Mathematics	5
22.101	Problems Laboratory	3
31.101	Communication	3
33.102	Introductory Physics	5
49.101	Draughting	2
49.106	Engineering Concepts I	2*
	Common Tutorial	1
	Library and Research	6
		<u>35</u>

Term 2

16.240	Accounting	5
22.200	Statistics in Business and Industry	4
22.201	Method Study	4
31.201	Communication	3
33.202	Introductory Physics	5
49.206	Engineering Concepts II	4
49.267	Introduction to Machine Tools	4
	Common Tutorial	1
	Library and Research	5
		<u>35</u>

YEAR 2

Term 3

10.337	Economics	3
16.343	Cost Accounting	4
20.381	Interpersonal and Organizational Behaviour	3
22.300	Quantitative Methods for Management I	4
22.301	Performance Measurement	5
22.302	Applied Programming	5
22.303	Systems Analysis	3
22.304	Production Control Management I	2
	Library and Research	6
		<u>35</u>

Term 4

10.437	Economics	3
20.492	Personnel Administration	3
22.400	Quantitative Methods for Management II	4
22.401	Industrial Engineering Concepts	8
22.402	Industrial Organization and Operations	8
22.403	Materials Handling	2
22.404	Production Control Management II	2
	Library and Research	5
		<u>35</u>

* Two hours and five hours alternating weekly.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: Mathematics 12.



Health Division
Instructional Staff

HEALTH DIVISION

S. T. RICHARDS, *Director.*

DEPARTMENT OF BASIC HEALTH SCIENCES

D. W. MARTIN, B.Sc.(HONS.), M.S.R.

MRS. R. BAKAN, B.A., M.A., Ph.D.

G. R. MARSHALL, B.Sc.

MISS B. M. CROCKER, B.S.N., R.N.

T. J. NOWAK, B.A.

MISS M. E. DUVERNET, B.A.

E. SHKURHAN, B.Sc., M.Sc., *Chief Instructor.*

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES

J. M. PELTON, C.P.H.I.(C), B.A., *Department Head.*

L. E. PENNER, C.S.I.(C.), *Chief Instructor.*

C. L. YOUNG, C.P.H.I.(C) ., C.F.T., E.H.A.C.

DEPARTMENT OF HEALTH ENGINEERING SERVICES

A. RIDGWAY, R.T., F.S.R., *Department Head.*

F. BAUCK, *Senior Instructor.*

MRS. M. PATERSON, B.A., R.R.L.

MS. E. L. GIBSON, R.R.L.

DEPARTMENT OF MEDICAL LABORATORY SERVICES

MRS. M. J. BLAIR, B.A., A.R.T., *Department Head.*

MRS. J. A. ANTHONY, R.T.

MRS. J. M. SRIABIN, B.Sc.

MISS N. E. BRUCE, L.C.S.L.T.

(HONS.), R.T., *Senior Instructor.*

MRS. G. M. CAMDEN, B.A., A.R.T.,
Chief Instructor.

MRS. C. S. SEMMENS, B.Sc., R.T.

MRS. K. LOGAN, R.T.

MRS. A. J. STRIHA, A.R.T.

MISS L. J. MARSHALL, A.R.T.

MISS E. A. WHITESIDE, B.A., R.T.,
Senior Instructor.

MISS G. S. MATHESON, R.T.

MISS D. YAREMA, B.Sc., R.T.

MRS. K. E. NICOLSON, B.Sc., R.T.

DEPARTMENT OF PATIENT CARE SERVICES

MS. B. B. KOZIER, B.A., B.S.N., M.N., R.N., *Department Head.*

MS. M. J. ANDERSON, B.Sc.N., R.N.

MS. G. ERB, B.Sc.N., R.N., *Chief Instructor.*

MS. E. C. ARMSTRONG, B.N., R.N.,
DIPL.T.S.PSYCH.NRG., *Chief Instructor.*

MS. S. ERICKSON, B.N., R.N.,
DIPL.T.S.PSYCH.NRG.

MS. M. J. BELFREY, B.N., R.N.

MS. H. M. EVANS, S.R.N., S.C.M.,
R.N., DIPL.P.H.NRG., *Chief Instructor.*

MS. N. CARLSON, B.Sc.N., R.N.

MS. A. L. COLE, B.Sc.N., R.N.,
DIPL.T.S.

MS. E. M. FRASER, B.S.N., R.N.

MS. A. J. COLLINS, B.N., R.N.,
Chief Instructor.

MS. V. HANKINSON, B.S.N., R.N.

MS. L. CONROY, B.S.N., R.N.

MS. W. HAYDAMACK, B.Ed., R.N.,
DIPL.PSYCH.NRG., DIP.P.H.NRG.

MS. J. DELESALLE, B.S.N., M.S.N.,
R.N., *Chief Instructor.*

MS. V. E. HIMBEAULT, B.N., R.N.

MS. E. DUECK, R.N., DIPL.PSYCH.
NRG., DIPL.NRG.ADMIN.

MS. L. KEMP, B.Sc.N., R.N.

DIPL.N.ED.

MS. E. KERR/SMITH, B.S.N., R.N.

Ms. V. A. LOVELL, B.N., R.N.
 Ms. P. MABBETT, B.S.N., R.N.
 Ms. L. MEREDITH, B.S.N., R.N.
 Ms. D. MORROW, B.Sc.N., R.N.
 Ms. B. MUIR, B.Sc., R.N.
 Ms. S. M. MYSACK, B.Sc.N., R.N.
 Ms. B. J. PETERS, B.Sc.N., R.N.,
 DIPL. ADMIN.
 Ms. K. PETERS, B.S.N., R.N.
 Ms. G. REDDEN, B.N., R.N.,
 DIPL.T.S.PSYCH.NRG.
 Ms. M. RENWICK, B.S.N., R.N.,
 DIPL.T.S.
 Ms. S. SAUNDERS, B.N., R.N.,
 DIPL.T.S.PSYCH.NRG., *Chief
 Instructor.*

Ms. M. A. SMITH, B.S., M.N.,
 R.N.
 Mr. R. STEWART, R.P.N., R.M.N.,
 R.N.
 Ms. M. SUTHERLAND, B.N., C.M.B.,
 DIPL.T.S.PSYCH.NRG.,
 DIPL.ADLT ED., *Chief
 Instructor.*
 Ms. J. WHITE, A.A., B.A.,
 B.S.(NRG.), R.N.
 Ms. M. WHITEHEAD, B.S.N., R.N.,
 DIPL.OBS.NRG.
 Ms. M. WIENS, B.S.N., R.N.,
 DIPL.T.S.

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES

W. E. NOEL, R.T., *Department Head.*

Miss B. CLARK, M.S.R., R.T.,
Senior Instructor.
 Miss P. E. GODLEY, R.T.
 Miss A. McMILLEN, R.T.
 Miss J. A. MIKI, C.S.R.T.(C.S.L.T.),
 R.T.(N.M.)

Miss P. M. ROGERS, R.T.,
Chief Instructor.
 Miss N. SMITH, B.A., R.T.
 R. J. SMITH, M.S.R., R.T.
 Mrs. R. SUTCLIFFE, R.T.
 Mrs. S. G. WILLIAMS, R.T.

Part-time Instructional Staff, 1974/75

	Technology			
Ms. E. K. BORDEN, B.Sc.N., R.N.	-	-	-	- <i>Nursing</i>
Ms. E. L. BURPEE, B.Sc.N, R.N.	-	-	-	- <i>Nursing</i>
Ms. A. DUMARESQ, B.S.N., R.N.	-	-	-	- <i>Nursing</i>
Ms. M. GROVE, R.N., DIPL.T.S.	-	-	-	- <i>Nursing</i>
Ms. H. HINTZ, B.S.N., R.N.	-	-	-	- <i>Nursing</i>
Mrs. L. MACDONALD, R.T.	-	-	-	- <i>Medical Laboratory</i>
D. SANDERSON, B.Sc.	-	-	-	- <i>Basic Health Sciences</i>
Ms. R. E. ROBINSON, B.S.N., R.N.	-	-	-	- <i>Nursing</i>
Ms. K. J. YOUNG, R.N.	-	-	-	- <i>Nursing</i>



Health Division
Guest Lecturers

HEALTH DIVISION

GUEST LECTURERS

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES

- G. H. ARMSON, C.P.H.I.(C), Chief Public Health Inspector, Burnaby Health Department.
- B. BIDDLECOMBE, Public Relations, British Columbia Telephone Co.
- B. CAINE, B.Sc., M.A.Sc., P.ENG., Assistant Director, British Columbia Division of Environmental Engineering.
- A. K. CHOWEN, Executive Director, B.C. Funeral Service Association, Richmond.
- K. E. HUTH, M.P.H., Health Educator, British Columbia Division of Public Health Education.
- J. DAVIDSON, DIPL.T., Biological Technician, Fisheries Services.
- B. D. DODD, Public Information Officer, Division of Public Health Education.
- G. GRAHAM, Sales Representative, Howard Distributors Ltd., Burnaby.
- W. HAMILTON, P.ENG., Districts Manager of New Westminster Branch of Pollution Control Board.
- R. HERBISON, C.S.I.(C.), Public Health Inspector, Vancouver Health Department.
- L. HIEBERT, C.S.I.(C.), Senior Public Health Inspector, Fraser Valley Health Unit.
- A. HINDLEY, C.S.I.(C.), Consultant Public Health Inspector, British Columbia Division of Public Health Inspection.
- D. HOWALD, Sales Representative, Carl Zeiss Canada Ltd.
- E. JENSTAD, B.S.A., Dairy Specialist, Dairy Branch, British Columbia Department of Agriculture.
- M. A. KIRK, B.A., Health Educator, British Columbia Division of Public Health Education.
- L. KORNDER, M.D., D.P.H., Director, B.C. Occupational Health Division.
- B. LANE, Co-ordinator, Vancouver Civil Defence Organization.
- A. J. LYNCH, B.Sc., M.P.H., Chief Chemist, Division of Laboratories, British Columbia Health Branch.
- D. MORGAN, C.S.I.(C.), Acting Director, Division of Environmental Health, Vancouver.
- J. D. MUNROE, M.D., D.P.H., C.R.C.P.(C.), Director, Simon Fraser Health Unit.
- D. PETERS, Effluent Engineer, Shellburn Refinery.
- A. REIGERT, Director Industrial Hygiene Division, B.C. Workmen's Compensation Board.
- E. RIDEOUT, City Analyst, City of Vancouver.
- J. M. ROBINSON, M.D., D.P.H., C.R.C.P.(C.), Director, Central Fraser Valley Health Unit.
- R. G. SCOTT, C.S.I.(C.), Director, British Columbia Division of Public Health Inspection.
- F. SMITH, Supervisor of Swimming Pools, Parks and Recreation Department, Burnaby.
- W. SMITH, Chief Chemist, Reichhold Chemicals of Canada Ltd.
- K. P. H. STIRLING, P.ENG.
- A. STRINGER, C.S.I.(C.), Sanitation Control Officer, Vancouver Health Department.
- P. THOMAS, PH.D., Research Chemist, Columbia Cellulose.
- R. D. THOMPSON, M.D., D.P.H., Former Regional Director, Pacific Region Medical Services, Federal Department of Health and Welfare.

B. F. VANCE, Pesticide Officer, British Columbia Department of Agriculture.
G. WEBSTER, P.ENG., Department of Environment of Fisheries Services.
B. WINTHER, Embalmer, S. Bowells & Sons, New Westminster.

DEPARTMENT OF HEALTH ENGINEERING SERVICES

BIOMEDICAL ELECTRONICS TECHNOLOGY

P. GRAYSTONE, PH.D., EKEG Electronics Co. Ltd., Vancouver.
T. HEYWORTH, M.D., PH.D., Director, Biomedical Technical Services Department, St. Paul's Hospital, Vancouver.
H. V. RICE, M.D., PH.D., West Vancouver.

HEALTH DATA TECHNOLOGY

MRS. H. BIRO, R.N., R.R.L., Chief Medical Record Librarian, Lions Gate Hospital, North Vancouver.
Miss DORIS BRANCA, Attorney, Vancouver.
MRS. M. MORRISON, R.R.L., Medical Record Consultant, B.C. Hospital Insurance Service.
DR. G. RYDER, Chief Emergency Physician, Royal Columbian Hospital.
MRS. M. TAGGART, R.N., R.R.L., Chief Medical Record Librarian, Health Sciences Centre, University of British Columbia.
MRS. J. TAYLOR, R.R.L., Chief Medical Record Librarian, Vancouver General Hospital.

DEPARTMENT OF MEDICAL LABORATORY SERVICES

C. F. A. CULLING, F.I.M.L.T., F.R.M.S., Instructor, Department of Pathology, Faculty of Medicine, University of British Columbia.
J. W. IBBOTT, B.A., M.D., C.M., F.R.C.P.(C.), Head, Department of Hæmatology, Department of Pathology, St. Paul's Hospital.
S. ISRAELS, B.Sc., M.D., F.R.C.P.(C.), Head, Department of Pædiatrics, Faculty of Medicine, University of British Columbia.
S. NAIMAN, M.D., F.R.C.P.(C.), Internist, Vancouver General Hospital.
A. H. PONTIFEX, B.A., M.D., F.R.C.P.(C.), Pathologist, Royal Columbian Hospital.
F. J. ROBERTS, M.D., F.R.C.P.(C.), Associate Microbiologist, Department of Bacteriology, Department of Pathology, Vancouver General Hospital.
J. H. STURDY, M.D., C.R.C.P.(C.), M.C.PATH., Director of Regional Laboratories, Lower Mainland, Royal Columbian Hospital.
M. B. WALTERS, M.D., F.R.C.P.(C.), F.A.C.P., F.A.C.C., Cardiologist, Faculty of Medicine, U.B.C.
ANN J. WORTH, M.D., F.R.C.P.(C.), Pathologist, British Columbia Cancer Institute.

DEPARTMENT OF PATIENT CARE SERVICES

MRS. K. BALANCE, Vancouver Neurological Institute.
MRS. J. BUSKARD, Nutritionist, Dial-A-Dietitian.
Miss P. CAIRNS, Nutritionist, REACH, Community Nutrition Service.
D. CAMERON, Metropolitan Ambulance.
MRS. B. DANIELS, Provincial Department of Health, Division of Venereal Disease Control.
DR. T. C. GIBSON, private practice.
J. HAGUE, Alcoholism Foundation.
A. F. HARDYMENT, M.D., C.R.C.P.(C.), Director of Perinatal Morbidity and Mortality Study of B.C.
Miss D. HILL, Lions Gate Hospital.
DR. D. H. HOLLANDS, private practice.

Miss C. LARIVIERRE, Provincial Department of Health, Division of Tuberculosis Control.
 K. PEARSON, Narcotic Addiction Foundation.
 Miss A. RANKIN, The Woodlands School.
 Miss E. SCOTT, Canadian National Institute for the Blind.
 B. SMITH, G. F. Strong Rehabilitation Centre.
 Miss D. SMITH, Nutritionist, Metropolitan Health Service.
 G. SZASZ, M.D., physician, Assistant Professor, Director of the Office of Interprofessional Education, Health Sciences Centre, University of British Columbia.
 Miss L. TADGEL, Dental Hygienist, Metropolitan Health Service.
 Mrs. A. TEUFEL, Canadian Arthritis and Rheumatism Society.
 L. VAN HOVE, Metropolitan Ambulance.
 Mrs. J. L. WOTHERSPOON, Cystic Fibrosis Foundation.

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES (NUCLEAR MEDICINE TECHNOLOGY)

D. M. LISTER, PH.D., Division of Nuclear Medicine, Vancouver General Hospital.
 E. MINCEY, PH.D., Division of Nuclear Medicine, Vancouver General Hospital.
 R. T. MORRISON, M.D., PH.D., Head, Division of Nuclear Medicine, Vancouver General Hospital.

TEACHING ASSOCIATES

DEPARTMENT OF HEALTH ENGINEERING SERVICES

BIOMEDICAL ELECTRONICS

DR. E. W. BANISTER.	L. McGRATH.
DR. W. S. J. BUCKLER.	DR. H. McLENNAN.
J. DAWSON.	B. McNEILL.
C. W. FORREST.	G. D. MOLYNEUX.
E. M. GJERNES.	DR. J. A. OSBORNE.
D. HALE.	D. PARKES.
A. HAMM.	DR. K. RYAN.
DR. R. D. HARE.	DR. S. SEGAL.
DR. J. HEYWORTH.	D. TEIGEN.
MRS. K. JOHNSTON.	DR. M. TOWELL.
J. JENKINS.	DR. J. WADA.
H. KOHNE.	D. WARD.
DR. B. LONDON.	M. YOUNG.

DEPARTMENT OF PATIENT CARE SERVICES

ALDER LODGE

MRS. L. PATZER AND STAFF.

BURNABY GENERAL HOSPITAL

MRS. L. BEST AND STAFF.	MISS S. MERMET.
MRS. W. BODLEY AND STAFF.	MISS J. NAKAMOTO.
MISS J. CHAPPLE AND STAFF.	MRS. J. NASH AND STAFF.
MRS. S. ELLISON.	MRS. J. PALS AND STAFF.
MRS. E. FITZGERALD.	MISS E. A. PATTINSON.
MISS G. FRITH AND STAFF.	MRS. M. REINING AND STAFF.
MRS. J. FROST.	MRS. J. WHALEN.
MRS. M. HALLETT AND STAFF.	MRS. K. WILLETT.
MISS C. KALLUS AND STAFF.	MISS L. YTTERBERGH.
MRS. N. LARSEN AND STAFF.	MISS J. ZONDERLAND AND STAFF.
MRS. W. MATHESON.	

BURNABY MENTAL HEALTH CENTRE

DR. R. BRAUNSTEIN.
DR. W. HOLT.

C. RAINEY.
T. THORNHILL.

COMMUNITY NURSING

MRS. E. BELL, North Shore Neighbourhood House, North Vancouver.

N. DOCKENDORF, Supervisor of Sports and Recreation, Burnaby Parks and Recreation.

MRS. S. FOLEY, Children's House, North Vancouver.

MRS. G. GUDER, Renfrew Park Play School, Vancouver.

MISS E. M. HAILEY, Kindercare, Burnaby.

MRS. E. HANSEN, Tinkerbell Play School, Burnaby.

MRS. M. C. HOLM, Swedish Rest Home, Burnaby.

MRS. H. HUGHES, Windsor House Free School, North Vancouver.

MRS. L. KHAIRAT, Assistant Director of Educational Services, Metropolitan Health Service.

MISS L. LAFTSGARD, Victorian Order of Nurses, Burnaby.

MRS. P. LAPTHORN, Burnaby Day Care, Burnaby.

P. A. LAWRENCE, Renfrew Community Centre, Vancouver.

MRS. M. LESLIE, St. John's Day Care Centre.

G. LINDEL, Hastings Community Centre, Burnaby.

MRS. G. HUNT, Preschool Instructor.

MISS G. SMITH, Babysitting.

MISS D. WALLACE, Senior Citizens.

MRS. G. I. LITTLE, West Burnaby Play School.

MR. AND MRS. V. MARTIN, Bonnie Doon Guest Home, North Vancouver.

MRS. R. MCLEOD, Supervisor, Century House, New Westminster Parks and Recreation.

DR. J. PLAYFAIR, Four Seasons Guest Home, North Vancouver.

REACH MEDICAL CLINIC, Medical and Nursing Staff.

MISS M. REID, Supervisor of Elder Citizen's Programmes, Burnaby Parks and Recreation.

MRS. B. REYNOLDS, Ryerson United Church (Babysitting), Vancouver.

MISS M. ROSS AND STAFF, Burnaby Health Unit, Metropolitan Health Services of Greater Vancouver.

SEYMOUR MEDICAL CLINIC, Medical and Nursing Staff.

B. SMITH, C. G. Brown and Bonsor Pool, Burnaby.

F. SMITH, Supervisor of Aquatics, Parks and Recreation, Burnaby.

MRS. E. SPARMAN, South Burnaby Co-op Play School, Burnaby.

MRS. E. WILKES, Fair Haven Homes for Senior Citizens, Burnaby.

MRS. J. WINTERS, Simon Fraser Health Unit.

MRS. J. WORRALL AND STAFF, North Shore Health Unit, Metropolitan Health Services of Greater Vancouver.

LIONS GATE HOSPITAL

D. ARMSTRONG AND STAFF.
MRS. D. BARKER AND STAFF.
MRS. J. CAMPBELL.
MRS. D. COLE AND STAFF.
MRS. P. CRAVEN AND STAFF.
MISS D. DOWD AND STAFF.
MRS. M. ENSWORTH AND STAFF.
MRS. J. FRASER AND STAFF.
MRS. E. GRAY AND STAFF.
MISS J. HOWDEN.
MRS. L. HUGGARD AND STAFF.
MISS A. KLASSEN.
MRS. M. KONING AND STAFF.

MRS. E. LAFEK AND STAFF.
MISS E. LAWSON.
MRS. M. MACPHERSON AND STAFF.
MRS. A. McDONALD.
MRS. F. MAYNARD AND STAFF.
MRS. J. PADDON AND STAFF.
MRS. J. PLYSIUK AND STAFF.
MRS. J. RAE AND STAFF.
D. STILL AND STAFF.
MRS. M. WESSELL AND STAFF.
MRS. M. WICK AND STAFF.
OCCUPATIONAL THERAPY STAFF.

METROPOLITAN HEALTH SERVICES OF GREATER VANCOUVER

MRS. L. KHAIRAT AND STAFF.

MISS E. WILLIAMSONS.

MOUNT ST. JOSEPH HOSPITAL

P. MUI.
MISS C. OAKLEY.

MISS D. RITCHIE.

NEW WESTMINSTER MENTAL HEALTH UNIT

MRS. T. CUFF.
F. HANNAH.

MRS. G. SPENCE.

PHYSICIANS

DR. K. G. APPLEBY.
DR. J. F. ARTHUR.
DR. W. BALDWIN.
DR. A. BARKER.
DR. J. BEATON.
DR. W. A. BERTOIA.
DR. S. BOND.
DR. B. BROWN.
DR. P. BROWN.
DR. A. CHERKEZOFF.
DR. G. CRAGG.
DR. J. M. DODEK.
DR. T. P. FIDGEON.
DR. S. H. FRACKSON.
DR. R. W. GARVIN.
DR. R. GOODALL.
DR. K. N. GOTTSCHLING.
DR. J. A. C. GRANT.
DR. A. A. HALL.
DR. R. E. HARLOS.
DR. P. D. HEINRICHs.
DR. D. C. HOSGOOD.
DR. M. HUNTER.
DR. R. S. LEUCHTER.

DR. G. R. LONG.
DR. N. S. MADILL.
DR. I. J. MORGAN.
DR. J. H. O'BRIEN-BELL.
DR. P. PADWICK.
DR. A. PARKER-SUTTON.
DR. B. M. PATTERSON.
DR. A. PERETZ.
DR. I. PERLMAN.
DR. C. F. RIDEOUT.
DR. A. L. ROBERTSON.
DR. H. J. RUEBSAAT.
DR. E. N. RUSSELL.
DR. W. B. STEVENS.
DR. W. DONALD SUTHERLAND.
DR. L. THURSTON.
DR. D. B. WAGAR.
DR. D. L. WARNER.
DR. M. WARRINGTON.
DR. W. A. WEBB.
DR. G. C. WINCH.
DR. H. E. WOOLLEY.
DR. H. M. YASAYKO.
DR. H. W. ZIMMERMAN.

PROVINCIAL HEALTH SERVICES

MRS. D. SLAUGHTER.

RIVERVIEW HOSPITAL

MRS. M. ALLISON AND STAFF.
MISS M. CARMACK.
MRS. H. DAHLING AND STAFF.
MRS. K. GRAHAM AND STAFF.
MISS A. HOSWELL AND STAFF.
MISS L. KALDESTAD AND STAFF.

A. KRABBENDAM AND STAFF.
MRS. M. MAKTON AND STAFF.
K. MYIOSHI AND STAFF.
L. PASTERAK AND STAFF.
MISS E. TURNER AND STAFF.
MISS J. WELSH.

ST. MARY'S HOSPITAL

MRS. P. ELMES AND STAFF.
MRS. F. METTLER.

MRS. K. ROUEST.

ST. VINCENT'S HOSPITAL

MRS. M. BEATTIE AND STAFF.
SISTER R. HAYDON.
SISTER E. HURLEY.
SISTER T. KERGOAT.
MISS J. LA MONTAGNE AND STAFF.
MRS. P. MACLEAN.

MRS. M. MCINNES AND STAFF.
MRS. H. MILNE AND STAFF.
MISS J. MITCHELL AND STAFF.
MISS P. PEDWERBETSKY.
MRS. M. SALUK AND STAFF.
MRS. B. TANSEY AND STAFF.

SHAUGHNESSY HOSPITAL

DR. G. MACDOUGALL.
MRS. R. E. MACILWRAITH.

MRS. E. REID AND STAFF.

SURREY MEMORIAL HOSPITAL

MRS. D. BEAN.
MRS. A. BLOUDOFF.
MRS. E. BRILLINGER AND STAFF.
MRS. S. DEAN AND STAFF.
MRS. D. DUNSTER.
MRS. M. HILL.

MRS. A. MACPHERSON.
MRS. J. MOORE.
MRS. E. PREDDY AND STAFF.
MRS. RICHARDSON.
MISS M. SMITH.
MRS. J. TIMLICK.

THE WOODLANDS SCHOOL

MRS. C. BELL AND STAFF.
G. DIXON AND STAFF.

W. MORGAN AND STAFF.
MISS M. PIPER AND STAFF.

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES

MEDICAL RADIOGRAPHY

MRS. S. BLENKIRON.
MRS. M. CLARK.
F. D. COX.
T. FRASER.
DR. M. GRIMALOSKI.
P. HURLEY.

MRS. B. ROWSE.
MISS C. SIMMS.
J. G. SMITH.
MRS. G. STEPHENS.
J. WALKER.
MISS S. WALTERS.

NUCLEAR MEDICINE TECHNOLOGY

D. ATKINSON.
B. BIROVCHAK.
T. COOLLEN.
MRS. A. HARDER.

MRS. P. KLOTZ.
MISS R. SINCLAIR.
B. SPRUSTON.
V. SCOTT.



**Health Division
Advisory Committees**

BIOMEDICAL ELECTRONICS ADVISORY COMMITTEE

Chairman:

DR. H. V. RICE, West Vancouver.

Ex Officio:

S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.

F. P. BAUCK, Senior Instructor, Biomedical Electronics Technology, British Columbia Institute of Technology, Burnaby.

A. RIDGWAY, Head, Department of Health Engineering Services, British Columbia Institute of Technology, Burnaby.

Members:

K. BRADLEY, Student Representative, British Columbia Institute of Technology.

W. H. COX, Hospital Construction and Planning Division, British Columbia Hospital Insurance Service, Parliament Buildings, Victoria.

J. HAY, Vancouver.

DR. J. McDONALD, Associate Professor, Department of Electrical Engineering, Faculty of Applied Sciences, University of British Columbia, Vancouver.

DR. K. RYAN, National Research Council, Vancouver.

E. W. SCRATCHLEY, Acting Head, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.

DR. G. WOODWARD, Internist, Victoria.

S. WORTHINGTON, Representative of British Columbia Hospitals' Association, Vancouver.

ENVIRONMENTAL HEALTH SERVICES ADVISORY COMMITTEE

Chairman:

DR. C. J. G. MACKENZIE, Professor, Head, Department of Health Care and Epidemiology, Faculty of Medicine, University of British Columbia, Vancouver.

Ex Officio:

J. M. PELTON, Department Head, Department of Environmental Health Services, B.C. Institute of Technology, Burnaby.

L. E. PENNER, Chief Instructor, Department of Environmental Health Services, B.C. Institute of Technology, Burnaby.

S. T. RICHARDS, Director, Health Division, British Columbia Institute of Technology, Burnaby.

Members:

G. H. ARMSON, Chief Public Health Inspector, Burnaby Health Department, Representative of British Columbia Branch, Canadian Institute of Public Health Inspectors.

W. BAILEY, Director, Environmental Engineering Division, British Columbia Health Branch.

MRS. L. A. BLAIR, Central Fraser Valley Health Unit, Mission, Representative of British Columbia Institute of Technology Alumni.

DR. G. H. BONHAM, Medical Health Officer, City of Vancouver Health Department.

N. D. CLARKSON, Public Health Inspector, Simon Fraser Health Unit, Coquitlam, Representative of British Columbia Branch, Canadian Institute of Public Health Inspectors.

- A. C. DOBSON, Representative of British Columbia Branch, Canadian Institute of Public Health Inspectors.
- M. EWAN, Chief Health Inspector, City of New Westminster Health Department, Representative of Board of Examiners.
- FRANK HARTIGAN, Senior Public Health Inspector, Boundary Health Unit, Surrey, President, B.C. Branch, Canadian Institute of Public Health Inspectors.
- A. J. LYNCH, Chief Chemist, Chemistry Laboratory, Water Resources Service, Department of Lands, Forests, and Water Resources, Province of British Columbia.
- R. G. SCOTT, Divisional Director, Public Health Inspection Branch, Parliament Buildings, Victoria, Representative of Board of Certification, CPHA.
- J. A. STRINGER, Sanitation Control Officer, City of Vancouver Health Department, Representative of Canadian Institute of Public Health Inspectors.
- ROB STONE, Student Representative, British Columbia Institute of Technology.

HEALTH DATA ADVISORY COMMITTEE

Ex Officio:

- MRS. M. PATERSON, Instructor, Health Data Technology, British Columbia Institute of Technology, Burnaby.
- S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.
- A. RIDGWAY, Head, Department of Health Engineering Services, British Columbia Institute of Technology, Burnaby.

Members:

- MISS I. E. FAIRLEY, Assistant Director of Public Health Nursing, Health Department, Vancouver.
- DR. J. N. HLYNKA, Director, Division of Clinical Pharmacy, Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver.
- MRS. M. MORRISON, Medical Record Consultant, British Columbia Hospital Insurance Service.
- J. W. SHORT, Assistant Administrator, Children's Hospital, Vancouver.
- MRS. M. TAGGART, Chief Medical Record Librarian, Health Sciences Centre Hospital, University of British Columbia, Vancouver.
- MRS. J. TAYLOR, Chief Medical Record Librarian, Vancouver General Hospital, Vancouver.

MEDICAL LABORATORY ADVISORY COMMITTEE

Chairman:

- DR. E. J. BOWMER, Director, Division of Laboratories, Health Branch, Department of Health Services and Hospital Insurance, Vancouver.

Ex Officio:

- S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.
- MRS. M. J. BLAIR, Head, Department of Medical Laboratory Services, British Columbia Institute of Technology, Burnaby.
- MRS. G. M. CAMDEN, Chief Instructor, Department of Medical Laboratory Services, British Columbia Institute of Technology, Burnaby.

Members:

- DR. G. H. ANDERSON, Associate Director, Department of Pathology, Royal Jubilee Hospital, Victoria.
- MISS HELEN A. BROWN, A.R.T., Royal Columbian Hospital, New Westminster, Representative of the British Columbia Society of Medical Technologists.
- F. D. BUTLER, Associate Director of the Royal Columbian Hospital, New Westminster, Representative of the British Columbia Hospitals' Association.
- C. F. A. CULLING, Instructor, Department of Pathology, Faculty of Medicine, University of British Columbia, Vancouver.
- DR. G. R. GRAY, Associate Hæmatologist, Department of Pathology, Vancouver General Hospital, Vancouver.
- DR. D. B. RIX, Clinical Assistant Professor, Department of Pathology, University of British Columbia; Associate Pathologist, Department of Pathology, Vancouver General Hospital, Representative of the Canadian Medical Association.
- DR. F. J. ROBERTS, Associate Microbiologist, Vancouver General Hospital, Representative of the British Columbia Association of Pathologists.
- DR. E. W. SHEPHERD, Pathologist, Royal Inland Hospital, Kamloops, Representative of the British Columbia Association of Pathologists.
- DR. W. SKERRY, Technical Consultant on Clinical Laboratory Service, B.C. Hospital Insurance Service, Victoria.

MEDICAL RADIOGRAPHY ADVISORY COMMITTEE

Chairman:

- DR. A. SHERKAT, Department of Radiology, St. Paul's Hospital, Vancouver.

Ex Officio:

- S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.
- W. E. NOEL, Head, Department of Radiological Technical Services, British Columbia Institute of Technology, Burnaby.
- MISS P. M. ROGERS, Chief Instructor, Department of Radiological Technical Services, British Columbia Institute of Technology, Burnaby.

Members:

- A. CLIFFE, Senior X-ray Technician, Kelowna General Hospital.
- DR. J. S. DUNBAR, Professor of Radiology, University of British Columbia; Director, Department of Radiology, Vancouver General Hospital.
- B. GAGNON, Chief Technician, Department of Radiology, St. Paul's Hospital, Vancouver.
- MISS P. E. GODLEY, B.C. Division, Canadian Society of Radiological Technicians.
- R. HARKER, Chief Technician, Department of Radiology, Royal Columbian Hospital, New Westminster.
- MISS B. HOFNER, Supervising Technician, Department of Radiology, Victoria General Hospital, Victoria.
- J. LOGAN, Chief Technician, Department of Radiology, Lions Gate Hospital, North Vancouver.
- DR. P. Y. MIKI, President, British Columbia Radiological Society.

- DR. D. K. MUIR, Director, Department of Radiology, Royal Jubilee Hospital, Victoria.
- DR. A. PARAMONOFF, Director, Department of Radiology, Lions Gate Hospital, North Vancouver.
- DR. R. G. PTMAN, Director, Department of Radiology, St. Paul's Hospital, Vancouver.
- J. ROSS, Chief Technician, Department of Radiology, Royal Jubilee Hospital, Victoria.
- S. M. SMITH, Technical Adviser, Radiology, Department of Health Services and Hospital Insurance, Vancouver.
- DR. A. W. STARINK, Director, Department of Radiology, Royal Columbian Hospital, New Westminster.
- DR. F. G. STUART, Director, Department of Radiology, Victoria General Hospital, Victoria.
- D. L. THOMPSON, Representative of the British Columbia Hospitals' Association; Administrator, Peace Arch District Hospital, White Rock.
- DR. R. J. TJADEN, Director, Department of Radiology, Kelowna General Hospital, Kelowna.
- J. WALKER, Technical Supervisor, Department of Radiology, Vancouver General Hospital, Vancouver.

NUCLEAR MEDICINE TECHNOLOGY ADVISORY COMMITTEE

Chairman:

- DR. R. T. MORRISON, Associate Director of Laboratories; Head, Division of Nuclear Medicine; Department of Laboratory Medicine, Vancouver General Hospital.

Ex Officio:

- S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.
- MISS B. CLARK, Senior Instructor, Department of Radiological Technical Services, British Columbia Institute of Technology, Burnaby.
- W. E. NOEL, Head, Department of Radiological Technical Services, British Columbia Institute of Technology, Burnaby.

Members:

- B. G. BIROVCHAK, Section of Nuclear Medicine, Department of Pathology, Shaughnessy Hospital, Vancouver.
- DR. D. J. CAMPBELL, Head, Division of Clinical Chemistry, Department of Laboratory Medicine, Vancouver General Hospital.
- DR. T. W. DAVIS, Director, Department of Nuclear Medicine, St. Paul's Hospital, Vancouver.
- MRS. P. KLOTZ, Division of Nuclear Medicine, Vancouver General Hospital.
- DR. D. M. LYSTER, Division of Nuclear Medicine, Vancouver General Hospital.
- DR. E. MINCEY, Division of Nuclear Medicine, Vancouver General Hospital.
- DR. B. SCHOBBER, Head, Department of Nuclear Medicine, Lions Gate Hospital, North Vancouver.
- MISS ROSALIND SINCLAIR, Department of Nuclear Medicine, Lions Gate Hospital, North Vancouver.

B. SPRUSTON, Department of Nuclear Medicine, St. Paul's Hospital, Vancouver.

DR. A. E. W. TRITES, Chief of Service, Department of Pathology, Shaughnessy Hospital, Vancouver.

REGISTERED NURSING ADVISORY COMMITTEE

Chairman:

[to be appointed.]

Ex Officio:

S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.

MRS. B. B. KOZIER, Head, Department of Patient Care Services, British Columbia Institute of Technology, Burnaby.

MISS M. SUTHERLAND, Chief Instructor, Department of Patient Care Services, British Columbia Institute of Technology, Burnaby.

Members:

MRS. C. KERMACKS, Director of Education Services, RNABC, Vancouver.

MRS. J. KOTASKA, Representing School of Nursing, University of British Columbia, Vancouver.

MISS M. M. LONERGAN, Nursing Consultant, Mental Health Services Branch, Department of Health Services and Hospital Insurance, Vancouver.

MRS. W. MATHESON, Director of Nursing, Burnaby General Hospital, Burnaby.

MISS E. E. NORDLUND, Consultant, British Columbia Hospital Insurance Service, Victoria.

DR. H. STANSFIELD, British Columbia Medical Association, Vancouver.

MRS. N. STEVENS, Registered Nurses' Association of British Columbia, Director of Nursing, Royal Columbian Hospital, New Westminster.

REGISTERED PSYCHIATRIC NURSING PROGRAMME ADVISORY COMMITTEE

Ex Officio:

S. T. RICHARDS, Director, Health Technology Division, British Columbia Institute of Technology, Burnaby.

MRS. B. B. KOZIER, Head, Department of Patient Care Services, British Columbia Institute of Technology, Burnaby.

MISS S. SAUNDERS, Chief Instructor, Mental Health Nursing.

Members:

MISS M. LONERGAN, Nursing Consultant, Mental Health Services Branch, Department of Health Services and Hospital Insurance, Victoria.

MISS M. L. CARMACK, Director of Nursing, Riverview Hospital, Essondale.

MISS D. CURLE, Director of Nursing, The Woodlands School, New Westminster.

R. STEWART, President, British Columbia Psychiatric Nurses Association.

Additional members to be appointed.



Health Division Programmes



Health Division

The rising demand for health services, together with the increasingly complex scientific and social aspects of such services, is opening up new and challenging employment opportunities for a wide range of specialist health technologists.

The Health Technology training programmes, developed with the advice and counsel of leaders in the health sciences, and operated in conjunction with health facilities within the community, aim to produce technologists at a level of education and training suited to the need in the health field.

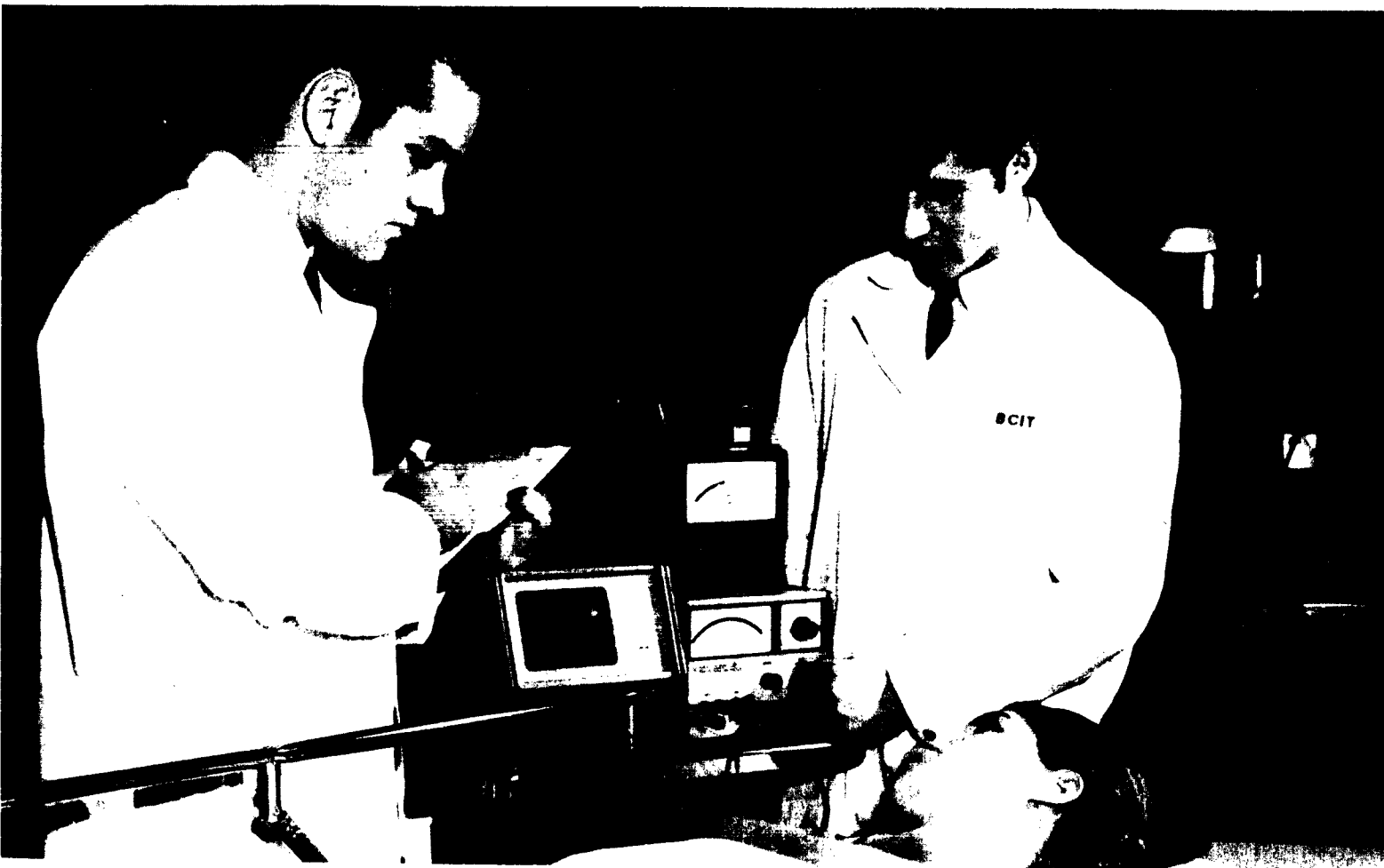
It is intended that the education provided will develop in the graduate a general understanding of the cultural and health environment in which he or she is to work. The training in the specific areas of choice will be sufficiently detailed to provide the skills necessary to the specialty.

It is expected that the health technologist will work at a level between the professional and vocational worker, acting as a junior colleague or in immediate support of the professional whose responsibilities in the field of health have to do with prevention, diagnosis and treatment, or research.

The training of the technologist in the Health Division consists of a combination of study and practice among students of the same specialty, with other student groups at BCIT, and in related practical experience areas of local health agencies, research institutions, and private companies, as appropriate.

Eight training programmes, open to male or female applicants, are offered in Health Technology. Details of the programmes listed below will be found in the succeeding pages:

- Biomedical Electronics.
- Environmental Health Technology.
- Health Data Technology.
- Medical Laboratory Technology.
- Medical Radiography.
- Nuclear Medicine Technology.
- Registered Nursing (R.N.).
- Registered Psychiatric Nursing.



Health Division

DEPARTMENT OF HEALTH ENGINEERING SERVICES

Biomedical Electronics Technology

In recent years there has been a growing demand for skilled professionals who have been trained in both medicine and engineering. The development of artificial kidneys, hearts, blood vessels, and many other complicated structures for service in the human body has called for a unique combination of interests and aptitudes on the part of those responsible for their design and servicing. The widespread use of medical electronic apparatus for the measurements of blood flow, pulse rate, respiration, nerve activity, and other bodily functions has further increased this demand. This trend will accelerate in the future.

In order to meet the need for technologists in this field, the British Columbia Institute of Technology has developed the Biomedical Electronics Programme. The Biomedical Electronics Programme, a course of two years' duration, provides the education and training required for the technologist who works in close association with the medical engineers and physicians engaged in operating, maintaining, and designing scientific medical equipment.

In both years of study the student will learn the fundamentals necessary to the understanding of the medical and technical aspects of the specialty. Mathematics and electronics play a large part in the training, as does detailed study of the processes which take place in the human body. During the second year each student spends part of his training time working under supervision in a local hospital, research agency, or private company.

Many opportunities are open to the graduate with a Diploma of Technology in Biomedical Electronics. Employment will be found in the fields of research, development and production, sales, installation, operation, and servicing. The technologist may work in a hospital, a university, or for a private company. His work and studies bring him into close contact with a wide range of workers in the health field.

Persons wishing to enter this new field of dramatic growth should be interested in the welfare of people and have an aptitude for things mechanical and electrical.

HEALTH DIVISION

DEPARTMENT OF HEALTH ENGINEERING SERVICES

BIOMEDICAL ELECTRONICS TECHNOLOGY

YEAR 1

Quarter A

No.	Subject	Classroom Hours per Week
30.A03	General Chemistry for Health Technologists	6
31.A01	Technical Writing	3
32.A78	Mathematics (Biomedical Electronics)	8
43.A71	Electronics Principles and Practice	9
98.A03	Human Anatomy and Physiology for Biomedical Electronics Students	4
	Library and Research	5
		<hr/> 35

Quarter B

30.B03	General Chemistry for Health Technologists	6
31.B01	Technical Writing	3
32.B78	Mathematics (Biomedical Electronics)	4
32.B79	Numerical Methods and Computing	4
43.B71	Electronics Principles and Practice	9
98.B03	Human Anatomy and Physiology for Biomedical Electronics Students	4
	Library and Research	5
		<hr/> 35

Quarter C

30.C03	General Chemistry for Health Technologists	6
31.C01	Technical Writing	3
32.C78	Mathematics (Biomedical Electronics)	9
43.C71	Electronics Principles and Practice	9
98.C46	Introductory Microbiology	2
	Tutorial	1
	Library and Research	5
		<hr/> 35

Quarter D

(No classes)

YEAR 2

Quarter E

32.E78	Mathematics (Biomedical Electronics)	5
33.E30	Biophysics	3*
41.E91	Medical Materials	4
43.E71	Electronics Principles and Practice	6
43.E75	Methods of Electrical Measurement	4
48.E60	Medical Instrumentation	3
78.E01	Biomedical Electronics	5
98.E02	Physiology for Biomedical Electronics Students	3*
	Library and Research	5
		<hr/> 35

Quarter F

33.F30	Biophysics	3*
41.F91	Workshop Practice	4
43.F71	Electronics Principles and Practice	4
43.F76	Digital Principles and Techniques I	6
48.F60	Medical Instrumentation	3
78.F02	Biomedical Electronics	5
78.F04	Practical Experience in Biomedical Electronics	5
98.F02	Physiology for Biomedical Electronics Students	3*
	Library and Research	5
		<hr/> 35

* Alternate weeks.

Quarter G

No.	Subject	Classroom Hours per Week
33.G30	Biophysics	3*
43.G76	Digital Principles and Techniques II	6
48.G60	Medical Instrumentation	3
78.G03	Biomedical Electronics	11
78.G05	Practical Experience in Biomedical Electronics	7
98.G02	Physiology for Biomedical Electronics Students	3*
	Library and Research	5
		<hr/> 35

Quarter H

(No classes)

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11, Chemistry 11.

* Alternate weeks.



Health Division

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES

Environmental Health Technology

(Public Health Inspector Training)

In general, the graduate from this technology will be a specialist in measuring, evaluating, and recommending controls for those elements of our man-modified environment that have unwanted effects on the health of individuals in our modern society. As a specialist, he will be a member of a team of environmental and public health workers.

Specifically, the Public Health Inspector will work toward improvement of the environment through education, consultation, persuasion, and, if necessary, the enforcement of health legislation. Clearly, he is now expected to deal with more than the control of infectious disease and simple environmental hazards as was the case in the past. In addition, his widened scope of activities must be forward-looking, and he must provide leadership which will aid the community in realizing long-range plans for the development of an environment leading to optimum health for the community.

To meet the demand for such highly skilled personnel, the Environmental Health Technology offers a balanced curriculum of lecture, laboratory, and field experience. In the programme, students will examine the nature of pollution of air, land, and water and the characteristics of societies, both rural and urban, agricultural, and industrial, to become familiar with the many health and safety hazards so produced. In addition, the student will study public accommodation and communicable disease control, insect and rodent control, food-processing control, and recreation and community planning.

To meet these requirements, the candidate entering the programme will need a sound understanding of mathematics, chemistry, and physics at the university entrance level. He will also have to be a mature, practical person who communicates effectively.

The successful student will receive a diploma of technology. To become a Public Health Inspector he must have completed three months' field work in a recognized health unit under the direction of a Medical Officer of Health and a Public Health Inspector. If the candidate meets the requirements of the regulations of the Board of Certification of the Canadian Public Health Association, he will become eligible to write the national examination to qualify for a Certificate in Public Health Inspection (Canada). This certificate is recognized by all health organizations in Canada.

Employment may be found in municipal, provincial, and national health departments; in environmental and pollution control departments; in industry; in sewage and water treatment plants; or in any of the agencies interested in industrial health and hygiene or food sanitation.

HEALTH DIVISION

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL HEALTH TECHNOLOGY

Quarter A

No.	Subject	Classroom Hours per Week
30.A03	General Chemistry for Health Technologies	6
31.A06	Communication (Public Health)	4
32.A82	Basic Mathematics (Health)	5
33.A12	Physics for Environmental Technology	5
82.A01	Public Health Inspection	5
98.A82	Public Health and Pollution Control Microbiology	5
	Library and Research	5
		<hr/> 35

Quarter B

30.B03	General Chemistry for Health Technologies	5
32.B82	Mathematics (Health)	5
33.B12	Physics for Environmental Technology	5
82.B01	Public Health Inspection	6
82.B02	Food Sanitation	5
98.B82	Public Health and Pollution Control Microbiology	4
	Library and Research	5
		<hr/> 35

Quarter C

30.C03	General Chemistry for Health Technologies	6
32.C82	Statistics (Health)	5
33.C12	Physics for Environmental Technology	5
82.C10	Draughting and Blueprint Reading	4
82.C11	Private Water Supplies and Waste-disposal Systems	6
98.C82	Occupational Health (Physiology)	4
	Library and Research	5
		<hr/> 35

Quarter D

(No classes)

Quarter E

30.E03	Instrumental Analytical Methods	4
32.E82	Introduction to Computers	5
82.E04	Public Health Administration	5
82.E08	Communicable Disease Control	5
82.E11	Hydraulics, Hydrology, Surveying	5
82.E15	Industrial Hygiene and Toxicology	6
	Library and Research	5
		<hr/> 35

Quarter F

10.F62	Public Health Law	6
30.F03	Instrumental Analytical Methods	4
82.F05	Environmental Health Relations	6
82.F07	Industrial Chemical Processes	6
82.F11	Municipal Water and Sewage-treatment Systems	5
82.F15	Industrial Hygiene and Toxicology	4
	Library and Research	4
		<hr/> 35

Quarter G

No.	Subject	Classroom Hours per Week
31.G06	Communication (Public Health)	4
41.413	Environmental Analytical Methods	3
82.G02	Food Sanitation	5
82.G06	Applied Environmental Health Personnel Administration	5
82.G14	Environmental Health and Engineering	8
82.G15	Air Pollution Control	5
	Library and Research	5
		<hr/> 35

Quarter H

(No Classes)

General Prerequisites: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, two Science 11's, one Science 12 (Chemistry 12 and Physics 11 suggested).

Health Division

DEPARTMENT OF HEALTH ENGINEERING SERVICES

Health Data Technology

(Medical Records)

The application of data processing methods to the field of health records has resulted in many changes. Now data can be processed in greater depth and more information can be extracted from them. This development has brought about the demand for a technologist trained in the new procedures of health data processing. At the same time, the increasing amount of health data and the practice of manipulating them more fully has produced a demand for more technologists.

To meet these demands, the British Columbia Institute of Technology, in collaboration with the British Columbia Association of Medical Record Librarians and several affiliated hospitals, has designed the Health Data Technology Programme.

Graduates of this programme will be granted a diploma of technology and will be eligible to write the appropriate national accreditation examination, which is given once a year by the Canadian Association of Medical Record Librarians.

Health Data Technologists work in the Medical Record Department of a hospital, clinic, or other health agency. They are responsible for preparing, analysing, and preserving the health information required by the hospital or agency, the patient, and the public. In addition, they may be expected to perform medical transcription.

In large hospitals, technologists work under the direction of the Chief Medical Record Librarian. However, in small hospitals, they may be called upon to perform all the functions of the department.

The Health Data Technology Programme provides two years of instruction in the form of lectures, laboratory, and practical experience. In the first year, the student concentrates on the basic health sciences and will become acquainted with a fundamental knowledge of health record science. In the second year, the classroom and laboratory instruction at the Institute will be supplemented by experience in the Medical Record Departments of local hospitals and community health agencies.

A mature personality and a strong sense of responsibility are prerequisites to a successful career in this field. The work involved demands attention to detail, accuracy, and initiative.

HEALTH DIVISION
DEPARTMENT OF HEALTH ENGINEERING SERVICES
HEALTH DATA TECHNOLOGY

YEAR 1 *Quarter A*

No.	Subject	Classroom Hours per Week
14.A82	Office Equipment	3
31.A02	Communication	3
32.A80	Basic Mathematics (Health)	5
80.A01	Introduction to Health Record Science	10
98.A07	Human Anatomy and Physiology	4
98.A23	Organizational Psychology	3
98.A45	Medical Microbiology and Epidemiology	2
	Library and Research	5
		<hr/> 35

Quarter B

31.B02	Communication	3
32.B80	Introductory Statistics (Health)	5
80.B01	Health Record Science	13
98.B07	Human Anatomy and Physiology	4
98.B23	Organizational Psychology	3
98.B45	Medical Microbiology and Epidemiology	2
	Library and Research	5
		<hr/> 35

Quarter C

14.C50	Introduction to Data Processing	5
31.C02	Communication	3
32.C80	Further Statistics (Health)	5
80.C01	Health Record Science	11
98.C07	Human Anatomy and Physiology	4
98.C45	Medical Microbiology and Epidemiology	2
	Library and Research	5
		<hr/> 35

Quarter D

(No classes)

YEAR 2 *Quarter E*

22.E01	Management Engineering I	4
32.E80	Computer Applications I	4
70.E08	Introduction to Clinical Laboratory Procedures	2
76.E02	Introduction to Pharmacology	2
80.E01	Health Record Science	10
80.E02	Health Statistics	4
80.E04	Medical and Surgical Transcription	4
	Library and Research	5
		<hr/> 35

Quarter F

22.F01	Management Engineering II	4
32.F80	Computer Applications II	4
40.F80	Building Renovation and Planning Procedures	4
80.F01	Health Record Science	8
80.F02	Health Statistics	4
80.F04	Medical and Surgical Transcription	4
98.F30	Genetics for Health Data Students	2
	Library and Research	5
		<hr/> 35

Quarter G

No.	Subject	Classroom Hours per Week
80.G01	Health Data Practicum	30
	Library and Research	5
		<hr/> 35

Quarter H

(No classes)

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Typing 11.

Health Division

DEPARTMENT OF MEDICAL LABORATORY SERVICES

Medical Laboratory Technology

The medical laboratory technologist, as a member of the health team, performs the many and varied laboratory procedures, the results of which are used by physicians as important aids to the diagnosis and treatment of the patient.

Laboratory screening programmes are being developed to alert the physician to disease processes which, though not yet clinically evident, are nevertheless present in the patient. Automation, instead of decreasing the need for the medical laboratory technologist, has created a demand for more highly trained technologists. The increasing use of sophisticated laboratory procedures and the rising demand generally for health services assure a wide range of opportunities for employment.

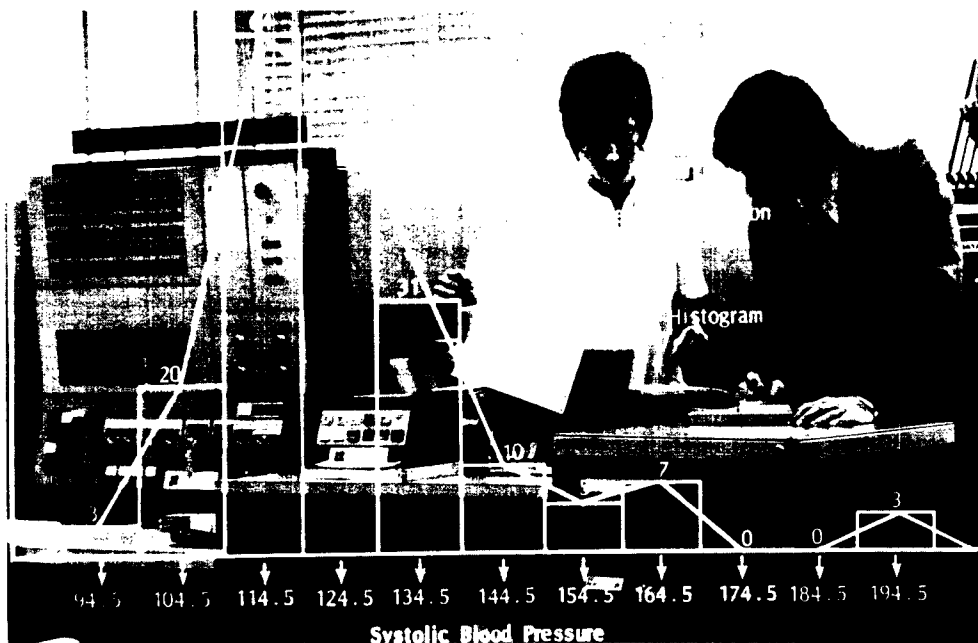
Medical Laboratory Technology offers a variety of scientific pursuits within the modern hospital, the private clinical laboratory, and the research laboratory. These fields include histopathology, clinical chemistry, hæmatology, microbiology, and immuno-hæmatology. The trained technologist may pursue any one or a combination of these fields after completion of training.

Applicants should have a strong interest in science and be meticulous in their work and habits.

Colour blindness precludes admission to the Medical Laboratory Technology programme.

Students spend two years at the Institute. Applicants must have graduated on the Academic and Technical Programme or the equivalent with the special prerequisites shown on page 69.

After successful completion of the second year at BCIT, a diploma of technology is granted. The third and final year of training is spent in a hospital laboratory approved by the Canadian Medical Association. At the end of the hospital year the student is eligible to sit the Canadian Society of Laboratory Technologists Examination which leads to the Registered Technologist (the recognized qualification for working as a technologist in a medical laboratory).



HEALTH DIVISION
DEPARTMENT OF MEDICAL LABORATORY SERVICES
MEDICAL LABORATORY TECHNOLOGY

Quarter A

YEAR 1

No.	Subject	Classroom Hours per Week
30.A03	General Chemistry for Health Technologists	6
31.A08	Communication	4
32.A70	Basic Mathematics (Health)	5
33.A10	Physics for Medical Laboratory Technology	5
70.A01	Medical Laboratory Orientation	3
98.A01	Human Anatomy and Physiology	4
98.A21	Introduction to Behavioural Sciences	3
	Library and Research	5
		<hr/> 35

Quarter B

30.B03	General Chemistry for Health Technologists	6
31.B08	Communication	4
32.B70	Calculus (Health)	5
33.B10	Physics for Medical Laboratory Technology	5
70.B01	Medical Laboratory Orientation	3
98.B01	Human Anatomy and Physiology	4
98.B21	Introduction to Behavioural Sciences	3
	Library and Research	5
		<hr/> 35

Quarter C

14.C50	Introduction to Data Processing	5
30.C03	General Chemistry for Health Technologists	6
32.C70	Statistics (Health)	5
33.C10	Physics for Medical Laboratory Technology	5
70.C01	Medical Laboratory Orientation	4
98.C01	Human Anatomy and Physiology	4
	Tutorial	2
	Library and Research	4
		<hr/> 35

Quarter D

(No classes)

Quarter E

YEAR 2

70.E02	Instrumentation in Clinical Chemistry	8
70.E03	Hæmatology	5
70.E04	Histology	8
70.E05	Microbiology and Parasitology	9
98.E43	Introductory Principles of Immunology	1
	Library and Research	4
		<hr/> 35

Quarter F

70.F03	Hæmatology	4
70.F05	Microbiology and Mycology	9
70.F06	Biochemistry and Physiology for Medical Laboratory Technologists	2
70.F07	Blood Banking	7
70.F12	Clinical Chemistry	9
	Library and Research	4
		<hr/> 35

Quarter G

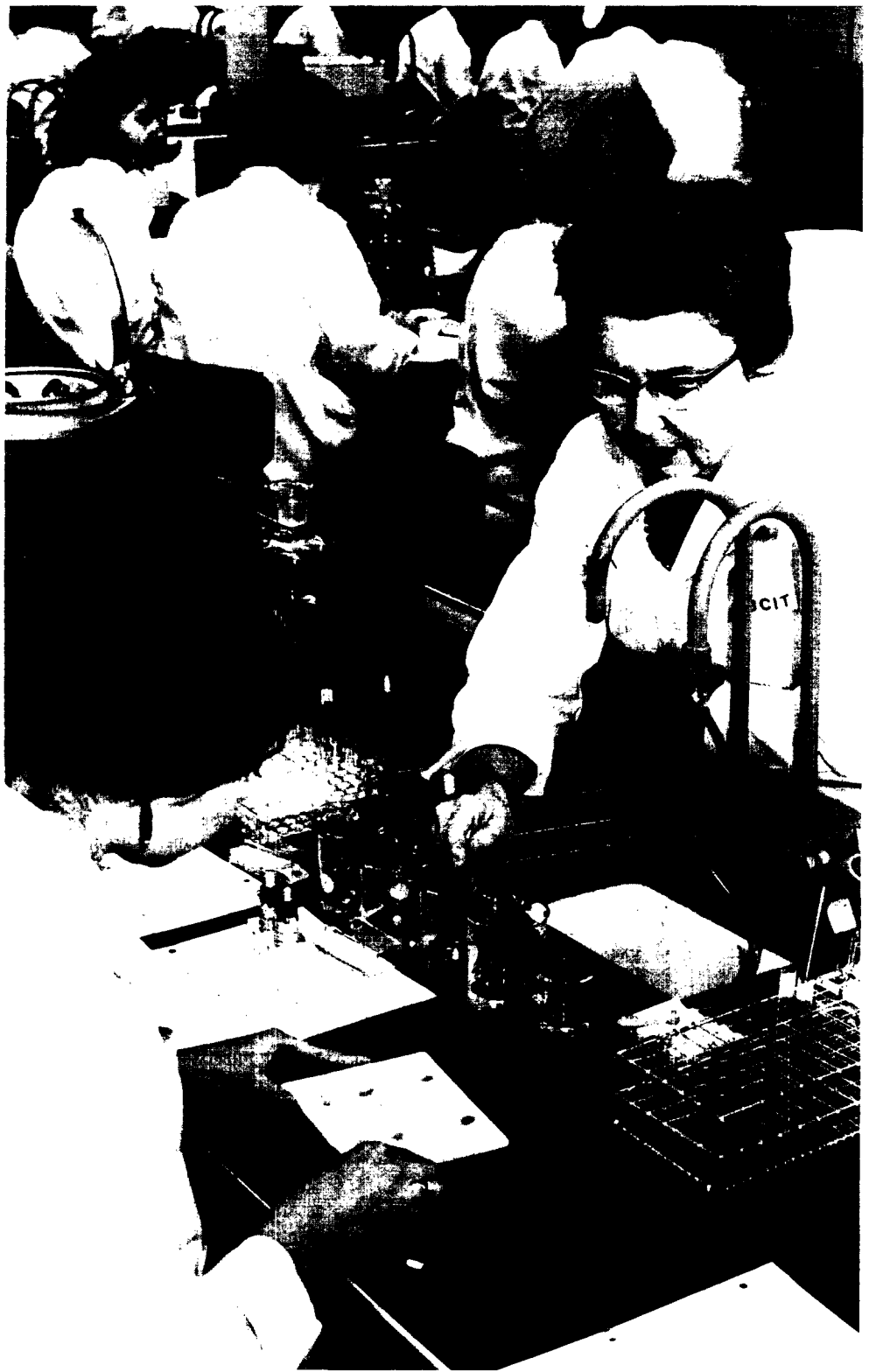
No.	Subject	Classroom Hours per Week
70.G03	Hæmatology	5
70.G05	Clinical Bacteriology	9
70.G07	Blood Banking	8
70.G12	Clinical Chemistry	9
	Library and Research	4
		<hr/> 35

Quarter H

(No classes)

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Chemistry 11, Chemistry 12, and one other Science 11.



Health Division

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES

Medical Radiography (X-ray)

Medical Radiography may be defined as "the art of recording an image of the inner structures of the human organism." The chief concerns of the X-ray technician are the taking of X-rays and assisting the radiologist during the various X-ray procedures. Workers in this field must be interested in the welfare of others and possess a strong sense of responsibility.

Medical radiographers are essential members of the health team.

Advances in science and technology are bringing about marked changes in radiology and medical radiography. This course is intended to qualify radiographers who will be in step with the latest developments in this aspect of patient care.

It is emphasized that this occupation is not considered to present any hazard to health. The dangers of radiation are well recognized and rigidly controlled.

The student is required to undergo a two-week period of "orientation" in a hospital X-ray department prior to the commencement of classes at the Institute. Arrangements for this orientation will be made by the Institute.

During the first year, most courses relate directly to radiography but at the same time there are included some subjects selected for their usefulness to the student generally as a health technologist. Time is also spent in affiliated X-ray departments to further familiarize the student with the hospital environment.

In the second year, emphasis is placed solely on the subjects related to the specialty. During this time, students gain experience in the clinical application of medical radiography in hospitals affiliated with the Institute. While at the hospital the student is under the supervision of the Institute instructional staff. Considerable laboratory work is a feature of both years.

Graduates are required to complete a further year of clinical experience in a hospital X-ray department, approved by the Canadian Medical Association, prior to sitting the certification examination of the Canadian Society of Radiological Technicians. During this year the graduate receives remuneration.

Certification resulting from this programme is recognized and accepted in all provinces, the United States, Great Britain, Australasia, Switzerland, and many other countries.

Registered technicians may expect to be employed in hospitals and private X-ray clinics. There are also opportunities in the sales division of X-ray equipment and film companies.

HEALTH DIVISION
DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES
MEDICAL RADIOGRAPHY TECHNOLOGY

YEAR 1

Quarter A

No.	Subject	Classroom Hours per Week
31.A08	Communication	4
33.A09	Physics of Medical Radiography	5
72.A01	Introduction to Medical Radiography and Hospital Orientation	7
72.A02	Apparatus and Image Recording	5
98.A05	Basic Anatomy and Physiology for Radiographers	5
	Tutorial	4
	Library and Research	5
		35

Quarter B

31.B08	Communication	4
33.B09	Physics of Medical Radiography	5
72.B01	Basic Medical Radiography	6
72.B03	Radiographic Anatomy and Physiology	5
98.B05	Basic Anatomy and Physiology for Radiographers	4
	Tutorial	6
	Library and Research	5
		35

Quarter C

32.C72	Basic Mathematics (Health)	5
33.C09	Physics of Medical Radiography	5
72.C01	Basic Medical Radiography	6
72.C02	Apparatus and Image Recording	4
72.C03	Radiographic Anatomy and Physiology	5
98.A22	Introduction to Behavioural Sciences	6
	Library and Research	4
		35

Quarter D

(No classes)

YEAR 2

Quarter E

72.E01	Radiographic Technique	8
72.E02	Apparatus and Image Recording	8
72.E05	Radiobiology and Protection	4
76.E01	Fundamentals of Patient Care	6
	Library and Research	4
72.E06	Clinical Experience in Medical Radiography (Hospital)	35*

Quarter F

72.F01	Radiographic Technique	8
72.F02	Apparatus	6
72.F05	Radiobiology and Protection	4
72.F07	Pathology for Medical Radiographers	4
	Library and Research	5
	Tutorial	3
72.F06	Clinical Experience in Medical Radiography (Hospital)	35*

* Alternate weeks.

Quarter G

No.	Subject	Classroom Hours per Week
72.G01	Radiographic Technique	12
72.G07	Pathology for Medical Radiographers	4
98.C41	Basic Medical Microbiology and Epidemiology	6
	Tutorial	3
	Library and Research	5
72.G06	Clinical Experience in Medical Radiography (Hospital) ..	35*

Quarter H

(No classes)

* Alternate weeks.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, two Science 11's, one Science 12 (Physics, Chemistry, or Biology).



Health Division

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES

Nuclear Medicine Technology

Nuclear medicine, "the application of radioactive materials to the diagnosis and treatment of patients," is a field of medicine that is undergoing rapid growth and development. A demand exists for well-educated and properly trained technologists. To meet this demand the British Columbia Institute of Technology offers a two-year course which prepares graduates to function as technologists in a Nuclear Medicine department.

Radioactive species of atoms, referred to as radionuclides, emit radiation which permits their detection and measurement by utilization of special equipment. Radionuclides can be introduced into the chemical structure of a large variety of compounds. This provides a means of investigating normal and abnormal functions of specific chemical and physical processes in the human body. Many of these sensitive and specific tests are unique and greatly facilitate the diagnosis of disease.

In the first year, the student studies some subjects specific to the field and others intended to broaden his general cultural and technological background. These studies prepare him for the specialization to follow.

During the second year, emphasis is placed on subjects relevant to Nuclear Medicine Technology. The Institute is equipped with a laboratory containing facilities and equipment commonly used in Nuclear Medicine. Clinical applications are studied in the laboratory and Nuclear Medicine facilities in the Lower Mainland hospitals affiliated with the Institute.

Because of the wide variety of radionuclide applications and the need for a diversity of capabilities, the programme of studies provides a thorough knowledge of the theoretical principles involved, as well as training in the required skills.

On completion of the course, the graduate is granted a diploma of technology. Upon completion of further clinical experience, graduates are eligible to sit the certification examination in Nuclear Medicine Technology of The Canadian Society of Radiological Technicians. This certification is recognized in all provinces. Employment will be found in hospitals, private laboratories, and institutions involved in research.

Nuclear medicine technologists should have a liking for work of a technical nature. They must be meticulous in habits and possess a strong sense of responsibility. A desire to be of service to others is essential.

HEALTH DIVISION

DEPARTMENT OF RADIOLOGICAL TECHNICAL SERVICES

NUCLEAR MEDICINE TECHNOLOGY

YEAR 1 *Quarter A*

No.	Subject	Classroom Hours per Week
14.A51	Computer Applications	3
30.A03	General Chemistry for Health Technologists	6
31.A08	Communication	4
32.A74	Basic Mathematics (Health)	5
33.A05	Basic Physics for Nuclear Medicine	5
70.A01	Medical Laboratory Orientation	3
98.A01	Human Anatomy and Physiology	4
	Library and Research	5
		35

Quarter B

30.B03	General Chemistry for Health Technologists	6
31.B08	Communication	4
32.B74	Calculus and Statistics (Health)	5
33.B05	Radioactivity	5
70.B01	Medical Laboratory Orientation	3
74.B07	Introduction to Nuclear Medicine	2
98.B01	Human Anatomy and Physiology	4
	Library and Research	5
	Tutorial	1
		35

Quarter C

30.C03	General Chemistry for Health Technologists	6
32.C74	Further Statistics (Health)	5
33.C05	Measurement of Radioactivity	5
70.C01	Medical Laboratory Orientation	4
74.C07	Introduction to Nuclear Medicine	2
76.C02	Fundamentals of Patient Care	4
98.C01	Human Anatomy and Physiology	4
	Tutorial	2
	Library and Research	3
		35

Quarter D

(No classes)

YEAR 2 *Quarter E*

33.E05	Measurement of Radioactivity	4	} *
74.E04	Applied Physiology in Diagnosis and Therapy	18	
74.E06	Pathology for Nuclear Medicine Technologists	4	
	Tutorial	5	
	Library and Research	4	
74.E05	Clinical Experience in Diagnostic and Therapeutic Procedures	35*	

Quarter F

74.F02	Radiobiology and Protection	4	} *
74.F04	Applied Physiology in Diagnosis and Therapy	12	
74.F06	Pathology for Nuclear Medicine Technologists	2	
98.A21	Introduction to Behavioural Sciences	6	
74.F08	Image Recording in Nuclear Medicine	5	
	Library and Research	5	
74.F05	Clinical Experience in Diagnostic and Therapeutic Procedures	35*	

Quarter G

No.	Subject	Classroom Hours per Week
74.G02	Radiobiology and Protection	4
74.G04	Applied Physiology in Diagnosis and Therapy	12
98.B21	Introduction to Behavioural Sciences	6 *
98.G41	Basic Medical Microbiology and Epidemiology	6
	Tutorial	3
	Library and Research	4
74.G05	Clinical Experience in Diagnostic and Therapeutic Procedures	35*

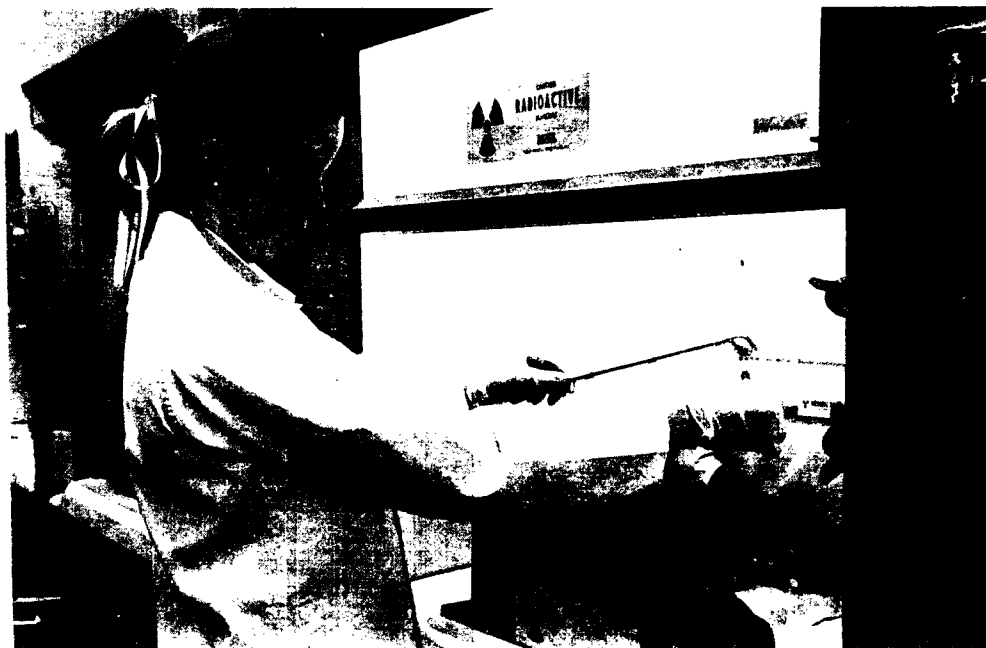
Quarter H

(No classes)

-
- Alternate weeks.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, two Science 11's, Chemistry 12.



Health Division

DEPARTMENT OF PATIENT CARE SERVICES

Registered Nursing

The Registered Nursing Programme offers a student a two-year course of studies and hospital experience which leads to graduation as a qualified nurse and the eligibility to write the professional nursing examinations in order to obtain an R.N. The programme is open to men and women, and neither age nor marital status are primary factors in the selection of candidates. It is preferred that the nursing students has had biology and some chemistry in high school. A physical examination and interview are required prior to entry in the Nursing Programme.

At present one class is enrolled each year in September; however, a second class may be enrolled in the spring quarter 1975.

The curriculum for nursing students includes biological, social, and applied sciences. Nursing is taught throughout the two years, and clinical experience, with the guidance of Institute instructors, is provided concurrently at nearby hospitals and health agencies. During the two calendar years the students receive two periods of vacation as well as eight quarters of instruction.

The nursing courses include study and experience in basic nursing, mental health nursing, family care nursing, and medical-surgical nursing. Specific knowledge and skills in areas such as pharmacology, dietetics, and rehabilitation are integrated throughout the curriculum. Modern trends in the nursing of both children and adults in acute care settings and in extended care facilities are reflected throughout the curriculum.

Successful candidates in the Nursing Programme will be well equipped to work as beginning practitioners in hospitals and analogous situations in the community.

HEALTH DIVISION
DEPARTMENT OF PATIENT CARE SERVICES
REGISTERED NURSING

Quarter A

No.	YEAR 1 Subject	Classroom Hours per Week
31.A04	Modern Literature	3
	<i>Or</i>	
31.A09	Contemporary Studies I	3
	<i>Or</i>	
31.A11	Directed Reading	3
	<i>And</i>	
76.A09	Human Growth and Development	2
76.A20	Nursing I	7
76.A25	Experience for Nursing I	9
98.A06	Physiology	4
98.A27	Introduction to Sociology	3
98.A44	Introductory Medical Microbiology	2
	Library and Research	5
		<hr/> 35

Quarter B

31.B04	Modern Literature	3
	<i>Or</i>	
31.B09	Contemporary Studies I	3
	<i>Or</i>	
31.B11	Directed Reading	3
	<i>And</i>	
76.B09	Human Growth and Development	2
76.B20	Nursing II	7
76.B25	Experience for Nursing II	9
98.B06	Physiology	4
98.B09	Introduction to Psychology	3
	Library and Research	5
		<hr/> 33

Quarter C

31.C04	Modern Literature	3
	<i>Or</i>	
31.C09	Contemporary Studies I	3
	<i>Or</i>	
31.C11	Directed Reading	3
	<i>Or</i>	
31.C12	Corrective Language	3
	<i>And</i>	
76.C30	Nursing III	7
76.C35	Experience for Nursing III	12
98.C03	Medical Genetics	3
98.C06	Physiology and Pathophysiology	4
	Library and Research	5
		<hr/> 34

Quarter D

76.D26	Physical Fitness	3
76.D30	Nursing IV	7
76.D35	Experience for Nursing IV	12
98.D28	Sociology of Health and Illness	3
	Library and Research	5
		<hr/> 30

Quarter E

No.	Subject	Classroom Hours per Week
76.E30	Family Care Nursing	10
76.E35	Experience for Family Care Nursing	16
	<i>Or</i>	
76.E39	Community Nursing	5
76.E40	Mental Health Nursing	5
76.E44	Clinical Experience for Community Nursing	8
76.E45	Experience for Mental Health Nursing	8
	<i>Or</i>	
76.E50	Medical-Surgical Nursing	10
76.E55	Experience for Medical-Surgical Nursing	16
	<i>And</i>	
98.E44	Principles of Immunology and Hypersensitivity	3
	Library and Research	5
		<hr/> 34

Quarter F

98.F47	Medical Microbiology	3
	<i>And</i>	
76.E30	Family Care Nursing	10
76.E35	Experience for Family Care Nursing	16
	<i>Or</i>	
76.E39	Community Nursing	5
76.E40	Mental Health Nursing	5
76.E44	Clinical Experience for Community Nursing	8
76.E45	Experience for Mental Health Nursing	8
	<i>Or</i>	
76.E50	Medical-Surgical Nursing	10
76.E55	Experience for Medical-Surgical Nursing	16
	Library and Research	5
		<hr/> 34

Quarter G

31.G09	Contemporary Studies II	3
	<i>Or</i>	
31.G11	Independent Study	3
	<i>Or</i>	
98.E29	Sociology of Mental Health	3
	<i>And</i>	
76.E30	Family Care Nursing	10
76.E35	Experience for Family Care Nursing	16
	<i>Or</i>	
76.E39	Community Nursing	5
76.E40	Mental Health Nursing	5
76.E44	Clinical Experience for Community Nursing	8
76.E45	Experience for Mental Health Nursing	8
	<i>Or</i>	
76.E50	Medical-Surgical Nursing	10
76.E55	Experience for Medical-Surgical Nursing	16
	Library and Research	5
		<hr/> 34

Quarter H

76.H70	Advanced Nursing	6
76.H75	Experience for Advanced Nursing	24
		<hr/> 30

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: One Science 12.

Recommended Subjects: Chemistry 11, Biology 12.



FIRST FLOOR

Health Division

DEPARTMENT OF PATIENT CARE SERVICES

Registered Psychiatric Nursing

The Psychiatric Nursing Programme offers the student a two-year course of studies and selected clinical experiences which lead to graduation as a psychiatric nurse. Graduates are eligible for registration as a psychiatric nurse in the Province of British Columbia.

The programme is open to men and women. Age and marital status are not primary factors in the selection process. A physical examination and an interview are required prior to acceptance into the programme. Registered nurses who wish increased skill in psychiatric nursing will be considered as applicants to the second year of the programme.

At present one class is enrolled each year in September; however, a second class may be enrolled in the spring quarter 1975.

Throughout the two years of the curriculum, both theoretical and clinical nursing courses are given concurrently, supported by core courses from the various physical and behavioural sciences. Studies in Quarters A, B, C, and D are taken with the students in the Registered Nursing Programme. Classes are given at the Institute and at the Education Centre at River-view Hospital. Clinical experience is provided in a variety of health centres, hospitals, and community agencies.

The programme aims at preparing graduates with effective interpersonal skill, enabling them to work with people of all ages who have mental health problems.

The graduate will be prepared to practise direct patient care to people with common health problems. The second year emphasizes the development of effective interpersonal skills. The students learn to observe and to assess immediate behaviour and life situations which are problematic for patients. They develop skills in assisting the individual to solve life problems more effectively.

The graduate will be prepared to practise direct patient care in a variety of community, hospital, and mental health facilities. In more complex situations. The graduate will work with guidance from more experienced practitioners.

HEALTH DIVISION
DEPARTMENT OF PATIENT CARE SERVICES
REGISTERED PSYCHIATRIC NURSING

Quarter A

YEAR 1		Classroom Hours per Week
No.	Subject	
31.A04	Modern Literature	3
	<i>Or</i>	
31.A09	Contemporary Studies I	3
	<i>Or</i>	
31.A11	Directed Reading	3
	<i>And</i>	
76.A09	Human Growth and Development	2
76.A20	Nursing I	7
76.A25	Experience for Nursing I	9
98.A06	Physiology	4
98.A27	Introduction to Sociology	3
98.A44	Introductory Medical Microbiology	2
	Library and Research	5
		<hr/> 35

Quarter B

31.B04	Modern Literature	3
	<i>Or</i>	
31.B09	Contemporary Studies I	3
	<i>Or</i>	
31.B11	Directed Reading	3
	<i>And</i>	
76.B09	Human Growth and Development	2
76.B20	Nursing II	7
76.B25	Experience for Nursing II	9
58.B06	Physiology	4
98.B09	Introduction to Psychology	3
	Library and Research	5
		<hr/> 33

Quarter C

31.C04	Modern Literature	3
	<i>Or</i>	
31.C09	Contemporary Studies I	3
	<i>Or</i>	
31.C11	Directed Reading	3
	<i>Or</i>	
31.C12	Corrective Language	3
	<i>And</i>	
76.C30	Nursing III	7
76.C35	Experience for Nursing III	12
98.C03	Medical Genetics	3
98.C06	Physiology and Pathophysiology	4
	Library and Research	5
		<hr/> 34

Quarter D

76.D26	Physical Fitness	3
76.D36	Nursing IV	7
76.D35	Experience for Nursing IV	12
98.D28	Sociology of Health and Illness	3
	Library and Research	5
		<hr/> 30

Quarter E

No.	Subject	Classroom Hours per Week
76.E41	Psychiatric Nursing I	7
76.E46	Experience for Psychiatric Nursing I	18
76.E47	Neuroanatomy and Physiology	3
98.E29	Sociology of Mental Health	2
	Library and Research	5
		<hr/> 35

Quarter F

76.F41	Psychiatric Nursing II	10
76.F46	Experience for Psychiatric Nursing II	18
76.F47	Psychology of Learning	2
	Library and Research	5
		<hr/> 35

Quarter G

76.G11	Basic Theatre Techniques	3
	<i>Or</i>	
76.G26	Recreation and Activity—Nursing Tools	3
	<i>Or</i>	
76.G30	Self Awareness	3
	<i>And</i>	
76.G41	Psychiatric Nursing III	9
76.G47	Experience for Psychiatric Nursing III	18
	Library and Research	5
		<hr/> 35

Quarter H

76.H70	Advanced Nursing	6
76.H75	Experience for Advanced Nursing	24
		<hr/> 30

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisite: One Science 12.

Recommended Subjects: Chemistry 11, Biology 12.

Registered nurses may apply to enter the second year of the programme.



Engineering Division
Instructional Staff

ENGINEERING DIVISION

D. K. BANNERMAN, B.A.Sc., S.M., P.ENG., *Director.*

BIOLOGICAL SCIENCES TECHNOLOGY

R. B. HYDE, B.S.A., M.S., P.AG., *Department Head.*

S. B. J. ANDERSEN, B.A., *Senior Instructor.*

V. J. MARTENS, B.S.A., M.Sc., P.AG.

J. H. MUIR, B.S.A., P.AG., *Senior Instructor.*

G. D. CHASTER, B.S.A., M.S.

J. K. SOUTTER, H.D.F.T.

R. N. E. HARGREAVES, DIPL.T.

MISS J. F. WYLIE, B.Sc. (HONS.).

R. N. HITCHMAN, B.S.A., P.AG.

BUILDING TECHNOLOGY

K. B. DAVISON, B.ARCH., F.R.A.I.C., *Department Head.*

G. BERKENPAS.

J. Y. JOHNSTONE, B.ARCH.,

K. F. COLLIER, F.R.I.C.S., R.I. (B.C.)

M.R.A.I.C., *Senior Instructor.*

G. M. HARDIE, F.R.I.C.S., R.I. (B.C.)

H. E. KUCKEN, M.R.A.I.C.

D. S. MANN, B.ARCH., M.R.A.I.C.

J. P. SULLIVAN, B.Sc., P.ENG.

CHEMICAL AND METALLURGICAL TECHNOLOGY

R. C. MASON, B.A.Sc., P.ENG., B.C.L.Ass., *Department Head*
(on leave of absence).

W. J. BOGYO, B.C.L.Ass.

W. R. IRVINE, B.A., M.Sc., P.ENG.,

J. M. CURRIE, B.A.Sc., P.ENG.,
Senior Instructor.

Acting Department Head.

D. MCKINNON, B.Sc.A. (HONS.).

J. T. DENLEY, B.Sc., P.ENG. (ALTA.).

D. J. McLEOD, A.R.M.T.C., A.I.M.

W. F. ROBERTS, B.A., B.A.Sc., P.ENG.

CIVIL AND STRUCTURAL TECHNOLOGY

G. Q. LAKE, B.A.Sc., P.ENG., *Department Head.*

A. R. BARREN, B.Sc., PH.D., P.ENG.

W. N. QUARRY, DIPL.T.

R. BUTLER, C.ENG., P.ENG.,
M.I.C.E., M.I.STRUCT.E.

R. B. ROBINS, C.ENG., M.I.C.E.,
P.ENG.

C. L. DOYLEND.

W. V. RUDD, P.ENG.

A. J. ELSTON, B.E., P.ENG.

R. C. STARR, B.ENG., M.A.Sc.,

F. G. KATZEL, B.Sc., M.Sc.,
P.ENG.

P.ENG., *Chief Instructor.*

ELECTRICAL AND ELECTRONICS TECHNOLOGY

R. E. RIDSDALE, P.ENG., *Department Head*

T. ANGELES, B.A.Sc., DIPL.ADULTED.,
P.ENG.

E. E. MCCONECHY, B.Sc. (ENG.),
P.ENG., *Chief Instructor.*

J. H. CASIMIR, B.A.Sc., P.ENG.

W. F. MIKLAS, DIPL.T., C.E.T.

J. W. DOYLE, C.E.T.

B. H. MULDER, M.Sc. (DELFT),
P.ENG.

E. I. GASPARD, C.E.T., *Acting Chief Instructor*

A. R. MURDOCH, B.A.Sc., P.ENG.

T. J. GLAVE, B.Sc. (ENG.), P.ENG.

R. T. RUSSELL.

C. F. GLAZIER, B.Sc. (ENG.), P.ENG.

E. W. SCRATCHLEY, B.A.Sc.,

R. W. GUY.

M.A.Sc., P.ENG., *Chief Instructor.*

E. G. HANCOCK, DIPL.T., C.E.T.

J. N. TOMPKIN, B.Sc., P.ENG.

J. A. HOPKINS, *Senior Instructor.*

E. J. WARKENTIN, C.E.T.

S. D. HUGHES, B.A.Sc., P.ENG.,
Chief Instructor.

FOREST RESOURCE TECHNOLOGY
V. HEATH, B.S.F., R.P.F., *Department Head.*
G. R. HARRIS, B.A., M.A., *Chief Instructor.*

Forestry Programme

D. C. HOLMES, B.A.Sc., M.F., R.P.F., P.ENG., *Chief Instructor.*

N. E. ALEXANDER.	L. HANSEN, DIPL.T.
G. BUCHAN, B.Sc.F., R.P.F.	A. G. JAKOY, B.S.F., M.F., R.P.F.
J. S. CALDWELL.	R. J. KERR.
W. R. CANNON, B.A. (on leave).	E. KOZIER.
C. W. CHESTNUT, B.A., Ph.D.	H. LENKO, B.S.F., R.P.F.
T. D. CHISHOLM, B.Ed.	K. K. LOEWE.
E. C. CROSSIN, B.S.F., R.P.F.	D. H. MACLAURIN, B.S.F., R.P.F.
J. A. CUTHBERT, B.S.F., R.P.F.,	W. D. McLAREN, B.Sc., M.Sc.
<i>Senior Instructor.</i>	R. W. REISEN, E.T.I.
G. DAYKIN, B.A.Sc., P.ENG.	A. E. RICHMOND, B.S.F., M.F.,
C. J. DIEBOLD.	R.P.F., <i>Senior Instructor.</i>
R. D. DUNLOP, B.A.Sc., R.P.F.,	
P.ENG.	

Forest Products Programme

G. R. HARRIS, B.A., M.A., *Chief Instructor.*

S. BERGHOLD.	J. T. NEILSON, B.A.Sc., P.ENG.
H. KETTNER.	R. J. ZANIOL, DIPL.T.
B. R. LESLIE.	

INSTRUMENTATION AND SYSTEMS TECHNOLOGY

J. O. HULBERT, M.I.C.E., P.ENG., *Department Head.*

E. H. V. BACK, DIPL.T.	J. G. KENYON, H.N.C., <i>Senior In-</i>
T. W. COGHLAN, DIPL.T.	<i>structor.</i>
J. W. EVANSON.	L. J. STRILCHUK, B.A.Sc., P.ENG.
	E. A. UPWARD, DIPL.T.

MECHANICAL TECHNOLOGY

E. J. CAIRNS, B.Sc., P.ENG., C.ENG., A.F.R.A.E.S., F.I.MECH.E.,
Department Head.

A. P. ADAMO, DIP. ING.	K. JOHNSON.
G. T. BENSON.	G. A. LEWIS, B.A.Sc., P.ENG.
R. M. BROWN.	(on leave of absence).
R. O. DARLING, B.Sc., P.ENG.	R. B. PENNINGTON, C.E.T.
E. GRAHAM, C.E.T.	J. R. RABY, B.E., M.S.E., P.ENG.,
R. G. GRAHAM, B.Sc., P.ENG.	A.M.B.I.M.
B. E. HORLACHER, DIPL.T., <i>Senior</i>	R. C. W. SMYTH, C.ENG.,
<i>Instructor.</i>	M.I.MECH.E., P.ENG., <i>Chief</i>
J. H. IRVINE, C.E.T.	<i>Instructor.</i>
G. D. JOHNSON, P.ENG., M.I.PROD.E.,	S. C. TODD, P.ENG., C.ENG.,
M.I.MECH.E., C.ENG.,	M.I.MECH.E., M.I.E.D.
<i>Chief Instructor.</i>	

MINING TECHNOLOGY

A. H. MANIFOLD, B.Sc., M.A.Sc., P.ENG., *Department Head.*

W. B. BLAIR, B.A.Sc., P.ENG.	J. F. FAIRLEY, B.A.Sc., P.ENG.
D. J. HARDIE, H.N.C.	J. A. WILLCOX, B.A.Sc., P.ENG.

NATURAL GAS AND PETROLEUM TECHNOLOGY

I. M. ANDERSON, M.I.GasE., C.ENG., *Acting Department Head.*

D. A. CAMPBELL, B.A.(Hons.).

H. F. DU VARNEY.

SURVEYING TECHNOLOGY

R. I. MCNEIL, B.SURV., B.C.L.S., D.L.S., DIP.A.ED., *Department Head.*

G. E. ANDERSON.

G. T. BEDWELL.

D. C. DEANS.

K. ERRINGTON, B.C.L.S., CERT. MIN.

SURV.

K. FRANKICH, DIP.ENG.

K. GYSLER, B.ENG., D.L.S.,

Senior Instructor.

D. JARVOS, DIPL.T.

D. R. MASON, B.Sc., B.C.L.S.

A. M. NELSON, C.E.T., *Senior Instructor.*

W. TUPPER, DIP.ENG.

Part-time Instructional Staff, 1974/75

Technology

WM. COOPER	-	-	-	-	-	<i>Mechanical.</i>
R. A. MALCOLM, B.A.Sc., P.ENG.	-	-	-	-	-	<i>Building.</i>
V. N. P. MATHUR	-	-	-	-	-	<i>Forest Resource.</i>
MRS. D. M. MORRIS, B.S.A., M.Sc.	-	-	-	-	-	<i>Biological Sciences.</i>
F. PENFOLD	-	-	-	-	-	<i>Forest Resource.</i>
P. S. QUELCH	-	-	-	-	-	<i>Forest Resource.</i>
D. W. RENNIE	-	-	-	-	-	<i>Forest Resource.</i>
R. SUME, B.A.Sc.	-	-	-	-	-	<i>Mechanical.</i>
C. A. TIERS, B.ARCH., M.ARCH., M.R.A.I.C.	-	-	-	-	-	<i>Building.</i>



Engineering Division
Guest Lecturers

ENGINEERING DIVISION

GUEST LECTURERS

BIOLOGICAL SCIENCES TECHNOLOGY

- H. H. BERGER, Assistant Superintendent, Parks and Recreation, The Corporation of the District of West Vancouver.
N. R. DARLING, DIPL.T., Winemaster, Castle Wines Ltd., Victoria.
P. JECK, President, Jeckway Landscaping Limited, Vancouver.
E. PEKRUL, Customer Equipment Serviceman, American Can of Canada Limited, Vancouver.
M. POWER, B.S.A., P.AG., Superintendent, Holland Landscapers Limited, Vancouver.
W. R. TUTTON, B.A.Sc., P.ENG., Technical Representative, American Can of Canada Limited, Vancouver.

ELECTRICAL AND ELECTRONICS TECHNOLOGY

- T. D. GRANT., Field Technical Representative, Canadian Motorola Electronics Co., North Vancouver.
J. LONG., Marketing Manager, Electro-Voice Inc., Buchanan, Michigan, U.S.A.
C. D. MARLATT, Supervisor of Communications, Pacific Great Eastern Railway.
A. J. MIDDLEDORP, Electrical Engineer, Spilsbury-Tindal, Vancouver.
D. RICHARDSON, Air Regulations Inspector, Ministry of Transport.
H. B. THOMPSON, Production Manager, Standard Oil Co.
B. VAN DER WOERD, Director of Personnel Services, Insurance Corporation of B.C.
A. L. VERHIEL, Electrical Engineer, Trans Mountain Pipeline.

FOREST RESOURCE TECHNOLOGY

- G. AINSCOUGH, B.S.F., R.P.F., Chief Forester, MacMillan Bloedel Ltd.
A. ANDERSON, Accident Prevention Inspector, Workmen's Compensation Board.
F. M. BAKER, Forest Ranger, British Columbia Forest Service, Princeton.
J. A. BARANYAY, DIPL.FOR.ENG., M.A., Disease Survey Officer, Federal Department of Fisheries and Forestry.
W. G. BEALE, B.A.Sc., Manager, Planning and Engineering Department, Tahsis Co. Ltd.
D. BENN, B.S.F., Recreation Sector, Canada Land Inventory, Victoria.
D. BEST, Forestry Supervisor, MacMillan Bloedel Ltd.
A. K. G. BLAKENEY, B.A.Sc., P.ENG., Forest Engineer, Greater Vancouver Water District.
A. BOHN, B.Sc., M.Sc., Research Consultant, British Columbia Research Council.
J. H. BORDEN, B.Sc., M.Sc., PH.D., Professor, Simon Fraser University.
R. L. CAESAR, B.S.F., R.P.F., Planning Forester, C. D. Schultz & Co.
L. A. CAMPEAN, Supervisor, Golden Ears Park, Haney.
H. CEHAK, Welding Instructor, British Columbia Vocational School, Burnaby.
S. G. CHESTER, B.S.F., R.P.F., Canadian Forest Products Ltd., Woss Camp.
B. DAVIES, Manager, Reifel Waterfowl Refuge, British Columbia Waterfowl Society.

- W. J. B. DEVITT, B.S.F., R.P.F., Forester, Pacific Logging Co. Ltd.
- C. DICKINSON, Regional Sales Manager, Bauer Bros. (Canada) Ltd., Vancouver.
- P. DOOLING, B.S.F., M.F., Assistant Professor (Recreation), Faculty of Forestry, University of British Columbia.
- L. G. DOYLE, Corporal, RCMP, Migratory Bird Section.
- H. DRAGE, B.S.F., Recreation Forester, Vancouver District, B.C. Forest Service.
- O. ELIOT, P.ENG., Sales Representative, Babcock and Wilcox, Canada Ltd.
- C. F. ESTLIN, Chief Protection Officer, British Columbia Fish and Wildlife Branch, Victoria.
- B. R. GATES, B.Sc., M.Sc., Regional Biologist, British Columbia Fish and Wildlife Branch, Vancouver.
- G. GLEN, B.Sc., M.Sc., Ph.D., Head, Biology Department, Simon Fraser University.
- M. G. GODFREY, B.S.F, R.P.F., Timberline Inventory Services Ltd.
- R. HALLADAY, B.S.A., M.S.A., Water Fowl Biologist, British Columbia Fish and Wildlife Branch.
- G. HALSEY, B.Sc., M.Sc., Biologist, Research Division, British Columbia Fish and Wildlife Branch.
- C. C. HAMMOND, Planning Division, British Columbia Parks Branch.
- R. D. HARRIS, B.A., Canadian Wildlife Service.
- V. HERNANDEZ, Training Officer, British Columbia Forest Service.
- D. HOFFMAN, B.Sc.F., R.P.F., Crown Zellerbach Ltd.
- R. C. HOWARD, Timberlands Department, B.C. Forest Products.
- L. M. JOHNSTONE, Vice-President of Administration, Rivtow Straits Limited.
- R. JONES, General Sales Manager, Recreational Land Department, Block Bros. Realty Ltd.
- K. R. JOY, B.S.F., M.S., i/c Park Interpretation, Provincial Department of Recreation and Conservation, Parks Branch.
- E. KARLSON, B.Sc.F., M.F., R.P.F., Forester i/c Research Station, British Columbia Forest Service, Mesachie Lake.
- L. KERR, Manager, Conair Aviation Ltd.
- J. KONISHI, B.Sc.F., R.P.F., Forester i/c Duncan Seed Centre, British Columbia Forest Service.
- R. R. LAFFERTY, B.S., M.S., Fire Research Officer, Canadian Forestry Service.
- B. LAWSON, M.S.F., Fire Research Officer, Canadian Forestry Service.
- B. LEACH, B.A., Ph.D., Director, Institute of Environment Studies, Douglas College.
- R. K. LEIGHTON, Regional Protection Officer, British Columbia Fish and Wildlife Branch, Vancouver.
- D. LOW, B.Sc., Fish and Wildlife Branch, Kamloops.
- W. B. MACKAY, Chemical Engineer, Sandwell & Co. Ltd.
- R. J. MCKERCHER, B.Com., B.S.F., Vice-President, Millstream Timber Ltd.
- M. B. C. MCLEAN, B.Com., R.I.A., Comptroller, British Columbia Department of Lands, Forests, and Water Resources.
- R. McLELLAN, B.A.Sc., President, Robert McLellan & Co. Ltd.
- D. McLEOD, B.S.F., Supervisor of Forestry, Rayonier Canada (B.C.) Ltd.
- R. MALLINSON, Manager, Gulf Log Salvage Cooperative Association.
- J. H. MAXWELL, Accident Prevention Inspector, Workmen's Compensation Board.
- B. MILLS, Supervisor, Accident Prevention, Council of the Forest Industries of B.C., Vancouver.
- F. R. MORRIS.
- D. McMULLEN, B.Sc.F., R.P.F., B.C. Forest Products.

- M. H. MUDGE, Ranger, British Columbia Forest Service.
- E. N. MULOCK, B.S.F., R.P.F., Inventory Forester, Canadian Forest Products Ltd.
- G. MURDOCK, Assistant Municipal Ranger, District of Mission.
- S. NIKLEVA, B.A., M.A., Scientific Support Officer, Atmospheric Environmental Service.
- G. W. NORRIS, Assistant Manager, Accident Control, Council of the Forest Industries of British Columbia, Vancouver.
- P. C. OLOFFS, M.S.A., Ph.D., Assistant Professor, Faculty of Science, Simon Fraser University.
- A. L. ORR-EWING, Ph.D., R.P.F., Research Forester, Research Division, British Columbia Forest Service.
- J. ORTMAN, Supervisor, Quality Control, Council of the Forest Industries.
- N. PELTON, B.S.F., R.P.F., President, Pelton Reforestation Co. Ltd.
- N. PENNY, Climatologist, Environment Canada, Vancouver.
- L. V. PLATT, Supervisor, Green Timbers, British Columbia Forest Service.
- D. N. RADCLIFFE, B.S.F., R.P.F., MacMillan Bloedel Ltd.
- A. RAYNER, Sales Representative, Fleck Bros. Ltd.
- H. RAYNOR, B.A., Fire Weather Forecaster, Atmospheric Environmental Service of Canada.
- I. ROCKWELL, Municipal Ranger, District of Mission.
- R. SADLEIR, B.Sc., Ph.D., Associate Professor, Biological Sciences, Simon Fraser University.
- M. D. SAUNDERS, Technical Service Manager, Canadian Industries Ltd.
- P. SCHAEFER, DIPL.C.E.(ZURICH) (E.T.H.), Avalanche Research Officer, N.R.C.
- E. SCHMID, Manager, The Pulping Division, H. A. Simons (International) Ltd., Vancouver.
- R. B. SMITH, B.S.F., M.F., Ph.D., Research Scientist, Federal Department of Fisheries and Forestry.
- H. SPARROW, B.Sc., M.Sc., Chief of Hatchery Division, Provincial Department of Recreation and Conservation, Fish and Wildlife Branch.
- M. B. STEELE, Forestry Sales Manager, Wajax Equipment Ltd.
- L. STRAIGHT, Outdoors Editor, *Vancouver Sun*.
- V. J. SWIATKIEWICZ, B.Sc., Regional Fisheries Biologist, Burnaby.
- O. SZIKLAI, M.F., Ph.D., Professor, Faculty of Forestry, University of British Columbia.
- G. TAYLOR, B.Sc., M.Sc., Chief, Habitat Improvement Section, British Columbia Fish and Wildlife Branch.
- R. THOMAS, B.Sc., M.Sc., Acting Chief, Fisheries Biologist, British Columbia Fish and Wildlife Branch.
- W. F. THOMAS, Inspecting Engineer, British Columbia Department of Commercial Transport.
- E. G. TOUZEAU, B.A.Sc., R.P.F., P.ENG.
- G. TRACHUK, Resources Conservation Section, National Parks, Calgary.
- A. L. TURNBULL, M.F., Ph.D., Professor, Biological Sciences Department, Simon Fraser University.
- E. UNDERHILL, Park Naturalist, British Columbia Parks Branch.
- R. T. WALKER, B.Sc.(CHEM.ENG.), Senior Process Engineer, MacMillan Bloedel Ltd., Powell River Division, Powell River.
- J. WALTERS, B.S.F., R.P.F., Director UBC Forest, Faculty of Forestry, University of British Columbia.
- I. WEATHERBY, Constable, RCMP, Migratory Bird Section.
- G. A. WEST, B.A., Regional Supervisor, British Columbia Fish and Wildlife Branch, Vancouver.

D. J. WILLIAMS, Director of Personnel, Greater Vancouver Water District.
I. D. WITHLER, B.A., M.Sc., Biologist, British Columbia Fish and Wildlife
Branch.
JACK WOOD, Municipal Ranger, District of West Vancouver.

MINING TECHNOLOGY

W. H. CHILDRESS, Technician, British Columbia Department of Mines.
S. ELIAS, Senior Inspector, British Columbia Department of Mines.
T. H. ROBERTSON, Instructor, British Columbia Department of Mines.
J. W. ROBINSON, Inspector, British Columbia Department of Mines.
W. C. ROBINSON, B.A.Sc., Inspector, British Columbia Department of Mines.

TEACHING ASSOCIATES

MINING TECHNOLOGY

BY STAFF OF

ANACONDA BRITANNIA MINES
ATLAS COPCO CANADA LTD.
BETHLEHEM COPPER CORPORATION LTD.
CANADIAN INGERSOLL RAND LTD.
GARDINER-DENVER CANADA LTD.
CRAIGMONT MINES LTD.
FINNING TRACTOR & EQUIPMENT CO. LTD.
GIANT MASCOT MINES LTD.
NELSON MACHINERY LTD.
TIMKEN ROLLER BEARING CO. LTD.
VANCOUVER WHARVES LTD.
WESTDRILL LTD.
WIRE ROPE INDUSTRIES OF CANADA LTD.



**Engineering Division
Advisory Committees**

BUILDING ADVISORY COMMITTEE

Chairman:

J. L. WHITEHEAD, President and Publisher, Journal of Commerce, Vancouver.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

K. B. DAVISON, Head, Building Technology, British Columbia Institute of Technology, Burnaby.

Members:

W. H. BALL, National Research Council, Division of Building Research, University of British Columbia, Vancouver.

R. J. BICKFORD, Regional Chief of Design, Department of Public Works, Vancouver.

B. L. BLAIN, Vice-President, Dawson & Hall Ltd., Vancouver, B.C.

D. M. BROUSSON, President, Century Sales and Controls Ltd., Vancouver.

G. CLAYTON, President, Amalgamated Construction Association of B.C., Vancouver.

M. J. JONES, Chief Building Inspector, Corporation of the District of Burnaby, Burnaby.

A. K. KIRK-GEROW, A. W. McLeod Realty, New Westminster.

D. B. LEANEY, Partner, D. W. Thomson & Co. Ltd., Vancouver.

B. P. PARRY, Building Technologist, Wright Engineers, Ltd., Vancouver.

H. PENNY, Director of Education and Safety, Amalgamated Construction Association, Vancouver.

A. W. SLIPPER, Assistant Director, Design and Planning, Department of Physical Plant, University of British Columbia, Vancouver.

C. A. TIERS, Assistant Professor, School of Architecture, University of British Columbia, Vancouver.

M. S. THOMPSON, Chief Estimator, Dominion Construction Co. Ltd., Vancouver.

CHEMICAL AND METALLURGICAL ADVISORY COMMITTEE

Chairman:

DR. B. H. LEVELTON, President, B. H. Levelton & Associates Ltd., Vancouver.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

R. C. MASON, Head, Chemical and Metallurgical Technology, British Columbia Institute of Technology, Burnaby.

Members:

R. D. BATEMAN, Crime Detection Laboratory, RCMP, Vancouver.

DR. B. A. DUNNELL, Professor, Department of Chemistry, University of British Columbia, Vancouver.

DR. T. C. GRIFFING, T. W. Beak Consultants Ltd., Vancouver.

DR. J. A. H. LUND, Professor, Department of Metallurgy, University of British Columbia, Vancouver.

P. M. MUSSALLEM, Regional Sales Manager, Imperial Oil Ltd., Vancouver.

- L. H. SCHNURSTEIN, Vice-President, Manufacturing, Hooker Chemicals Ltd., North Vancouver.
- DR. R. STEWART, Professor, Department of Chemistry, University of British Columbia, Vancouver.
- DR. C. C. WALDON, Head, Biology Division, British Columbia Research Council, Vancouver.

CIVIL AND STRUCTURAL ADVISORY COMMITTEE

Chairman:

- P. B. ENGLAND, Purchasing Agent, Progressive Contracting Ltd., Richmond.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
- G. Q. LAKE, Head, Civil and Structural Technology, British Columbia Institute of Technology, Burnaby.
- R. C. STARR, Chief Instructor, Civil and Structural Technology, British Columbia Institute of Technology, Burnaby.

Members:

- P. E. ALLAN, President, Society of Engineering Technologists, Vancouver.
- G. A. CLIBBETT, Second-year Civil and Structural Student, Class President.
- D. R. DUNCAN, Chairman, Membership and Classification Committee, Society of Engineering Technologists, Vancouver.
- K. HOLBEK, Manager, Canadian Precast Concrete Bureau, West Vancouver.
- S. L. LIPSON, Professor and Head, Department of Civil Engineering, University of British Columbia, Vancouver.
- A. F. MANN, DIPL.T., B.C.I.T.
- R. F. McNICHOL, Assistant Manager, Pacific Water Wells (1969) Ltd., Langley.
- J. J. MILLER, General Manager, Miller Cartage & Contracting Ltd., Richmond.
- R. D. OTTO, first-year Civil and Structural student.
- W. V. RUDD, Senior Engineer, International Power and Engineering Consultants Ltd., Vancouver.
- H. L. SMITH, Principal, H. Leslie Smith Ltd., Consulting Engineers, Vancouver.
- J. G. WALBAUER, second-year Civil and Structural student.

ELECTRICAL AND ELECTRONICS ADVISORY COMMITTEE

Chairman:

- M. A. THOMAS, M. A. Thomas Associates Ltd., Vancouver.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
- E. I. GASPARD, Acting Chief Instructor, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.
- J. A. HOPKINS, Senior Instructor, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.
- S. D. HUGHES, Chief Instructor, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.

- E. E. McCONECHY, Chief Instructor, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.
- R. E. RIDSDALE, Head, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.
- E. W. SCRATCHLEY, Acting Department Head, Electrical and Electronics Technology, British Columbia Institute of Technology, Burnaby.
- Current President, BCIT Electrical and Electronics Technology (student).

Members:

- K. BATURA, Systems Evaluation Engineer, British Columbia Telephone Company, Vancouver.
- D. BENSTED, Vice-President Engineering, Research Industries Ltd., Burnaby.
- D. R. CHIPPENDALE, Service Representative, Westinghouse Canada Ltd., Richmond.
- W. ERICHSON, Applications Engineer, Elworthy & Co. Ltd., Burnaby.
- J. S. FULTON, Marketing Services Manager, Lenkurt Electric Company Ltd., Burnaby.
- V. T. LIPP (Alumni Rep.), Technician, British Columbia Telephone Company, Vancouver.
- D. MATTERSON, Electrical Superintendent, MacMillan Bloedel Ltd., Powell River Division.
- F. R. MULLEN, Regional Superintendent, Maintenance and Operations, Department of Transport, Vancouver.
- F. R. STEWART, Data Processing Customer Engineering Manager, International Business Machines Ltd., Vancouver.

FOOD PROCESSING ADVISORY COMMITTEE

Chairman:

- B. LINGEMAN, Director of Manufacturing, Martin, Robertson and Bain Ltd., Vancouver.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
- R. B. HYDE, Head, Biological Sciences Technology, British Columbia Institute of Technology, Burnaby.

Members:

- T. KERSHAW, Sales Manager, Pacific Milk Division, Fraser Valley Milk Producers Association, Vancouver.
- J. S. KILPATRICK, Supervisor of Quality Control, British Columbia Packers Ltd., Vancouver.
- J. A. KITSON, Research Scientist, Research Station, Canada Department of Agriculture, Summerland.
- R. REGEHR (Alumni Rep.), Industrial Relations Supervisor, Canadian Park and Tilford Distilleries Ltd., North Vancouver.
- C. H. PENNER, Plant Manager, York Farms Division of Canada Packers Ltd., Sardis.
- J. W. PICKERING, General Manager, Molson Brewery B.C. Ltd., Vancouver.

FOOD PRODUCTION AND HORTICULTURE ADVISORY COMMITTEE

Chairman:

DR. J. A. FREEMAN, Research Scientist, Research Station, Canada Department of Agriculture, Agassiz.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

R. B. HYDE, Head, Biological Sciences Technology, British Columbia Institute of Technology, Burnaby.

Members:

R. S. BERRY, Sales Manager, Surrey Cooperative Association, Surrey.

W. A. CALDER, Vice-President and Director of Marketing, British American Chemical Co. Ltd., Vancouver.

I. C. CARNE, Director of General Services, British Columbia Department of Agriculture, Victoria.

DR. J. W. NEILL, Associate Professor of Horticulture, Division of Plant Science, University of British Columbia, Vancouver.

M. POWER, Superintendent, Holland Landscapers Limited, Vancouver.

O. SCHULTZ, Western Regional Manager, York Farms Division of Canada Packers Ltd., Sardis.

FOREST RESOURCE TECHNOLOGY

Forestry Programme Advisory Committee

Chairman:

R. R. DOUGLAS, Vice-President, Forest Operations, Rayonier Canada (B.C.) Ltd., Vancouver.

Past Chairman:

C. B. DUNHAM, Consulting Forester, West Vancouver.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

V. HEATH, Head, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.

G. R. HARRIS, Chief Instructor, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.

D. C. HOLMES, Chief Instructor, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.

Members:

R. AHRENS, Provincial Parks Director, Department of Recreation and Conservation, Victoria.

W. G. BURCH, General Manager, Timberlands, British Columbia Forest Products Ltd., Vancouver.

H. R. CHISHOLM, Vice-President, Raw Materials Planning and Allocation, MacMillan Bloedel Ltd., Vancouver.

R. A. CROUTER, Manager, Southern Operations Branch, Department of Environment, Fisheries Service, Vancouver.

M. H. DRINKWATER, Director, Pacific Research Centre Forest Service, Environment Canada, Victoria.

- M. W. GORMELY, President, Gormely Forestry Service Ltd., Vancouver.
- R. D. HARRIS, Canadian Wildlife Service, Department of the Environment.
- DR. J. HATTER, Director, British Columbia Fish and Wildlife Branch, Department of Recreation and Conservation, Victoria (alternates: R. C. Thomas, J. Robinson).
- P. J. HEMPHILL, Director of Services, British Columbia Forest Service, Victoria.
- C. J. HIGHTED, British Columbia Forest Service Training School, Surrey.
- R. S. JEWESSON, Takla Logging Ltd., Prince George Pulp Ltd., Prince George.
- W. P. T. MCGEE, Crown Zellerbach Canada Ltd., New Westminster.
- J. NELSON (Alumni Rep.), Forest Technologists Association of British Columbia, Vancouver.
- V. WELLBURN, Faculty of Forestry, University of British Columbia, Vancouver.
- GEO. ROGERS, Head of Resource Conservation, National and Historic Parks Branch, Calgary.
- V. T. WILLIAMS, Truck Loggers Association, Vancouver.

Pulp and Paper Option Advisory Committee

Chairman:

- G. G. FLATER, Vice-President, Pulp and Paper, B.C. Forest Products Ltd., Vancouver.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
- V. HEATH, Head, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.
- G. R. HARRIS, Chief Instructor, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.

Members:

- A. S. BROKENSHIRE, Director, Industrial Relations, Tahsis Co. Ltd., Vancouver.
- F. L. CHAPMAN, Manager, Industrial Relations, Cariboo Pulp and Paper Co., Quesnel.
- C. C. COVERNTON, Shift Superintendent, Weyerhaeuser Canada, Kamloops.
- G. A. DECKER, Technical Superintendent, Intercontinental Pulp Ltd., Prince George.
- D. GRAY, Manager, Industrial Relations Services, Pulp and Paper Industrial Relations Bureau, Vancouver.
- J. S. MACEY, Control Superintendent, Canadian Forest Products, Howe Sound Pulp Division, Port Mellon.
- R. E. MONAHAN, Technical Superintendent, Powell River Division, MacMillan Bloedel Ltd., Powell River.
- E. H. WOODRUFF, Director of Operations—Cellulose Division, Rayonier Canada (B.C.) Ltd., Vancouver.

Wood Products Option Advisory Committee

Chairman:

J. W. RAVEN, Manager, Quality Control, Council of the Forest Industries of British Columbia, Vancouver.

Past Chairman:

W. G. BEALE, Manager, Planning and Engineering Department, Tahsis Co. Ltd., Vancouver.

Vice-Chairman:

D. J. BARKER, Manager, Seaboard International Terminal, North Vancouver.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

V. HEATH, Head, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.

G. R. HARRIS, Chief Instructor, Forest Resource Technology, British Columbia Institute of Technology, Burnaby.

Members:

G. N. DILWORTH, Production Manager, Vancouver Plywood Division, MacMillan Bloedel Ltd., Vancouver.

W. R. FAIRBURN, Mill Manager, McDonald Cedar Products Ltd., Fort Langley.

P. FRITH, Manager, Wood Products, B.C. Forest Products, McKenzie Division.

F. GARTNER, Manager, Planning and Special Projects, Rayonier Canada (B.C.) Ltd., Vancouver.

A. D. HARRIS, Manager, New Westminster Division, MacMillan Bloedel Ltd., New Westminster.

R. KILMARTIN, Manager, Evans Products, Savona.

W. ROSS McCUTCHEON, Manager, Triangle Pacific Forest Products Ltd., New Westminster.

A. D. MACDONALD, Secretary Manager, Interior Lumber Manufacturers Association, Penticton.

H. MAPSON, Area Manager, Interior Wood Supply and Products Ltd., Crown Zellerbach Canada Ltd., Lumby.

A. MELLOR, Dry Kiln Supervisor, Federated Co-operatives Ltd., Canoe.

L. POND, Manager, Weldwood of Canada Ltd., Canim Lake Sawmills Ltd., Canim Lake.

L. RODGERS, Manager, Labour Relations, Weldwood of Canada Ltd., Vancouver.

INSTRUMENTATION AND SYSTEMS ADVISORY COMMITTEE

Chairman:

C. R. ROSS, Manager, Instrumentation Department, H. A. Simons (International) Ltd., Vancouver.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

J. O. HULBERT, Head, Instrumentation and Systems Technology, British Columbia Institute of Technology, Burnaby.

Members:

- J. T. BLAIR, Instrument Maintenance Supervisor, Burrard Thermal Generating Station, British Columbia Hydro and Power Authority, Vancouver.
- J. U. CALDICOTT, Assistant Engineer (Instrumentation), Central Engineering, MacMillan Bloedel Ltd., Vancouver.
- B. W. COLE, Senior Engineering Surveyor, D.P.W., Boiler Inspection Branch, Vancouver.
- J. D. MCLEAN, Industrial Division Regional Manager, Honeywell Ltd., Vancouver.
- R. A. MALCOLM, Manager, Malcolm Engineering Ltd., Vancouver.
- W. V. NICHOLSON, Chief Instrument Engineer, Cominco Ltd., Trail.
- F. G. POWELL, Systems Manager, E.A.C. Ltd., Richmond.

MECHANICAL ADVISORY COMMITTEE

Chairman:

- P. N. BLAND, Engineer, H. A. Simons (International) Ltd., Vancouver.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
- E. J. CAIRNS, Head, Mechanical Technology, British Columbia Institute of Technology, Burnaby.

Members:

- E. BRISBANE, Assistant Plant Superintendent, Gibraltar Mines Ltd., McLeese Lake.
- DR. J. P. DUNCAN, Head, Department of Mechanical Engineering, University of British Columbia, Vancouver.
- G. W. GROVER, Vice-President, Canadian Aircraft Products, Richmond.
- L. R. HUGHES, Manufacturing Manager, Weiser Lock Co. Ltd., Burnaby.
- D. HURRELL, Head, Mechanical Division, Wright Engineers Limited, Vancouver.
- C. R. JOHNSON, Director of Engineering, Scott Paper Ltd.
- W. F. KILLAM, Sales Manager and Director, I.C.L. Engineering Ltd., Richmond.
- W. E. MILLS, Senior Mechanical Engineer, Department of Public Works, Victoria.
- E. S. RHODES, Project Manager, H. A. Simons (International) Ltd., Vancouver.
- W. O. RICHMOND, Professor, Department of Mechanical Engineering, University of British Columbia, Vancouver.
- G. TOVELL, Vice-President Operations, Hayes Trucks Ltd.
- M. WOOLLEY, Society of Engineering Technologists.

MINING ADVISORY COMMITTEE

Chairman:

- L. G. R. CROUCH, Professor of Mining, Department of Mineral Engineering, University of British Columbia, Vancouver.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
A. H. MANIFOLD, Department Head, Mining Technology, British Columbia Institute of Technology, Burnaby.

Members:

- W. S. ADAMS, Executive Assistant, Curriculum, Vancouver School Board, Adult Education Department, Vancouver.
F. A. ALEXANDER, Executive Assistant Operations, The Granby Mining Co. Ltd., Vancouver.
J. B. EVANS, Professor of Mining, Head of Department of Mineral Engineering, University of British Columbia, Vancouver.
F. A. GODFREY, Manager of Western Operations, Falconbridge Nickel Mines Ltd., Vancouver.
J. D. LITTLE, Vice-President, Operations, Placer Development Ltd., Vancouver.
C. S. NEY, Executive Vice-President, Quintana Minerals Corporation, Vancouver.
J. W. PECK, Chief Inspector of Mines, British Columbia Government, Victoria.
E. A. SCHOLZ, Vice-President, Exploration Placer Development Ltd., Vancouver.
J. S. THOMSON, Consultant, Vancouver.

NATURAL GAS AND PETROLEUM ADVISORY COMMITTEE

Chairman:

- A. G. KANEEN, Chief Engineer, Safety Engineering Services Division, Department of Public Works, Vancouver.

Ex Officio:

- D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.
I. M. ANDERSON, Acting Department Head, Natural Gas and Petroleum Technology, British Columbia Institute of Technology, Burnaby.

Members:

- K. S. P. CHARMAN, Manager, Industrial Relations Division, Westcoast Transmission Co. Ltd., Vancouver.
D. J. HOWIE, British Columbia Hydro and Power Authority, Gas Division, Burnaby.
R. KADLEC, Inland Natural Gas Co., Vancouver.
K. KIDD, Gas Division, British Columbia Hydro and Power Authority, Burnaby.
J. D. LINEHAM, Chief of Petroleum and Natural Gas Division, Department of Mines and Mineral Resources, Victoria.
G. B. MCGILLIVRAY, Manager, British Columbia Division, Canadian Petroleum Association, Victoria.
J. G. O'NEILL, Imperial Oil Enterprises Ltd., Ioco.

SURVEYING ADVISORY COMMITTEE

Chairman:

V. C. GOUDAL, Goudal and Associates, Surveyors, Port Coquitlam.

Ex Officio:

D. K. BANNERMAN, Director, Engineering Division, British Columbia Institute of Technology, Burnaby.

R. I. MCNEIL, Head, Surveying Technology, British Columbia Institute of Technology, Burnaby.

Members:

M. BOLTON, Regional Hydrographer, Canadian Hydrographic Service, Victoria.

C. H. BRACEY, Staff Land Surveyor, B.C. Hydro and Power Authority.

D. H. BURNETT, David H. Burnett & Associates, Burnaby.

J. CHERRINGTON, Engineer of Special Projects, Canadian Pacific Railway, Vancouver.

I. FOX, Regional Surveyor, Surveys and Mapping Branch, Department of Energy, Mines and Resources.

J. E. KLEFSTAD, Assistant Municipal Surveyor, Surrey Municipality.

T. W. LAURIENTE, Construction Manager, Dominion Bridge, Vancouver.

J. W. SHARPE, Partner, Underhill & Underhill, Surveyors and Civil Engineers, Vancouver.

A. G. TRANFIELD, Regional Location Superintendent, Department of Highways, North Vancouver.

W. A. TUNBRIDGE, Partner, Tunbridge & Tunbridge Surveyors, Chilliwack.

D. A. WIGHT, Field Operations Division, Department of Lands, Forests, and Water Resources, Victoria.



Engineering Division Programmes



Engineering Division

The ever-broadening and increasingly complex technological base of our society creates a large and continuing demand for competent, highly trained specialists in many technical fields. Involved across the spectrum of activities are theoretical scientists, professionals, technologists, and vocational craftsmen. In this team, technologists play an essential role and find challenging, interesting, and rewarding careers. As listed below, the Institute offers technologist training in traditional engineering fields and several other scientific areas. In certain fields, graduation from the Institute enables one to be certified as an Engineering Technologist with the British Columbia Society of Engineering Technologists upon completion of two years of suitable industrial experience. Students will follow a prescribed course in one of the following technologies:

- Biological Sciences Technology**
 - Food Processing Option
 - Food Production Option
 - Landscape Horticulture Option
- Building Technology**
 - Architectural Option
 - Economics Option
 - Services Option
- Chemical and Metallurgical Technology**
 - Industrial Chemistry Option
 - Physical Metallurgy Option
 - Extractive Metallurgy Option
 - Pollution Treatment Option
- Civil and Structural Technology**
 - Civil Elective
 - Traffic Elective
 - Structural Elective
- Electrical and Electronics Technology**
 - Electrical Option
 - Telecommunications Option
 - Control Electronics Option
- Forest Resource Technology**
 - Forestry Programme
 - Forestry Option
 - Fish, Wildlife, and Recreation Option
 - Forest Products Programme
 - Pulp and Paper Option
 - Wood Products Option
- Instrumentation and Systems Technology**
- Mechanical Technology**
 - Production Option
 - Design Option
- Mining Technology**
- Natural Gas and Petroleum Technology**
- Surveying Technology**
 - Survey Option
 - Photogrammetry Option



Engineering Division

Biological Sciences Technology

The programme in Biological Sciences Technology provides instruction in the applied aspects of living phenomena. It includes the production and processing of our vital food supply from plant and animal sources. It includes also the ornamental plants that improve our landscapes. Thus, the technology is divided into three options: Food Processing, Food Production, and Landscape Horticulture.

Food Processing Option

The Food Processing Option provides a thorough knowledge of the basic sciences which leads to more advanced technical subjects related to the effective preservation of food. The student learns to apply knowledge of subjects such as microbiology, food chemistry, and food technology to processes such as canning, freezing, dehydrating, and fermenting.

The graduate in the Food Processing Option is well qualified for employment in the food manufacturing industry; for example, trained technologists are required to perform chemical, physical, and bacteriological tests on food materials during processing, and on the finished packaged goods. The graduate is qualified also to supervise processes within the food manufacturing plant itself. Further employment opportunities exist in government laboratories and inspection services.

Food Production Option

This option offers a thorough grounding in the sciences that are of importance in the production of food from agricultural sources. The student learns to apply knowledge of subjects such as botany, zoology, microbiology, genetics, entomology, and biochemistry to the production of food. In addition to studying plant, animal, and soil sciences, the student becomes acquainted with the analytical, mechanical, and business aspects of modern agricultural production.

The graduate in the Food Production Option has many employment avenues open to him/her. For example, trained technologists are required for the laboratory control and marketing of agricultural chemicals, feeds, and fertilizers, and also in the field operations of food-manufacturing concerns. Additional job opportunities exist in inspection services and in government and industry research laboratories.

Landscape Horticulture Option

An option that deals with the ornamental plantings that are an important part of residential, commercial, industrial, and park developments. The option includes a basic study of the natural sciences that apply to the fields of floriculture, arboriculture, nursery production, turf management, and landscaping. It includes, also, the techniques of plan production for landscape architectural projects. In the second year, the Landscape Horticulture Option is divided into two specialties—the Landscape and Nursery Specialty and the Landscape Plan Techniques Specialty.

The graduate in the Landscape and Nursery Specialty is prepared for employment with landscape contractors, horticultural nurseries, and park systems. The graduate in the Landscape Plan Techniques Specialty is trained for employment in the offices of landscape architects.

ENGINEERING DIVISION

BIOLOGICAL SCIENCES TECHNOLOGY

No.	YEAR 1	Subject	Term 1	Classroom Hrs. per Wk.
30.101		Applied Chemical Principles		6
31.101		Communication		3
32.101		Basic Technical Mathematics		5
33.102		Introductory Physics		5
44.121		Introductory Microbiology		6
44.122		Biology		5
		Library and Research		5
				<hr/> 35

		FOOD PROCESSING OPTION	FOOD PRODUCTION OPTION	LANDSCAPE HORTICULTURE OPTION
		Classroom Hrs. per Wk.	Classroom Hrs. per Wk.	Classroom Hrs. per Wk.
30.201	Applied Chemical Principles	6	6	6
31.201	Communication	3	3	3
32.246	Statistics I and II	5	5	5
33.202	Introductory Physics	5	5	5
40.208	Landscape Draughting .....	...	...	3
44.201	Food Processing	6	...	...
44.221	Microbiology for Food Processing	5	...	...
44.223	Microbiology for Food Production .....	...	5	...
44.251	Food Production .....	...	6	...
44.253	Introductory Botany and Soils .....	...	...	6
44.263	Applied Horticulture .....	...	...	4
51.205	Introduction to Surveying .....	...	...	3
	Library and Research	5	5	5
		<hr/> 35	<hr/> 35	<hr/> 35

	YEAR 2		Land- scape and Nursery Specialty	Land- scape Plan Techniques Specialty
10.730	Industrial Management	3	3	3
30.303	Instrumental Analytical Methods	5	5	...
31.301	Industrial Communication	2	2	2
40.308	Landscape Draughting .....	...	3	3
42.310	Land Engineering .....	...	...	5
44.301	Food Processing	5	...	...
44.311	Quality Control	3	...	...
44.312	Introductory Food Analysis	5	5	...
44.341	Mechanics of Machines	4	4	...
44.352	Genetics .....	...	4	...
44.361	Plant Technology .....	...	6	...
44.363	Applied Horticulture .....	...	6	6
44.364	Nursery Crop Production .....	...	6	6
44.366	Landscape Structural Detail .....	...	...	5
44.371	Animal Technology .....	...	4	...
48.350	Process Instrumentation	3	...	...
	Library and Research	5	5	5
		<hr/> 35	<hr/> 35	<hr/> 35

	YEAR 3		Land- scape and Nursery Specialty	Land- scape Plan Techniques Specialty
20.700	Agricultural Products Marketing	3	...	...
22.444	Basic Operations Management	2	...	...
32.444	Introduction to Computing	2	2	...
44.401	Food Processing	5	...	...

BIOLOGICAL SCIENCES TECHNOLOGY—Continued

Term 4—Continued

		FOOD PROCESSING OPTION	FOOD PRODUCTION OPTION	LANDSCAPE HORTICULTURE OPTION
		Classroom Hrs. per Wk.	Classroom Hrs. per Wk.	Classroom Hrs. per Wk.
				Land- scape and Nursery Specialty
				Land- scape Plan Tech- niques Specialty
44.402	Process Analysis	5	.....	.....
44.411	Quality Control	4	.....	.....
44.412	Food Analysis	5	.....	.....
44.413	Agricultural Analysis .....	.....	5	.....
44.414	Experimental Techniques .....	.....	4	.....
44.431	Sanitation	4	.....	.....
44.442	Agricultural Mechanics .....	.....	5	5
44.462	Plant Protection .....	.....	6	6
44.465	Landscape Field Practice .....	.....	.....	9
44.466	Landscape Structural Detail .....	.....	.....	6
44.467	Advanced Plant Identification .....	.....	.....	2
44.468	Supervisory Practices .....	.....	.....	2
44.481	Soil Technology .....	.....	5	5
48.450	Process Instrumentation	3	.....	.....
	Tutorials .....	.....	.....	1
	Library and Research	5	5	5
		35	35	35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Chemistry 11.



Engineering Division

Building Technology

Throughout the world, rapidly expanding populations have enormously increased the demand for building operations of all kinds, and the course in Building Technology is designed to give both men and women as sound a preparation for this work as time allows.

First year is common to all students, and in addition to English, mathematics, and physics contains various basic technology subjects. All these subjects contain both lecture instruction and draughting-room practice, so some students are able to further their education during the summer through jobs with architects and engineers, with construction firms, or doing inspection work for public and private agencies.

In second year, students choose one of three options. The Architectural Option is intended to accommodate students who will probably go into the architectural and design area, and who thus are particularly interested in design, draughting, rendering, graphics, model-making, contract and specification writing, and inspection of construction in progress.

The Economics Option will be of primary interest to students who wish to concern themselves with costing and evaluation of property and construction, either in the drawing stage or already built. Many of the graduates will become estimators with general and subtrade contractors, preparing bids and checking job costs and progress. Also, we are giving instruction in appraisal and assessment, with the co-operation of the Provincial Government, which will lead to positions in this kind of work with public and private agencies.

The Services Option is involved with the whole range of plumbing, heating, ventilating, electrical, and acoustical provisions in buildings, and is obviously an enormous field. There are opportunities in consulting offices assisting in design, specification writing, and inspection; with contractors doing estimating, shop drawings, and supervision; with suppliers explaining the capabilities and application of equipment and systems; and as technicians with agencies doing testing and balancing of mechanical installations.

Fundamentally, all graduates will understand buildings three-dimensionally, with their architectural, structural, mechanical, and cost implications, and will be able to fill positions which lie between the professional architect, engineer, and contractor on the one hand and the vocationally trained draughtsman and tradesman on the other.

With experience, we envision graduates becoming chief draughtsmen, specification writers, estimators, building inspectors, officials in property management departments, appraisers and assessors, partners in construction organizations, agents for building supplies and equipment, to name the more obvious possibilities.

To students who wish to become registered architects by the apprenticeship system, the Royal Architectural Institute of Canada offers graduates credit for about half the examinations otherwise required.

Similarly, for those wishing to become quantity surveyors, the Canadian Institute of Quantity Surveyors will accept graduates as Probationer Members and give credit in a like manner.

ENGINEERING DIVISION BUILDING TECHNOLOGY

YEAR 1

Term 1

No.	Subject	Classroom Hours per Week
31.101	Communication	3
32.101	Basic Technical Mathematics	5
33.104	Physics for Building Technology	3
40.101	Draughting and Design	3
40.102	Building Construction	7
40.103	Building Services	3
40.104	Construction Specifications and Estimating	2
42.107	Building Structures	4
	Library and Research	5
		<u>35</u>

Term 2

31.201	Communication	3
32.226	Calculus I & Analytic Geometry	5
33.204	Physics for Building Technology	3
40.201	Draughting and Design	4
40.202	Building Construction	6
40.203	Building Services	3
40.204	Construction Specifications and Estimating	2
42.207	Building Structures	4
	Library and Research	5
		<u>35</u>

YEAR 2

Term 3

No.	Subject	ARCHITEC- TURAL OPTION Classroom Hours per Week	ECONOMICS OPTION Classroom Hours per Week	SERVICES OPTION Classroom Hours per Week
10.731	Industrial Management	3	3	3
40.301	Design	6		
40.302	Building Construction	7	7	7
40.303	Building Services	4	4	4
40.304	Construction Specifications and Esti- mating	6	6	6
40.305	Building Services Systems			10
40.306	Land and Construction Economics		6	
42.307	Building Structures	4	4	
	Library and Research	5	5	5
		<u>35</u>	<u>35</u>	<u>35</u>

Term 4

22.440	Basic Operations Management	2	2	2
40.401	Design	6		
40.402	Building Construction	7	7	7
40.403	Building Services	5	5	5
40.404	Construction Specifications and Esti- mating	6	6	6
40.405	Building Services Systems			10
40.406	Land and Construction Economics		6	
42.407	Building Structures	4	4	
	Library and Research	5	5	5
		<u>35</u>	<u>35</u>	<u>35</u>

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11.

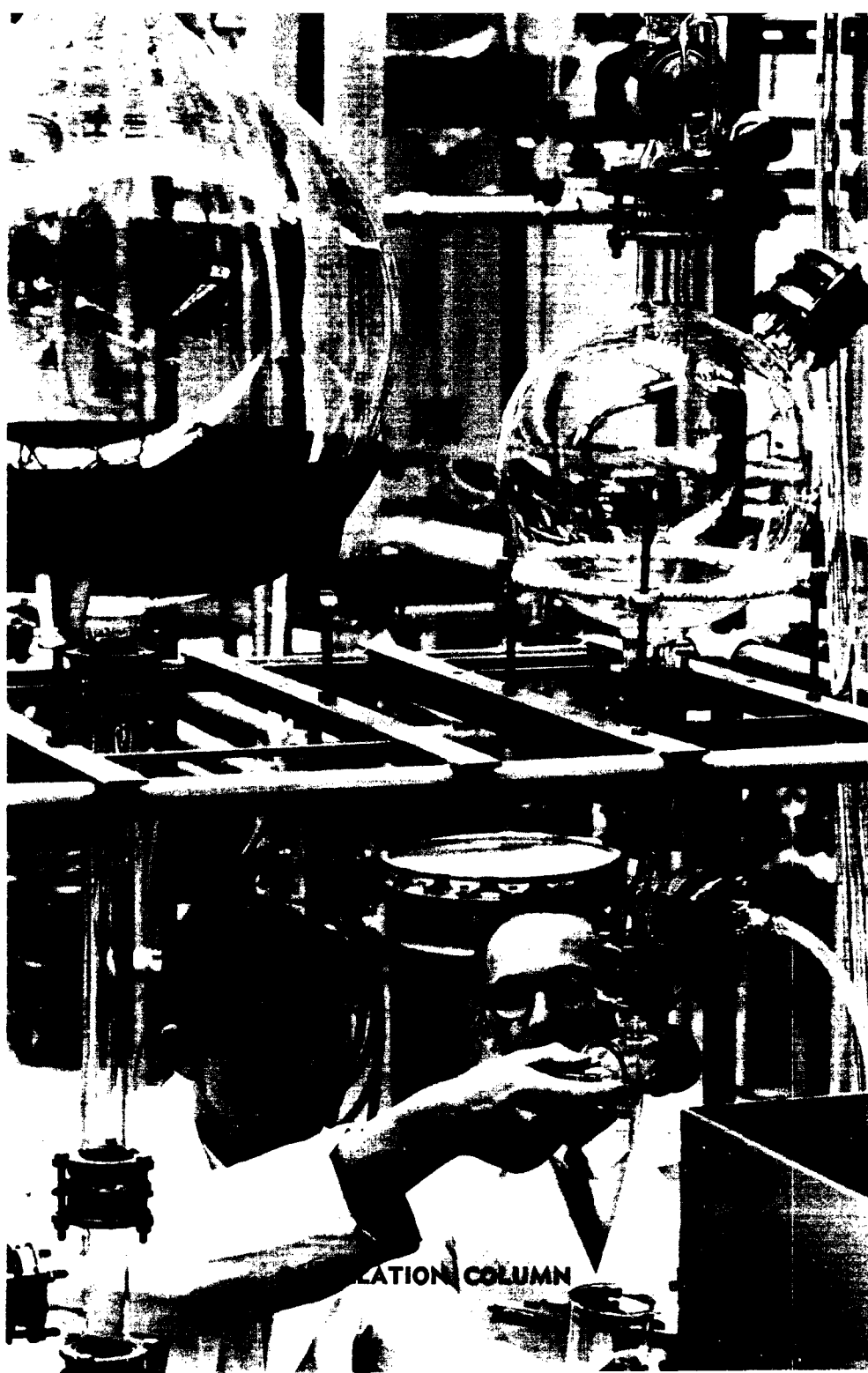
Engineering Division

Chemical and Metallurgical Technology

The programme in Chemical and Metallurgical Technology provides instruction to those men and women wishing to enter the process industries—either in the laboratory, in the production department, in the engineering department, or in the technical sales department. As the technology encompasses a broad range of industries and sciences, the training emphasizes mathematics, physics, and chemistry, and their application to general problems recurring in the chemical process industries, rather than to specific problems peculiar to a single industry. Consequently, the first year is general, but a Unit Processes course and a workshop course are unique to this programme.

In the second year the curriculum provides considerable analytical laboratory practice, together with such production and engineering training as work study, unit operations, instrumentation, and control. In addition, the student is given the choice of one of the following options: Industrial Chemistry, Physical Metallurgy, Extractive Metallurgy, or Pollution Treatment. Thus, a graduate will be able to enter the industry of his choice in either the sales, production, engineering, laboratory, or waste-management department.

Typical of the chemical process industries that will engage graduates from the programme are oil refineries, chlorine and caustic soda producers, beet and cane sugar refiners, cement producers, lime and gypsum producers, plastic and resin producers; copper, lead, zinc, and other metal smelters; aluminum, iron and steel, magnesium, and bronze smelters; metal fabricators and heat treaters; pulp and paper mills, and cellulose chemical producers; and mining companies engaged in both exploration and production. Typical of the positions graduates would seek upon entering industry would be as chemists and analysts in research, commercial, and industrial laboratories, as engineering assistants in engineering departments of industrial and consulting companies, as production supervisor trainees in production plants, as technical sales trainees in the sales departments of chemical process industries or equipment manufacturers, or as specialists in waste disposal and pollution treatment.



ATION COLUMN

ENGINEERING DIVISION

CHEMICAL AND METALLURGICAL TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
10.730	Industrial Management		3
30.101	Applied Chemical Principles		6
31.101	Communication		3
32.101	Basic Technical Mathematics		5
33.114	Physics for Chemical and Metallurgical Technology		6
41.102	Laboratory Workshop		1½
41.105	Engineering Materials		3½
49.101	Draughting		2
	Library and Research		5
			35

Term 2

30.201	Applied Chemical Principles	6
30.204	Chemical Laboratory Techniques	3
31.201	Communication	3
32.223	Calculus I and II	5
33.214	Physics for Chemical and Metallurgical Technology	6
41.205	Engineering Materials	3½
41.210	Unit Processes	1½
49.204	Draughting	2
	Library and Research	5
		35

INDUSTRIAL CHEMISTRY OPTION

YEAR 2		Term 3	Classroom Hours per Week
No.	Subject		
30.301	Organic Chemistry		6
30.302	Physical Chemistry		5
30.306	Analytical Chemistry		6
32.306	Calculus III		5
41.320	Unit Project		2
41.341	Unit Operations		6
	Library and Research		5
			35

Term 4

22.441	Basic Operations Management	2
30.401	Organic Chemistry	6
30.406	Analytical Chemistry	6
32.454	Numerical Methods I and Statistics I	5
41.420	Unit Project	2
41.441	Unit Operations	6
47.409	Process Dynamics	3
	Library and Research	5
		35

PHYSICAL METALLURGY OPTION

YEAR 2		Term 3	
No.	Subject		Classroom Hours per Week
30.302	Physical Chemistry		5
30.306	Analytical Chemistry		6
32.306	Calculus III		5
41.304	Physical Metallurgy		6
41.320	Unit Project		2
41.341	Unit Operations		6
	Library and Research		5
			35

ENGINEERING DIVISION—Continued
PHYSICAL METALLURGY OPTION—Continued

Term 4

No.	Subject	Classroom Hours per Week
30.405	Analytical Chemistry	6
32.454	Numerical Methods I and Statistics I	5
41.404	Physical Metallurgy	6
41.420	Unit Project	2
41.425	Nondestructive Testing	2
41.441	Unit Operations	4
47.409	Process Dynamics	3
	Library and Research	5
		<hr/> 35

EXTRACTIVE METALLURGY OPTION

YEAR 2 *Term 3*

No.	Subject	Classroom Hours per Week
30.302	Physical Chemistry	5
30.306	Analytical Chemistry	6
32.306	Calculus II	5
41.367	Extractive Metallurgy	6
41.320	Unit Project	2
41.341	Unit Operations	6
	Library and Research	5
		<hr/> 35

Term 4

30.406	Analytical Chemistry	6
32.454	Numerical Methods I and Statistics I	5
41.407	Extractive Metallurgy	6
41.408	Assaying	3
41.420	Unit Project	2
41.441	Unit Operations	6
47.409	Process Dynamics	3
	Library and Research	4
		<hr/> 35

POLLUTION TREATMENT OPTION

YEAR 2 *Term 3*

No.	Subject	Classroom Hours per Week
30.302	Physical Chemistry	5
30.306	Analytical Chemistry	6
32.306	Calculus III	5
41.311	Pollution Science	6
41.320	Unit Project	2
41.341	Unit Operations	6
	Library and Research	5
		<hr/> 35

Term 4

30.406	Analytical Chemistry	6
32.454	Numerical Methods I and Statistics I	5
41.411	Pollution Science	6
41.412	Waste Disposal Methods	4
41.413	Environmental Analytical Methods	2
41.420	Unit Project	1
41.441	Unit Operations	6
	Library and Research	5
		<hr/> 35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Chemistry 11.

Engineering Division

Civil and Structural Technology

Civil and Structural Technology, which creates the physical facilities for the civilized environment, is concerned with the design and construction of bridges, highways, railways, airports, dams, power developments, canals, docks, harbours, and buildings of all kinds, as well as drainage, irrigation, sewage, and water supply systems.

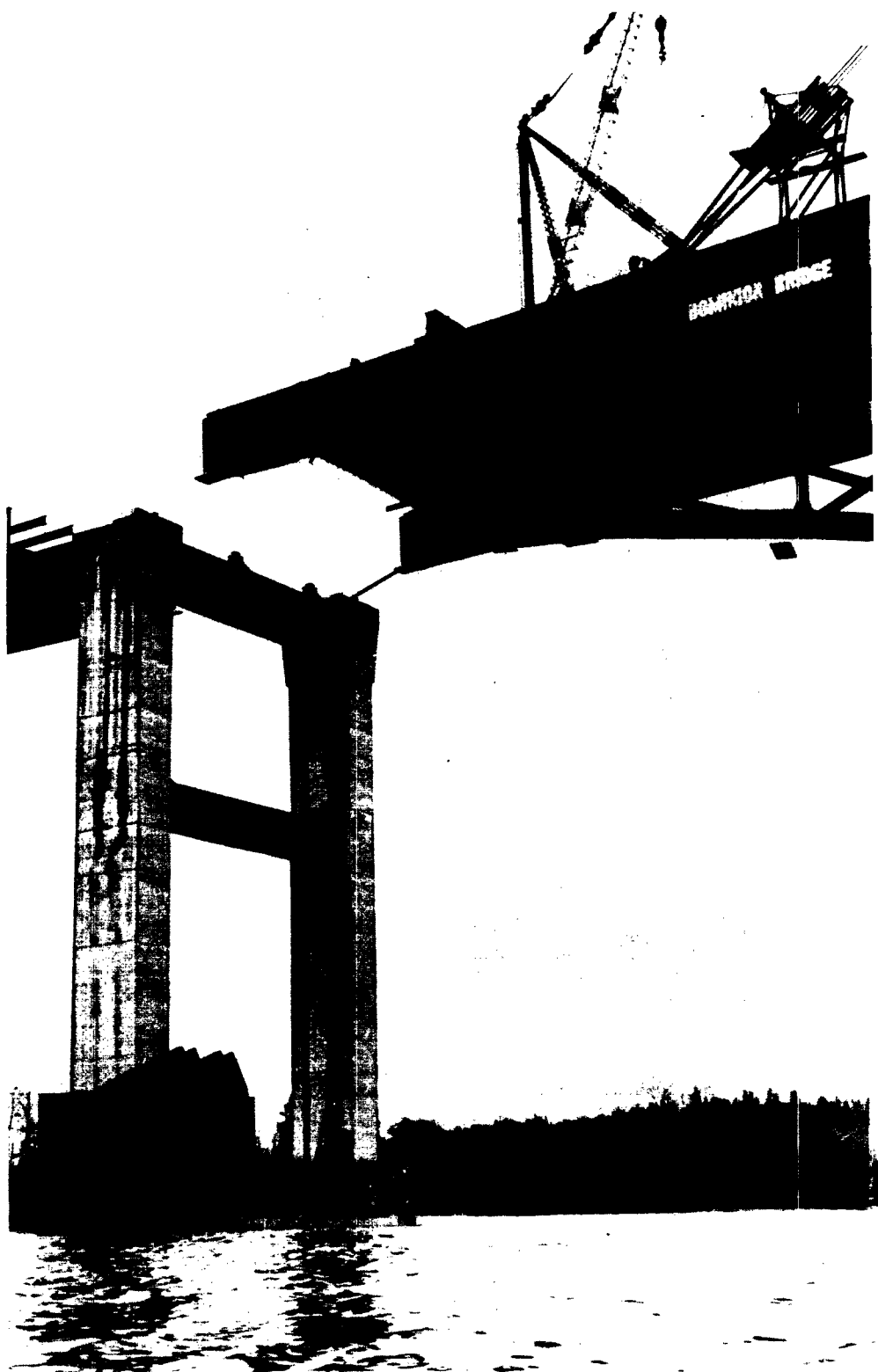
Specifically designed to train civil and structural technicians, this programme will provide a man with sufficient specialized knowledge to make him immediately capable of playing a useful role in industry. In addition, the programme prepares him to adapt to demands of the future, and the development of his self reliance is a major objective.

The programme provides a foundation in mathematics and the applied sciences for continued technical growth, and in English for the ability to set forth, in clear and precise ways, descriptions and analyses of projects and engineering activities. The methods of instruction are planned to develop the initiative of the student while training him in habits of accurate analysis and careful work. In addition, frequent field trips will be made to appropriate projects to demonstrate at first hand the technology in operation. A student is encouraged to secure summer work which will give him an insight into various aspects of the career upon which he is about to enter.

A graduate may be employed as an inspector or supervisor in the contracting field, as an investigating or laboratory technician, or as a design or field technician in a consultant's office. He may be employed by municipal, provincial, or federal agencies, by consulting engineers, architects, and contractors, or in technical sales. Our graduates have records in all these fields, often take supervisory or managerial positions, and have even established their own construction companies.

Candidates must have a sound knowledge of mathematics, physics, and English, and preferably some training in draughting. An interest in the practical application of scientific principles is essential.

This field frequently involves both indoor and outdoor assignments and requires keenness to take up the challenge offered by a fast-expanding industry demanding initiative and responsibility from its employees.



ENGINEERING DIVISION
CIVIL AND STRUCTURAL TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
31.101	Communication		3
32.101	Basic Technical Mathematics		5
33.107	Physics for Civil and Structural Technology		5
42.101	Civil Engineering		12
49.101	Draughting		1
51.109	Surveying		3
	Independent Study and Research		5
			<hr/>
			35

		Term 2	
31.201	Communication		3
32.223	Calculus I and II		5
33.207	Physics for Civil and Structural Technology		5
42.101	Civil Engineering		12
49.202	Draughting		3
51.209	Surveying		3
	Independent Study and Research		5
			<hr/>
			36

YEAR 2		Term 3	
31.301	Industrial Communications		2
32.306	Calculus III		4
42.301	Civil Engineering Design		21
51.309	Surveying		3
	Independent Study and Research		5
			<hr/>
			35

		Term 4	
31.401	Industrial Communications		2
32.454	Numerical Methods and Statistics		4
42.301	Civil Engineering Design		21
51.409	Surveying		3
	Independent Study and Research		5
			<hr/>
			35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11.



Engineering Division

Electrical and Electronics Technology

Society today is dependent upon electrical energy, electronic communications, and electronic controls. The use of electrical and electronic equipment is evident in the factory, office, store, hospital, or home. Travel by airplane or ship could not exist on today's scale without electronic navigational aids.

There is a need for persons trained in the principles and applications of electrical and electronic systems to take their places in the technical team which designs, produces, sells, installs, and maintains these systems. The technologist graduate of the Electrical and Electronics Technology is the anchor-man of this team.

Three options are offered:

1. *Electrical Option*—This is concerned with the generation, transmission, distribution, utilization, and control of electrical energy.

2. *Telecommunications Option*—This deals with the application of electronics to commercial communications and navigational systems.

3. *Control Electronics*—This covers the application of electronics in fields other than telecommunications.

The Electrical and Electronics Programme has six quarters, three in each of the two years.

The first-year programme is common for all options. It should be noted by prospective students that they may be required to attend some of their first-year classes in the evening.

The first quarter of the second year is common for both the Telecommunications and Control Electronics options.

The second-year programme for all three options is practically oriented, the last quarter being entirely related to industrial practices.

Throughout the entire two-year period, students spend a good portion of their time in the laboratories and workshops carrying out practical assignments.

Graduates from the Electrical and Electronics Technology are employed in research and development, system design, production, sales, installation, and maintenance in commercial companies, government agencies, and educational institutions.

ENGINEERING DIVISION
ELECTRICAL AND ELECTRONICS TECHNOLOGY

YEAR 1 (common to all three options)

Quarter A

	Classroom Hours per Week
31.A01 Technical Writing	4
32.A90 Basic Mathematics	7
33.A06 Physics of Electrical and Electronic Devices	4
43.A01 Circuit Devices and Techniques	4
43.A02 Electrical Circuits I	6
43.A03 Shop Practice I	5
Library and Research	5
	<hr/> 35

Quarter B

31.B01 Technical Writing	4
32.B90 Calculus I	7
33.B06 Physics of Electrical and Electronic Devices	4
43.B01 Electronic Circuits I	6
43.B02 Electrical Circuits II	6
43.B03 Shop Practice II	3
Library and Research	5
	<hr/> 35

Quarter C

31.C01 Technical Writing	4
32.C90 Calculus II	7
33.C06 Physics of Electrical and Electronic Devices	4
43.C01 Electronic Circuits II	5
43.C02 Electrical Circuits III	6
43.C03 Electrical Measurements	4
Library and Research	5
	<hr/> 35

Quarter D

(No classes)

YEAR 2 Electrical Option

Quarter E

10.E30 Industrial Management	3
32.E90 Transform Calculus	4
43.E04 Digital Techniques I	6
43.E11 Industrial Electronics	5
43.E12 Polyphase Circuits	6
43.E13 Electrical Equipment I	6
Library and Research	5
	<hr/> 35

Quarter F

43.F11 Industrial Controls	6
43.F12 Circuit Analysis	5
43.F13 Electrical Equipment II	6
43.F14 Protective Systems	5
43.F15 Electrical Draughting	4
43.F16 Lighting Systems	4
Library and Research	5
	<hr/> 35

Quarter G

	Classroom Hours per Week
43.G11 Control Systems	8
43.G12 Systems Analysis	6
43.G13 Utility Systems	8
43.G14 Industrial Systems	8
Library and Research	5
	<hr/> 35

YEAR 2 Telecommunications Option

Quarter E

10.E30 Industrial Management	3
32.E90 Transform Calculus	4
43.E04 Digital Techniques I	6
43.E21 Electronic Circuits III	5
43.E22 Pulse Circuits	6
43.E23 Telecommunications Principles	6
Library and Research	5
	<hr/> 35

Quarter F

43.F24 Digital Techniques II	7
43.F31 Antennas and Transmission Lines	6
43.F32 Telecommunication Power Systems	6
43.F33 Telephone Systems I	6
43.F34 High Frequency Techniques	5
Library and Research	5
	<hr/> 35

Quarter G

43.G31 Navigation Aids	7
43.G32 Radio Systems	9
43.G33 Telephone Systems II	9
43.G34 Electronic Equipment Fabrication	5
Library and Research	5
	<hr/> 35

YEAR 2 Control Electronics Option

Quarter E

10.E30 Industrial Management	3
32.E90 Transform Calculus	4
43.E04 Digital Techniques I	6
43.E21 Electronic Circuits III	5
43.E22 Pulse Circuits	6
43.E23 Telecommunications Principles	6
Library and Research	5
	<hr/> 35

Quarter F

43.F24 Digital Techniques II	7
43.F41 Industrial Electronics I	6
43.F42 Feedback Theory	6
43.F43 Electrical Equipment	6
43.F44 Electronic Equipment Fabrication	5
Library and Research	5
	<hr/> 35

Quarter G

	Classroom Hours per Week
43.G41 Industrial Television	6
43.G42 Industrial Audio Systems	6
43.G43 Industrial Electronics II	5
43.G44 Digital Systems	8
43.G45 Electronic Circuit Design	5
Library and Research	5
	<hr/> 35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites:

Mathematics 12, Chemistry 11, Physics 11.

Engineering Division

Forest Resource Technology

The forest lands of British Columbia constitute the most valuable natural resource, and their utilization provides the greatest single source of income to the Province, supporting almost one-half of our population. The tremendous expansion, both in the forest industry and in the Province's population, is creating demands for more integrated land, forest, and water resource management.

The function of the Forest Resource Technology is to provide technical training in the skills and techniques required for a career in resource management, forest harvesting, and forest utilization. With this purpose in mind, the technology has two separate programmes—the Forestry Programme, which contains a Forestry Option and a Fish, Wildlife, and Recreation Option; and the Forest Products Programme, which contains a Pulp and Paper Option and a Wood Products Option.

A candidate for this technology will enter one of the two programmes and can plan to graduate in one of the options offered. The candidate is required to work under conditions that require initiative, efficiency, and good leadership qualities. As a technologist he will be expected to work with a minimum of supervision and ultimately to accept some managerial responsibilities.

Prospective applicants should have completed Grade XII graduation from the Selected or Combined Studies Programme, and industrial experience is also considered. Report writing and a good grounding in basic maths, i.e., arithmetic, algebra, geometry, and trigonometry are very important in all options and candidates should make an effort to upgrade their qualifications in these subjects prior to enrolment. For the prerequisite courses required, please see the curriculum outline for each option on the following pages.

FORESTRY PROGRAMME

This programme provides training in the skills and techniques required in the harvesting of the forests and in resource management. Required field-trip expenditures may exceed \$200.

Forestry—Option I

Candidates have the opportunity to study and qualify for several categories of employment. The main emphasis in the courses offered will be on forest engineering, where he will study the organization and supervision of log production, costs, accounting, and logging systems and their applications in British Columbia. The candidate will become knowledgeable in sampling methods for inventory and logging development; in forest protection he will learn the basis of fire protection and suppression and of the losses due to insects and disease; in forest science he will learn the botanical characteristics of trees and wood and the growth and ecological characteristics of commercial species; in silviculture he will study regeneration surveys, planting or seeding, and nursery programmes. The course of study includes scaling, forest management, and visits to logging and milling operations.

Fish, Wildlife, and Recreation—Option II

The management of the fish, wildlife, and recreational resources of the Province is closely associated with that of the forest resources. The integration of these resources and their recreational values into a sound economic managerial programme is becoming increasingly important. Government agencies offer a limited number of employment opportunities. For this reason the number of students registered in this option will be restricted and subject to review on a year-to-year basis.



ENGINEERING DIVISION
FOREST RESOURCE TECHNOLOGY
FORESTRY PROGRAMME

Forestry and Fish, Wildlife, Recreation Options

YEAR 1

Term 1

No.	Subject	FORESTRY OPTION Classroom Hours per Week	F.W.R. OPTION Classroom Hours per Week
31.101	Communication	3	
32.101	Basic Technical Mathematics	5	5
45.101	Introduction to Forest Land Management	4	4
45.102	Forest Measurement I	6	6
45.103	Elementary Wood Technology	3	
45.106	Photo Interpretation and Mapping	4	4
45.110	Fire Control I	4	
45.111	Fire Science		2
45.120	Forest and Range Botany (A)		5
45.125	Public Information Techniques		3
	Tutorial	1	1
	Library and Research	5	5
		35	35

Term 2

31.201	Communication	3	4
32.246	Statistics I and II	5	5
44.224	Zoology		5
45.202	Forest Measurement II	8	
45.206	Photo Interpretation and Mapping	4	4
45.220	Forest and Range Botany (B)	6	
45.224	Public Administration		3
45.226	Ecology	3	3
45.227	Geology and Soils		4
	Tutorial (and Field Skills)	1	2
	Library and Research	5	5
		35	35

A summer technical report will be required for students continuing into second year.

YEAR 2

Term 3

20.381	Interpersonal and Organizational Behaviour	3	3
31.301	Industrial Communication	2	2
45.302	Forest Measurement III	6	
45.305	Logging I	5	
45.308	Roads and Transportation I	6	
45.313	Forest Pestology I	4	
45.316	Forest Management	4	
45.321	Park Management		5
45.322	Wildlife Management I		5
45.323	Fish Management I		5
45.326	Habitat Evaluation		5
45.327	Projects	5	5
	Library and Research	5	5
		35	35

Term 4

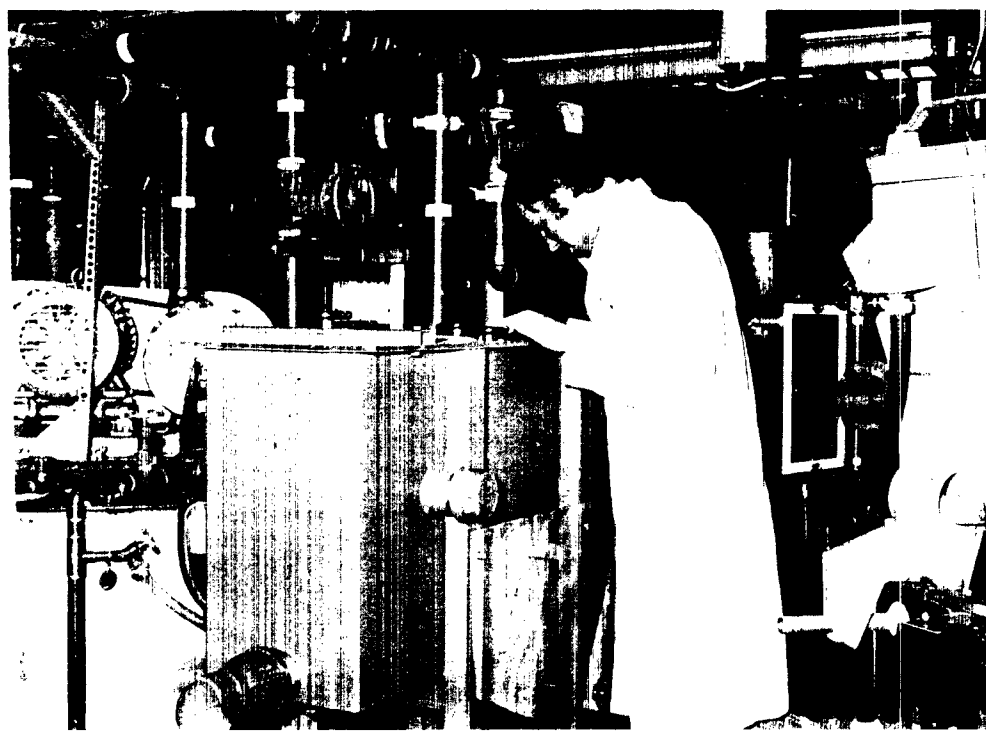
31.401	Industrial Communication	2	2
45.402	Forest Measurement IV	4	
45.405	Logging II	5	
45.408	Roads and Transportation II	5	
45.409	Silviculture	7	
45.410	Fire Control II	4	
45.413	Forest Pestology II	3	
45.421	Wildland Recreation Management		7
45.422	Wildlife Management II		7
45.423	Fish Management II		7
45.427	Projects	7	7
	Library and Research	5	5
		35	35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites:

Fish, Wildlife, and Recreation—Mathematics 12, Biology 11.

Forestry—Mathematics 12 plus a Science 11 (Biology preferred).



Engineering Division

Forest Resource Technology

FOREST PRODUCTS PROGRAMME

The modern forest industry of British Columbia offers challenging and rewarding employment for conscientious young people of ability and training. The demands of the industry increase yearly as the application of new technology continues in the pulp, newsprint, plywood, sawmill, and particle-board industries.

The objectives of the Forest Products Programme are to qualify technologists for the various manufacturing operations and to prepare them for responsible positions in British Columbia's largest industry. For example, young men with a good knowledge of technological advances and their application are needed in plant process operations, plant management, research and development, technical services, and sales.

In addition to the basic sciences of mathematics, chemistry, and physics, the specialized first-term subjects include an introduction to forest science, wood technology, sawmilling, plywood, and pulp and paper manufacture. This programme will assist the student in selecting, at the start of Term 2 in first year, one of two distinctly different options.

Those students who wish to commit themselves to the Wood Products Option at the commencement of the first term may omit chemistry by substituting special projects.

Summer employment in the industry between the first and second years is considered a valuable adjunct to the training programme. Through the co-operation of industry, this is generally available for those students who successfully complete the first year. Prior employment opportunities may be made available to those considering entry into the first year of the programme.

Woods Products Option

The Wood Products Option includes the techniques and economics involved in harvesting wood and converting it to usable products such as lumber, laminated beams, plywood, and particle-board. Wood seasoning, wood preservation, and fire-retardant treatments are also covered, as well as the integration of the forest industries for maximum utilization.

Wood Products Option students receive training in wood processing, wood properties, wood-products marketing, quality control leading to a certificate in lumber grading, work study, computer applications, statistics, mechanical and electrical equipment, and kiln-drying. This option is designed to lead to employment in the sawmilling or plywood industry in such areas as management trainee in production, production control, quality control, or sales. Field trips and mill assignments are an essential part of the course.

Pulp and Paper Option

The Pulp and Paper Option students are concerned with the theory and application of technology in mechanical and chemical pulping processes, the bleaching of various pulp types, and the conversion of pulp to end-products such as newsprint, paper, paperboard, and textiles.

The Pulp and Paper Option students receive training in pulp and paper technology and quality control, unit operations, instrumentation, wood chemistry, chemical laboratory techniques, and computer applications.

Pollution abatement technology and techniques constitute an integral portion of the programme.

Plant operation and process-control procedures are covered extensively by projects in a well-equipped pilot plant and laboratory facility. This facility is recognized by the Technical Section, Canadian Pulp & Paper Association, as a member mill. Field trips to various related industrial operations are undertaken to augment classroom and laboratory instruction.

To graduates, the industry offers interesting, challenging, and rewarding work, with ample opportunity for advancement in such areas as pulp production, process control, pulp and paper quality control, pollution abatement and control, and research.

ENGINEERING DIVISION
FOREST RESOURCE TECHNOLOGY
FOREST PRODUCTS PROGRAMME

YEAR 1		Term 1		PULP AND PAPER	WOOD PRODUCTS
				OPTION	OPTION
No.	Subject	Classroom	Hours per Week	Classroom	Hours per Week
30.101	Applied Chemical Principles	6	.....	.....	.....
31.101	Communication	3	.....	.....	3
32.101	Basic Technical Mathematics	5	.....	.....	5
33.102	Introductory Physics	5	.....	.....	5
41.107	Engineering Materials	2	.....	.....	2
46.101	Forest Utilization	7	.....	.....	7
46.199	Special Projects .....	.....	.....	.....	6
49.101	Draughting	2	.....	.....	2
	Tutorial	1	.....	.....	1
	Library and Research	4	.....	.....	4
		35	.....	.....	35

		Term 2			
30.201	Applied Chemical Principles	6	.....	.....	.....
31.201	Communication	3	.....	.....	3
32.223	Calculus I and II	5	.....	.....	.....
32.246	Statistics I and II .....	.....	.....	.....	5
33.202	Introductory Physics	5	.....	.....	5
41.207	Engineering Materials	2	.....	.....	2
46.212	Pulp and Paper Fundamentals	7	.....	.....	.....
46.214	Lumber Manufacturing and Grading* .....	.....	.....	.....	13
49.204	Draughting	2	.....	.....	2
	Library and Research	5	.....	.....	5
		35	.....	.....	35

A summer technical report will be required for students continuing into second year.

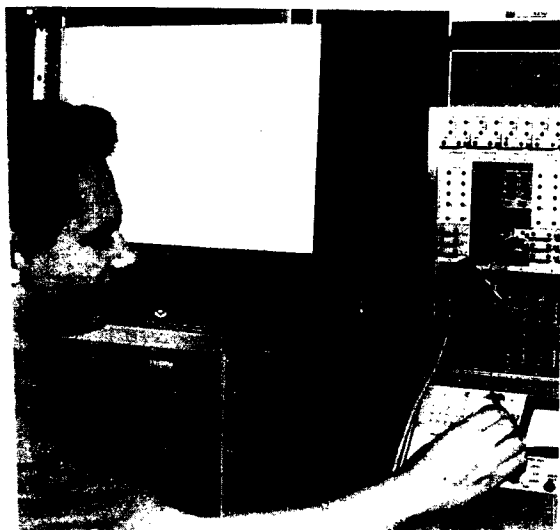
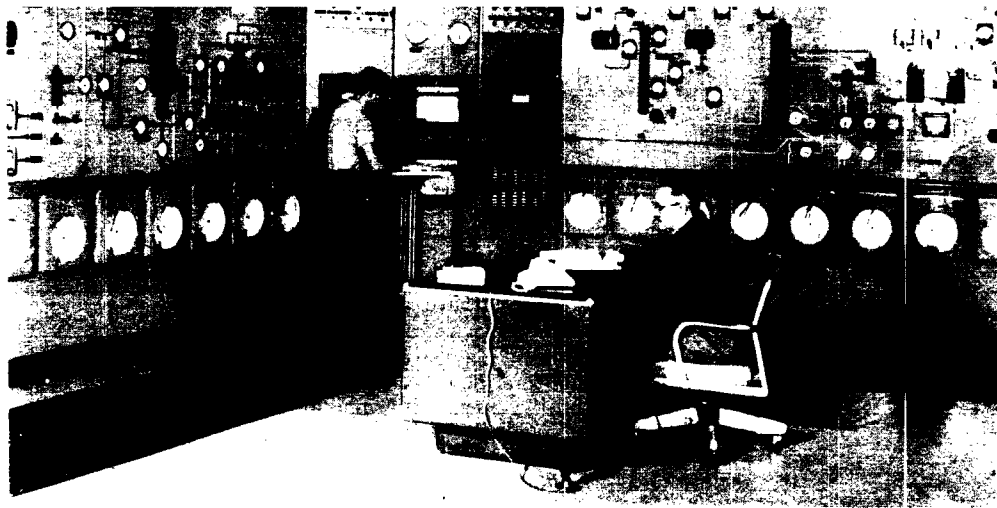
YEAR 2		Term 3			
14.351	Computer Applications .....	.....	.....	.....	3
22.346	Operations Management I .....	.....	.....	.....	3
30.303	Instrumental Analytical Methods	2	.....	.....	.....
31.301	Industrial Communication	2	.....	.....	2
32.304	Statistics I	4	.....	.....	.....
41.341	Unit Operations	6	.....	.....	.....
43.374	Electrical Equipment Applications .....	.....	.....	.....	4
46.301	Pulp and Paper Technology I	9	.....	.....	.....
46.305	Pulp and Paper Testing I	8	.....	.....	.....
46.315	Wood Processing I .....	.....	.....	.....	10
46.370	Mill Services I .....	.....	.....	.....	8
	Library and Research	4	.....	.....	5
		35	.....	.....	35

		Term 4			
14.351	Computer Applications	3	.....	.....	.....
14.408	Linear Programming .....	.....	.....	.....	3
20.701	Wood Products Marketing .....	.....	.....	.....	4
22.446	Operations Management II .....	.....	.....	.....	4
30.303	Instrumental Analytical Methods	2	.....	.....	.....
31.401	Industrial Communication	2	.....	.....	2
32.406	Statistics II	3	.....	.....	.....
41.441	Unit Operations	6	.....	.....	.....
46.401	Pulp and Paper Technology II	7	.....	.....	.....
46.405	Pulp and Paper Testing II	6	.....	.....	.....
46.415	Wood Processing II .....	.....	.....	.....	9
46.470	Mill Services II .....	.....	.....	.....	6
49.471	Mechanical Equipment .....	.....	.....	.....	3
	Tutorial	1	.....	.....	.....
	Library and Research	5	.....	.....	4
		35	.....	.....	35

* The attainment of a recognized industrial certificate in lumber grading is required as a condition of graduation.

General Prerequisite: Graduation from the Selected or Combined Studies Programme.
Special Prerequisites:

Pulp and Paper Option—Mathematics 12, Chemistry 11.
Wood Products Option—Mathematics 12 and one other Science 11.



Engineering Division

Instrumentation and Systems Technology

If reliable measurements are available from an industrial operation, the remaining steps toward automatic control are relatively straightforward. The sciences of measurement and control are thus closely related and both fall within the domain of *instrumentation*.

Process measurement may involve simple parameters such as temperature, pressure, flow, weight, or it may involve the complex analysis of a chemical composition. In a typical process there are hundreds of different measurements being continually relayed to a central control room. Measurement, therefore, covers the areas of sensing, signal transmission, and signal display. So the subject of *process measurement* is very much a part of modern automation. It should be noted that in this regard the term "process" may also include a freight yard, bottling-plant, automatic container-handling, and so on, as well as all the chemical processes.

In order to automate a process, certain process measurements must be selected for *control*. These measurements are compared with their desired control points to see whether errors exist; if errors do exist, signals are sent back to the process to correct the setting of a valve, damper, conveyor, etc. In its simplest form each control "loop" is handled by a separate controller. Today, however, there is a fast-growing trend toward handling all loops on a central computer so that it now becomes possible to optimize the complete plant operation rather than merely maintain control levels. There is currently much industrial activity centred around the adaptation of computers to plants, and vice versa.

From the above description you will see why instrumentation is today often referred to as *systems engineering*. Persons considering a career in this field should show strength and interest in mathematics, physics, and chemistry (*see prerequisites*). Instrumentation embraces several technical disciplines and, as would be expected, graduates obtain jobs with a wide range of employers. The general nature of instrumentation appears to be a good preparation for positions in technical management. A well-defined route is also available for persons wishing to specialize in power plant.

Students in this course will be applying the techniques of mechanics, electronics, fluidics, chemistry, optics, sonics, as the case demands. Subject Summaries at the end of this booklet give details of the course. In the early stages, concentration on some basic "academics" is needed to equip students with proper depth of understanding. Primary areas of specialization are to be found in the subjects Process Measurement, Process Control, and Computer Techniques.

ENGINEERING DIVISION

INSTRUMENTATION AND SYSTEMS TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
30.102	General Chemistry		3½
31.101	Communication		3
32.101	Basic Technical Mathematics		4
33.111	Physics		5
41.105	Engineering Materials		3½
43.172	Electrical Fundamentals		4½
48.100	Process Measurements		6
	Tutorial		1
	Reading		4½
			<hr/> 35

		Term 2	
30.202	General Chemistry		3½
31.201	Communications		3
32.223	Calculus I and II		4
33.211	Physics		5
41.205	Engineering Materials		3½
43.272	Electronic Fundamentals		4½
48.200	Process Measurements		6
	Tutorial and Shop Practice		2
	Reading		3½
			<hr/> 35

YEAR 2		Term 3	
32.306	Calculus III		4
41.341	Unit Operations		4½
48.300	Process Measurements		6
48.310	Process Control		6
48.320	Computer Techniques		4½
48.330	Plant Elective	}	4½
48.340	Management Elective		
	Reading		5½
			<hr/> 35

		Term 4	
32.454	Numerical Methods I and Statistics I		4
41.441	Unit Operations		4½
48.400	Process Measurements		6
48.410	Process Control		6
48.420	Computer Techniques		4½
48.430	Plant Elective	}	4½
48.440	Management Elective		
	Reading		5½
			<hr/> 35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11, Chemistry 11.

Engineering Division

Mechanical Technology

Mechanical Technology encompasses an extremely broad range of industrial activities involving design, construction, installation, and use of machines and mechanical devices of all types, as well as the manufacture of goods in general. It follows that persons qualified in this field can expect challenging and rewarding employment in a wide range of interesting occupations.

The two-year Mechanical Technology programme offers intensive training leading to graduation as a mechanical technologist. Job possibilities include work in consulting engineering offices as mechanical design draughtsmen on machinery, steelwork, piping, power plants, and installation; in plant engineering offices, production departments, and estimating departments; in testing and inspection establishments; in field installation and service; and in machinery sales.

The programme includes studies in mathematics and physics plus specialized subjects such as engineering materials, draughting, strength of materials, machine design, fluid mechanics, fluid power, thermal engineering, electricity, and machine tools. Theory presented in lectures is directly applied in problem periods, design drawing sessions, and laboratory assignments utilizing excellently equipped laboratories and shops. In the thermodynamics laboratory, for example, students operate and test steam boilers, air compressors, a steam turbine, gas turbine, dual-fuel engine, and other equipment, while in the machine shop they use engine lathes, milling machines, a turret lathe, jig borer, boring mill, precision grinders, N.C. drill, and other modern equipment. In the fluid mechanics laboratory, students use sets of miniaturized equipments to perform many standard hydraulics experiments. In the fluid power laboratory, industrial and training circuits are designed, constructed, and operated, utilizing standard industrial components.

To augment these studies, field trips are made to industrial plants to observe practical installations and operations. Close liaison with industry ensures that graduates are trained to meet the exacting and varying requirements of industry. Coincidentally, this liaison acquaints students with the range of opportunities available and assists them in selecting their individual areas of greatest interest.

To span the broad field of Mechanical Technology, two options are provided, subject to adequate enrolment in each—(1) Production, (2) Design. Choice of option will be made at the end of the first year.

Those best suited to take advantage of this training will be students interested in applying scientific knowledge to practical use in the mechanical field. The aspiring technologist must have a sound grounding in mathematics and physics, and should be able to apply ideas in practical situations. Because the mechanical technologist normally functions as a key member of a closely knit team of engineers, production supervisors, craftsmen, and others, his ability to work with people effectively and congenially is essential. Working conditions generally are attractive, and physical requirements are not demanding.



ENGINEERING DIVISION MECHANICAL TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
31.101	Communication		4
32.101	Basic Technical Mathematics		5
41.105	Engineering Materials		3½
49.100	Mechanical Draughting I		3
49.107	Applied Mechanics		8½
49.150	Production Engineering		4
49.165	Shopwork		3
	Library and Research		4
			35

		Term 2	
31.201	Communication		4
32.223	Calculus I and II		4
33.216	Physics		5
41.205	Engineering Materials		3½
49.200	Mechanical Draughting II		3
49.210	Strength of Materials		4½
49.225	Applied Heat and Introduction to Fluid Processes		2
49.250	Production Engineering		4
49.265	Shopwork		3
	Library and Research		2
			35

YEAR 2		Term 3	PRODUCTION OPTION Classroom Hours per Week	DESIGN OPTION Classroom Hours per Week
No.	Subject			
22.349	Operations Management I		3	
32.306	Calculus III		5	5
43.373	Electrical Equipment Applications		3	3
48.350	Process Instrumentation			3
49.300	Engineering Graphics		3	3
49.312	Machine Design			5
49.313	Production Mechanical Design		4	
49.315	Fluid Mechanics		4	4
49.325	Thermal Engineering			5
49.350	Metrology and Quality Control		6	
	Library and Research		7	7
			35	35

		Term 4	
22.439	Basic Operations Management		2
22.449	II Operations Management		4
32.454	Numerical Methods I and Statistics I		5
48.450	Process Instrumentation		3
49.412	Machine Design		5
49.425	Thermal Engineering		5
49.435	Fluid Power		5
49.445	Manufacturing Processes		4
49.450	Production Engineering		4
49.455	Tool Design		3
49.465	Shopwork		3
	Library and Research		7
			35
			35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11.



Engineering Division

Mining Technology

During the past decade as a supplier of metals to the entire world, Canada has been increasing its share of the market and has now become a major producer of such metals as iron, asbestos, lead, nickel, silver, and zinc. Western Canada is now about to experience an unprecedented expansion of the mining industry. Exploration in British Columbia and the Yukon is more active than anywhere in North America, and the area is considered to be the most promising mineral-bearing region on the continent. Coupled with this is the great interest shown in the nonmetallic mineral deposits now being developed on the Prairies. Several major discoveries, currently being examined, offer reasonable assurance of production and consequent demand for engineers and technicians.

Because of strong international competition, the higher costs of operation in our rugged terrain, and the increasingly complex ores now being sought, the industry is becoming much more reliant upon engineering imagination and technological skill.

The programme of Mining Technology is designed to serve this major industry by preparing technicians to help search for new mineral deposits, develop and operate new mines, and design and operate new mineral-processing plants. Most students who complete this programme can expect to enter the industry as exploration assistants mapping structure, logging drill core, or performing geophysical and geochemical tests in the field; as engineering assistants sampling developed rock, surveying in pits or underground, or doing production control work in mines; or as test laboratory technicians, assayers, or junior operating staff in mineral-processing plants.

Opportunities for advancement in this industry are good for a person of ability and initiative, and, possibly within five years of graduation, he might well achieve a supervisory rank as party chief, shiftboss, or foreman.

Men entering the mining industry should be able to get along with people, be able to enjoy life in smaller communities, and be willing to travel. They should also have good health and be able to pass a medical examination and chest X-ray if they wish to work in or around a mine.

ENGINEERING DIVISION

MINING TECHNOLOGY

No.	YEAR 1 Subject	Term 1	Classroom Hours per Week
30.101	Applied Chemical Principles		6
31.101	Communication		3
32.101	Basic Technical Mathematics		5
33.101	General Physics		6
49.101	Draughting		2
50.101	Geology		3
50.102	Mining		2
51.110	Surveying		3
	Library and Research		5
			<hr/> 35
		<i>Term 2</i>	
30.201	Applied Chemical Principles		6
31.201	Communication		3
32.223	Calculus I and II		5
33.201	General Physics		6
49.203	Draughting		2
50.201	Geology		3
50.202	Mining		2
51.210	Surveying		3
	Library and Research		5
			<hr/> 35
		<i>Term 3</i>	
31.301	Industrial Communication		2
32.306	Calculus III		5
33.304	Mining Geophysics		1½
41.305	Assaying		4
41.314	Mineral Processing		3½
42.103	Statics		4
50.301	Geology—Structural		3½
50.302	Mining—Operation and Equipment		3½
51.310	Surveying		3
	Library and Research		5
			<hr/> 35
		<i>Term 4</i>	
31.401	Industrial Communication		2
32.454	Numerical Methods I and Statistics I		5
41.405	Assaying		4
41.414	Mineral Processing		3½
42.202	Hydraulics		3
42.205	Strength of Materials		2
50.401	Geology—Mineral Deposits		3½
50.402	Mining—Operation and Equipment		4
51.410	Surveying		3
	Library and Research		5
			<hr/> 35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11, Chemistry 11.

Engineering Division

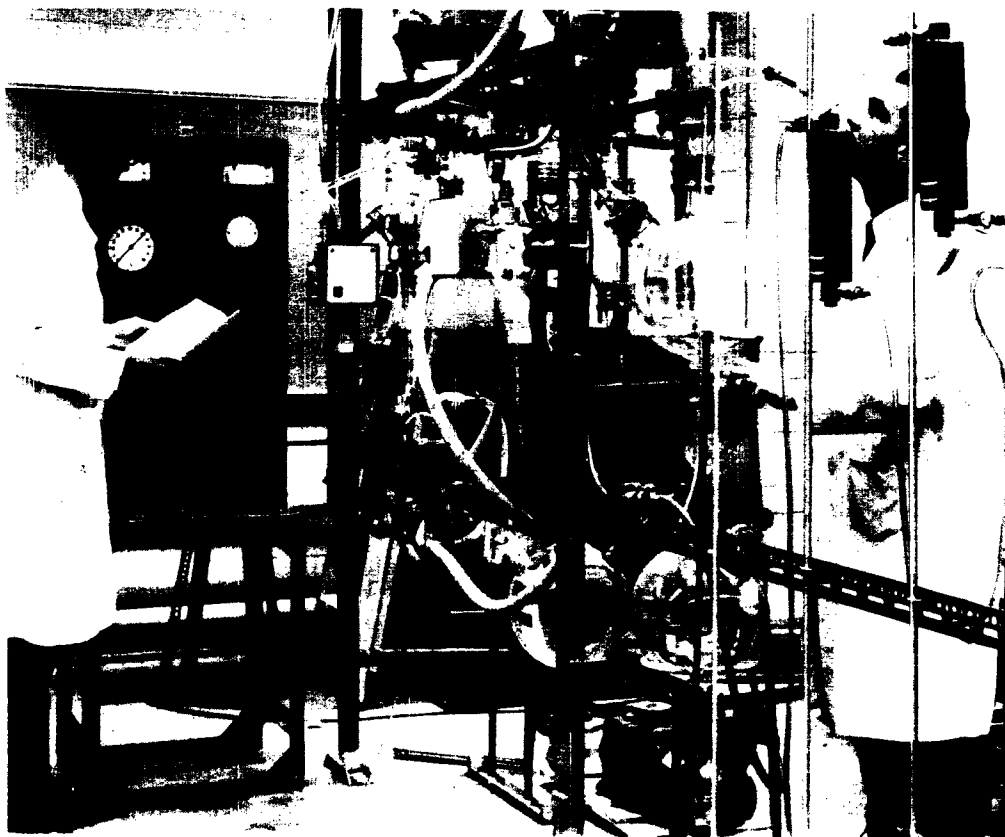
Natural Gas and Petroleum Technology

The gas and oil industry offers a wide variety of employment opportunities for a qualified technician. The transmission branch of the industry, involving the operation of pumping stations and maintenance of pipe-lines over vast areas, offers graduates opportunity for outdoor work in remote regions. On the other hand, the refining branch of the industry, usually located in more populous areas, offers a stable source of interesting work if this is preferred. Moreover, the industry as a whole is one of the most modern and up to date and is constantly introducing the latest technological improvements. Thus, there is every opportunity for a keen technician to advance in an interesting and profitable vocation.

The first year of the programme offered at the Institute primarily covers basic scientific and engineering principles as a foundation for the subsequent specialized petrochemical training. Training will be provided in the distribution and utilization of gas in both industrial and domestic fields, and there will be considerable emphasis on measurement and automatic control since the trend is toward completely unmanned automatic installations. Tuition will be given in the transmission of oil and its utilization in modern automatically controlled refineries, and there will be emphasis on the chemistry of petroleum products. The course will include scientific computer programming and frequent opportunities for field trips to local installations.

Students desiring to enter this field should have a keen interest in the operation of large-scale equipment, as distinct from its maintenance and repair, and should have a good academic standing in chemistry and physics. Although in modern refineries most of the time may be spent indoors, technicians should be prepared to work outdoors for lengthy periods. They must be prepared, in the plant operations, to take great responsibility for the satisfactory and safe operation of highly complex plant equipment.

Employment opportunities for technicians include laboratory work, studies of corrosion of above-ground and buried structures, analysis of oils, gases, and petroleum products, right-of-way land work, and plant operation in pumping stations and refineries. With such a variety of opportunities, a qualified technician should have no difficulty in establishing himself in a profitable and interesting career.



ENGINEERING DIVISION
NATURAL GAS AND PETROLEUM TECHNOLOGY

YEAR 1		<i>Term 1</i>	Classroom Hours per Week
No.	Subject		
30.101	Applied Chemical Principles		6
31.101	Communication		3
32.101	Basic Technical Mathematics		5
33.101	General Physics		6
41.105	Engineering Materials		3½
47.101	Introduction to Petroleum Hydrocarbons		3
50.101	Geology		3
	Library and Research		5½
			35

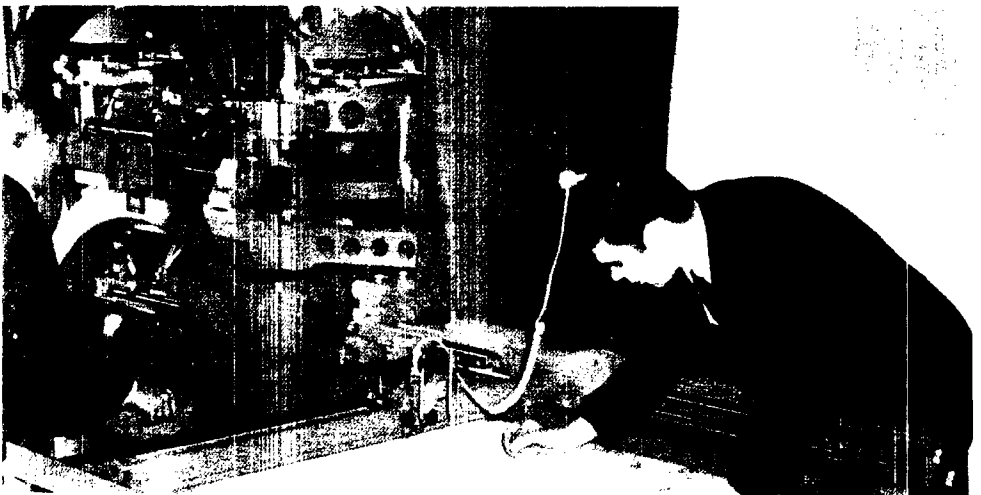
		<i>Term 2</i>	
22.247	Basic Operations Management		2
30.201	Applied Chemical Principles		6
31.201	Communication		3
32.223	Calculus I and II		5
33.201	General Physics		6
47.202	Petroleum Geology		3
49.266	Introduction to Machine Tools		2
51.204	Introduction to Surveying		3
	Library and Research		5
			35

YEAR 2		<i>Term 3</i>	
30.302	Physical Chemistry		5
32.306	Calculus III		5
41.341	Unit Operations		6
41.351	Pollution Control		3
47.221	Gas Distribution and Utilization		6
47.311	Gas and Oil Production and Transmission		6
	Library and Research		4
			35

		<i>Term 4</i>	
14.351	Computer Applications		2
30.404	Organic Chemistry		5
32.454	Numerical Methods I and Statistics I		5
33.406	Petroleum Geophysics		1
41.441	Unit Operations		6
47.409	Process Dynamics		3
47.431	Oil Refining and Utilization		8
	Library and Research		5
			35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11, or Chemistry 11.



Engineering Division

Surveying Technology

Survey techniques have undergone radical changes during the last two decades, due largely to advances in the development of electronic devices which are capable of measuring distance up to 40 miles with an accuracy of three parts per million, and significant refinements which have been made in photographic equipment and their applications to aerial photogrammetry.

The two-year programme in the Surveying Technology has two main objectives. The first is to equip the student with the required knowledge of mathematics, physics, astronomy, photogrammetry, and theory of surveying, together with the practical skills in note-keeping, draughting, field operations, and calculating so that he may be employed as a surveying or engineering assistant in the various fields where survey techniques are used. The second objective is to provide those students with the knowledge and skills which, with experience, will eventually qualify them as members of the Corporation of Land Surveyors of British Columbia.

Intensive courses will be given in mathematics, physics, photogrammetry, astronomy, natural science, and descriptions for deeds, in which the standards are those required by the Corporation of Land Surveyors of British Columbia.

Employment opportunities in survey fields are widely varied. Surveyors, consulting engineers, the oil and gas industry, government mapping departments, government highway departments, utility companies and civic planning and engineering departments are among those that offer employment to graduates. Areas of employment in Canada range from the southern border to the Arctic regions and from the Pacific to the Atlantic Ocean and many Canadian surveyors are employed on large mapping projects throughout the world.

The student requires a good basic understanding of mathematics and physics to the University Entrance level and should also be physically and mentally suited to outdoor and office work.

In the second year the students may study in the Survey or Photogrammetry Option.

ENGINEERING DIVISION

SURVEYING TECHNOLOGY

YEAR 1		Term 1	Classroom Hours per Week
No.	Subject		
31.101	Communication		3
32.151	Basic Mathematics		6
33.115	Physics for Surveying Technology		5
42.102	Elementary Hydrology		3
49.101	Draughting		2
51.101	Surveying		11
	Tutorials		1
	Library and Research		4
			<hr/> 35

		Term 2	
31.201	Communication		3
32.251	Calculus		6
33.215	Physics for Surveying Technology		5
49.203	Draughting		2
51.201	Surveying		11
51.203	Natural Sciences		3
	Tutorials		1
	Library and Research		4
			<hr/> 35

SURVEY OPTION

YEAR 2		Term 3	
14.351	Computer Applications		2
32.351	Statistics		4
51.301	Plane Surveying II		3
51.302	Geodetic Surveying II		2
51.303	Computations II		3
51.304	Field Surveying II		7
51.305	Draughting		3
51.306	Astronomy		2
51.307	Photogrammetry		2
51.308	Description for Deeds		2
	Library and Research		5
			<hr/> 35

		Term 4	
32.451	Matrix Algebra and Least Squares		4
51.401	Plane Surveying II		4
51.402	Geodetic Surveying II		2
51.403	Computations II		3
51.404	Field Surveying II		9
51.406	Astronomy		4
51.407	Photogrammetry		4
	Library and Research		5
			<hr/> 35

ENGINEERING DIVISION
SURVEYING TECHNOLOGY
PHOTOGRAMMETRY OPTION

YEAR 2		<i>Term 3</i>	Classroom Hours per Week
No.	Subject		
14.351	Computer Applications		2
32.351	Statistics		4
51.302	Geodetic Surveying II		2
51.303	Computation II		3
51.306	Astronomy		2
51.311	Surveying		2
51.315	Cartography		2
51.317	Photogrammetry		12
	Tutorials		1
	Library and Research		5
			<hr/>
			35
 <i>Term 4</i>			
32.451	Numerical Methods		4
51.402	Geodetic Surveying II		2
51.403	Computation II		3
51.415	Cartography		4
51.411	Surveying		2
51.417	Photogrammetry		15
	Library and Research		5
			<hr/>
			35

General Prerequisite: Graduation from the Selected or Combined Studies Programme.

Special Prerequisites: Mathematics 12, Physics 11.

ACKNOWLEDGMENTS

Grateful acknowledgment is made to the following persons and organizations for photographs used in this publication:

George Allen Photos Ltd.

British Columbia Hydro and Power Authority.

British Columbia Department of Highways.

Craigmont Mines Ltd.

Division of Technical and Vocation Curriculum, Technical Branch,
Department of Education.

Greater Vancouver Water Board.

Visual Education Department, Vancouver School Board.

SUBJECT SUMMARIES

SUBJECT NUMBERING SYSTEM

Subjects are numbered to indicate the technology or department under which instruction is given, the term, and the subject material. The first two figures indicate the parent technology or department, the third figure indicates the term in which a subject is normally taught, the last two figures indicate the subject description. In the example 31.201, the "31" shows that the subject is offered by the English Department, the "2" shows that the subject is normally taught in the second term, the "01" stands for the subject description. (The above refers to those subjects offered on the four-term (two-year) cycle.) In those technologies on the quarterly system (Health Division and Electrical and Electronics) the third number is substituted by the letters A, B, C, D, E, F, G, H, indicating the quarter the subject is taught. The departments with their corresponding numbers are as follows.

- 10—Administrative Management.
- 12—Broadcast Communications.
- 14—Computer Programming and Systems.
- 16—Financial Management.
- 18—Hotel, Motel, and Food Service Management.
- 20—Marketing Management.
- 22—Operations Management.
- 30—Chemistry.
- 31—English.
- 32—Mathematics.
- 33—Physics.
- 40—Building.
- 41—Chemical and Metallurgical.
- 42—Civil and Structural.
- 43—Electrical and Electronics.
- 44—Biological Sciences.
- 45—Forestry.
- 46—Forest Products.
- 47—Natural Gas and Petroleum.
- 48—Instrumentation and Systems.
- 49—Mechanical.
- 50—Mining.
- 51—Surveying.
- 70—Medical Laboratory Technology.
- 72—Medical Radiography.
- 74—Nuclear Medicine Technology.
- 76—Nursing.
- 78—Biomedical Electronics Technology.
- 80—Health Data Technology.
- 82—Environmental Health Technology.
- 98—Basic Health Sciences.



ADMINISTRATIVE MANAGEMENT

10.131 Management in Industry

An orientation in the nature of business in the private enterprise system, embracing forms of business ownership, organization, leadership, management techniques, and business elements of production. Typical cases taken from industry are studied to encourage students to think and decide for themselves. Leads into Administrative Practices.

10.132 *See* 10.131.

10.133 Management in Industry (for Financial students)

An orientation on the nature of business in the free enterprise system, with an emphasis on Organization for Management. The functions of management, planning, and organizing are thoroughly examined as well as giving attention to topics like Management Information Systems, the role of the committee, and how the theory of management philosophy developed. This leads to the course Administrative Practices.

10.134 *See* 10.131.

10.135, 10.235 Economics

The aim is to develop an understanding of the organization and operation of the Canadian economy. Students analyse demand and supply, how production costs vary, and how prices are determined in different markets (micro-economics). The theoretical tools of the economist are used to explore the concepts of national income, employment, inflation, and growth (macro-economics). An appreciation of the relation between economic theory and economic policy is provided.

10.137, 10.237 Economics (for Financial students). *See* 10.135.

10.138, 10.238 Economics (for Hotel, Motel students). *See* 10.135.

10.139, 10.239 Economics (for Marketing students). *See* 10.135.

10.161 Law for Broadcasters

An examination of the legal system with special reference to contemporary problems followed by an in-depth study of defamation as an example of substantive law.

10.221 Psychology in Management I

This course introduces the student to a psychological approach to administration through a study of the determinants of human behaviour, personality, motivation, attitudes, perceptions, learning, and leadership, and their application to the administrative process.

10.231 Administrative Practices

An insight into the basic nature of business problems and the administrative process involved to handle them. Problems in typical business settings will be examined, with emphasis on the personnel management function. Study and discussion will be undertaken of actual business situations illustrating problems frequently met in industry requiring managerial analysis, decision, and action. A sequel course to Management in Industry.

10.233 Administrative Practices (for Financial students)

This course follows Management in Industry to give a further insight into the functions and practice of management.

A study of the function of directing in all its aspects of leadership, communication, and motivation is followed by an analysis of the control function. Additional topics such as Supervisory and Administrative Operations are covered. A brief introduction is also given to the topics of Industrial Relations.

10.235 *See* 10.135.

10.236 Economics

This is a one-term introductory course which presents basic economic theory and concepts to the student. Theoretical tools of economics are used to examine macroeconomic issues in the Canadian economy. Microeconomic theory will be used to show its relevance in an analysis of the business firm, the price system, and the market system.

10.237 *See* 10.135.

10.238 *See* 10.135.

10.239 *See* 10.135.

10.321 Psychology in Management II

This course examines the determinants of employee job performance and productivity within the organization; the effect of different patterns of formal organization on motivation; the effect of the different forms of informal organizations and leadership styles on organizational performance; and the satisfaction of individual needs within the organization.

10.325 Industrial Relations

An introductory analysis of the fundamental issues and facts of labour-management relations. Special emphasis is given to collective agreement content and interpretation, bargaining, and basic labour economics.

10.327 Organization Renewal and Development

This course is designed to train students in the processes and techniques of Organization Development, including the diagnosis of problems and the processes involved in solving organizational problems.

10.332, 10.432 Real Estate Management

The real estate function—land law, estates, and interests in land and the personal and business management decision process. The economic characteristics of urban real estate and the market; city growth and development—locational factors in influencing the determination of land use and ownership. Institutional lenders, the mortgage market, the functions of the real estate agent, salesman and appraiser.

10.337, 10.437 Economics (for Technical students). *See* 10.135.

10.360, 10.460 Business Law

A study of legal rules and principles which guide decisions involving the law of contracts, including the sale of goods and negotiable instruments, as well as the business associations of agency, partnership, and companies.

10.380, 10.381 Interpersonal and Organizational Behaviour

Directed toward Computer Programming, Financial Management, and Operations Management students, this course is the study of man's behaviour and attitudes in an organizational setting; the organization's effect on his perceptions, feelings, and actions; and his effect on the organization, particularly how his behaviour affects the achievement of the organization's purposes. It is the study of the organizers, who they are, what they do, with whom they communicate and how; in short, its focus is the interactional field between organization men, but it is also a study of the organized—how they organize to organize the organizers. Within this context such concepts as leadership, communications, power, authority, change, and conflict will be examined.

10.381 See 10.380.

10.383, 10.483 Personnel Administration

Personnel Administration involves the study of recruitment, selection, and placement; job analysis, job descriptions, and job evaluations; compensation and appraisal plans; employee benefit programmes; training and educational programmes; labour relations and personnel planning and evaluation.

10.417 Hospitality Industry Law

A summary of Canadian law applicable to the hospitality industry; the sources of law; constitutional law; the legislative, executive, and judicial functions.

The common law of contract, tort, bailment, employment, and agency; property (real and personal); partnerships and corporations. Statutory enactments dealing with sale of goods, human rights, methods of securing debts, working conditions, crime, labour relations, liquor, health, and licensing.

10.425 Industrial Relations

A detailed analysis of selected labour-management problem areas with emphasis on the solution of practical existing problems in industrial relations.

10.427 Training and Development

This subject provides the student with the capability of designing and implementing a training programme. Emphasis is given to practical problems of training in industry.

10.428 Project in Industry

This project enables the student to practise the principles taught in the courses of major importance in the Manpower Management Option.

10.432 See 10.332.

10.434 Managerial Policy

An analysis of business policy formulation designed to give the student practice, experience, and confidence in handling business situations, including those of a complex nature where basic policy decisions are necessary to assist in problem-solving. Comprehensive business cases will be selected covering several fields such as finance, control, personnel, production, marketing, and general management for study and discussion. The course is designed to acquaint the student with the role of top management and the

inter-relationships between these fields. Determination of an acceptable course of action will be followed by the development of a proposed scheme of implementation. The course includes an opportunity, as part of a team, to run a "company" on a computerized management game.

10.437 See 10.135.

10.460 See 10.360.

10.483 See 10.383.

10.E30 Industrial Management (for Electrical and Electronics students).
See 10.730.

10.F62 Public Health Law

An examination of the legal system which serves our society, followed by a detailed look at certain areas of substantive law which the public health technologist is likely to come in contact with in carrying out his duties. Special attention will be given to selected public health legislation.

10.730 Industrial Management (for Chemical, Metallurgical, and Biological Sciences students)

Designed to give students an understanding of business management and an opportunity to apply principles and techniques through analysis of business case-problems.

10.731 Industrial Management (for Building students). See 10.730.

BROADCAST COMMUNICATIONS

12.101, 12.201 Introduction to Radio

An introduction to the equipment and techniques used in radio broadcasting. Starting with station organization, the student continues with a study of microphones, radio control boards, tape machines, and all broadcast accessories, and develops the manual dexterities needed in the operation of this equipment.

12.102, 12.202 Introduction to Television

An introduction to the processes of television-picture transmission and the equipment used in broadcast television. Cameras, lighting equipment, telecine equipment, video switchers, video-tape recording, and colour television. Manual dexterity in the operation of this equipment in a studio and control situation.

12.103, 12.203 Introduction to Electronic Journalism

The student is given a first look at the world of electronic journalism. The subject covers the history of news, newsroom organization, and operations in radio and television; news writing and editing, news sources and coverage; the production of newscasts and special interests features for both radio and television.

12.105, 12.205 Industry Organization

A first-term study is made of the history of broadcasting from first steps through to present-day usages, and of the rules and regulations under which

broadcasting in Canada is governed. The student is introduced to the development of programming, Copyright, Broadcast Traffic Systems, and Libraries.

During first year, a three-hour period each week is set aside for a direct exposure to the industry in which the student will be involved. The time is devoted to guest lecturers from broadcast and associated industries, and to field trips, visiting station operations throughout British Columbia.

12.201 See 12.101.

12.202 See 12.102.

12.203 See 12.103.

12.205 See 12.105.

12.206, 12.406 History and Current Events

It is essential that people in broadcasting have as broad a base of external knowledge as possible. This subject combines lectures and practical exercises, deals with present-day happenings on the local, regional, national, and international level.

12.307, 12.407 Production Techniques I

This course is mandatory for students in the Radio Production and the Electronic Journalism electives. In third term, the students are given an introductory course in photography. This is supplementary to other material already covered in the electives, and in first year. In fourth term, the focus is on radio and television announcing, where individual instruction is given in announcing techniques.

12.308, 12.408 Production Techniques II

This course is mandatory for students in the Television Production elective. In the third term, students are instructed in stagecraft, set design, construction, model-building. In fourth term, instruction is given in the techniques of filming for television.

12.311, 12.411 Radio Production

Students in this elective spend most of their time in the operation of a simulated broadcast facility. They are given the opportunity to expand and experiment with the techniques learned earlier with the object of developing the ability to function successfully in today's radio industry.

12.312, 12.412 Television Production

Students engage in the production of television broadcasts, making use of full studio facilities in the production of television programmes, commercials, special events coverage, the taking and editing of film material, and the carrying-out of on-the-job training projects. A complete studio facility with five cameras and three switchers, and full video recording, is available to the student.

12.313, 12.413 Electronic Journalism

This follows the first-year introduction in which fundamentals are expanded to give a professional atmosphere to the training of electronic journalists. Students spend time refining techniques, and covering and reporting the news.

12.406 *See* 12.206.

12.407 *See* 12.307.

12.408 *See* 12.308.

12.411 *See* 12.311.

12.412 *See* 12.312.

12.413 *See* 12.313.

COMPUTER PROGRAMMING AND SYSTEMS

14.050 Introduction to Data Processing

Training in basic data processing principles to develop recognition of the possible application of these principles in industry. The principal functions of data processing will be illustrated and practised with unit record equipment. Elementary computer programmes will be written and tested on a computer. Use of flow-charting and elementary data processing systems design will illustrate the achieving of data processing objectives.

14.052 Computers in Business

For those people who are not specializing in data processing, a look is given at the types of computer systems currently in use in business. Topics include computer hardware and software development, programme preparation (students will code and execute a COBOL programme in this section), input/output media and devices, data centres, operating systems, controls in computer systems, installing a computer, and current trends in the computer industry.

14.053 Business Computer Programming

An introduction to problem-oriented computer programming using Cobol programming language. Standard accounting applications will be flow-charted, programmed, and tested by the student on an IBM System /360 computer.

14.A51 *See* 14.351.

14.160 Computer Programming I

An introduction to the principles of programming. Emphasis is on the understanding of the mode of operation of a programme through the media of machine language and assembler language, on the acquirement of "hands on" experience, and practice in the flow-charting, coding, debugging, and documenting of simple business applications.

14.170 Computer Systems I

A brief introduction to punched card systems, using appropriate equipment for laboratory demonstration of the principles involved.

14.182 Office Equipment

An introduction to the capabilities of the commonly used machines—adding and calculating machines, cash registers, copiers and duplicating equipment, microfilming, dictating equipment, etc. Operating skill with the adding and calculating machines only is included.

14.A82 See 14.182.

14.260 Computer Programming II

A detailed study of the fundamental principles and techniques common to the programming of electronic computers. The student will programme numerous business problems using an IBM /360 computer. Included will be basic assembler language, flow-charting, file updating, indexing, table look-up, subroutines. The student will be expected to analyse problems, organize solutions, design the report output, then code, assemble, test, debug, and document his programme according to acceptable standards and control.

14.270 Computer Systems II

Introduction to computer systems design and basic systems analysis techniques. Emphasis is on punched-card computer applications to payroll, billing, and other accounting and statistical functions. Techniques of systems flow-charting, forms design, and card design will be practised.

14.296 Office Systems and Procedures

An introduction to manual, one-write, keysort, and machine systems covering such applications as billing, sales analysis, accounts receivable, accounts payable and expense distribution, inventory, payroll distribution, and payroll writing. A practice set in one-write form is to be completed by all students. The course also provides a brief introduction to the interrelationships of the basic functions such as purchasing, receiving, stock-keeping, production, selling, disbursing.

14.306 Probability and Simulation

Probability rules, expectation, repeated trials, Bayes' Theorem with applications; probability distribution, Poisson distribution, and queueing theory; simulation; probability and Monte Carlo simulation, with Fortran applications.

14.C50 See 14.050.

14.351 Computer Applications

Applications of the computer in engineering and medical technologies; how a computer works, recognizing problems suitable for computer solution, flow-charting and communicating with computer personnel; emphasis is on the use of computers to solve problems related to the technology concerned. Where available, "package" programmes will be demonstrated and used by students.

14.360 Computer Programming III

Continuation of 14.260. A detailed study of computer programming capabilities, using the full instruction set of the System/360 Assembler language, establishing detailed programming, label, flow-chart, report layout, and documentation standards; introduction to input/output control system and to the operating system. The student will write numerous programmes employing card, printer, tape, and disk files. System/360 Macro language.

14.370 Computer Systems III

Introduction to the principles and techniques of systems analysis: gathering data, systems design, flow charting, documentation, procedures, card and form design, controls, audit trails. The use of a high-level language (PL/I) in solving business and statistical problems involving internal sorting, table look-up and binary search.

14.380, 14.480 Operating Systems

A thorough study of the IBM S/360 Disk Operating System will be undertaken to permit the student to perform the Operating Systems Programmers tasks of: (a) implementing the computer manufacturer's operating systems, utilities, and programming languages; (b) developing standard programming routines and procedures; and (c) providing technical advice and assistance to application programmers and operations staff. Students will be able to perform systems generation and maintenance.

14.408 Linear Programming

Graphical method; algebraic method; simplex method; analysis of simplex results; LP problem formulation; use of computer to solve problems; analysis of computer solution; use of reduced costs and shadow prices; sensitivity analysis; practical applications and limitations of LP; implementation of results.

14.E50 *See* 14.050.

14.409 Operations Research Techniques

Linear programming theory, problem formulation, analysis of results, sensitivity analysis, practical applications and limitations; linear programming, simulation, and dynamic programming; choosing the appropriate technique. Inventory models; CPM and PERT, uses and limitations.

14.460 Computer Programming IV

Continuation of 14.360. Disk and tape programming for sequential, index sequential and direct file organization, as well as advanced and efficient coding techniques in both PL/I and assembler language. Considerable time will be devoted to a rigorous study of the job-control statements, sort and utility programmes.

14.470 Computer Systems IV

Methods used in the development of business data processing systems for punched cards, disk storage, and magnetic tape. System specification; equipment appraisal, acquisition, and utilization; implementation and control. These techniques will be applied to the solution of advanced management problems. Compiler language: Cobol will be included in this course.

14.480 *See* 14.380.

FINANCIAL MANAGEMENT

16.140, 16.240 Accounting

Basic accounting procedures; closing the books; adjustments; working papers; merchandise operations; statement and ledger organization; special journals; forms of business organization; accounting principles; introduction to cost accounting; analysis of financial data; working capital; departmental and branch operations; consolidations.

16.145, 16.245, 16.345 Credit and Collections

Study of various types of credit and their use by retail businesses, financial institutions, commercial enterprises, and consumers. Includes sources of information, credit policy and control, and collection techniques.

16.240 See 16.140.

16.245 See 16.145.

16.341, 16.441 Cost and Managerial Accounting

The accountant's role in the organization; major purposes of cost accounting; cost-volume-profit analysis; job order costing; process costing; standard costs; budgeting, responsibility accounting; direct costing; capital budgeting; joint and by-product costs; nonmanufacturing costs; inventory; accounting systems; payroll.

16.342, 16.442 Merchandise Accounting

Departmental, branch, and agency accounting systems. Credit, instalment sales, and consignment sales procedures. The mathematical problems of merchandising, i.e., profit calculation, mark-up, prices, price policies and lines, mark-downs, inventory, expenses, budgeting, and cash flow. The role of accounting in merchandise management. Merchandising decision models will be discussed.

16.343 Cost Accounting

Direct costing and the contribution approach; cost-volume-profit analysis; cost analysis for managerial planning and decisions; process job-order, joint, and by-product costing; inventory planning, control, and valuation; budgeting and profit planning; standard costs; cost and price variance analysis; capital budgeting.

16.345 See 16.145.

16.346, 16.446 Auditing

Basic auditing procedures. Features of the internal control system. The audit programme. Statutory audits, government audits, internal audits. The audit routine as applied to cash, inventory, accounts receivable and sales, fixed and other assets, accounts payable and purchases, income and other taxes and expenses. Specialized audit routines.

16.347, 16.447 Financial Accounting

Review of accounting procedures, the accounting cycle, and the preparation of financial statements. Net income concepts, capital stock, surplus and dividends, accounting principles, assets, liabilities and reserves, analysis of working capital, application of funds. Statements from incomplete records, reorganizations, the price level problem.

16.361, 16.461 Finance

An investigation of different methods of raising funds for new and existing businesses, corporate and noncorporate. Business risk and uncertainty. Analysis of the importance of financial institutions. Business promotion. Security analysis. Capital budgeting. Decision-making analysis. Surplus, dividend, and reserve policy. Business failure.

16.365, 16.465 Money and Banking

The study of money and money substitutes, supply of currency, creation of credit; functions and uses of money; practices, policies, functions, and services of commercial banks; central banking and monetary control; objectives and techniques of monetary policy and debt management; financial assets and financial markets; money and the international economy.

16.366, 16.466 Security Analysis

Techniques and principles of security analysis; valuation of securities; analysis of risks inherent in all types of security investments. Emphasis will be placed on: the investment setting, the securities market, financial statement analysis, investment timing, and portfolio analysis of both individual investors and institutional investors.

16.441 See 16.341.

16.442 See 16.342.

16.443 Management Accounting

The management accountant's role; income determination; decision-making; profit planning; budget; forecasting; profit margin variance analysis; corporate financial analysis; income tax; internal control; annual report; accounting aids for sales and production management; measuring managerial performance; direct costing and the contribution approach.

16.446 See 16.346.

16.447 See 16.347.

16.461 See 16.361.

16.465 See 16.365.

16.466 See 16.366.

HOTEL, MOTEL, AND FOOD SERVICE MANAGEMENT

18.101 Bar and Rooms Management

Housekeeping organization and duties; control forms used; supplies and equipment used; specifications for purchasing equipment and linen; laundry operations; beer-parlour organization and control; cocktail-lounge organization, glassware, types of beverages, dispensing devices, and control systems.

18.102, 18.202 Food and Beverage Management

Background of industry; sanitation; meal planning and menu preparation; selection of foods; purchasing methods; principles of food preparation; equipment layout and specifications; service of foods; menu writing; administrative requirements; organization of the catering department.

18.111 English—Speech

Speech construction; types of speeches; speaking before groups; introducing and thanking speakers, chairing meetings, and interviewing; practice in preparation and delivery of talks to groups.

18.202 See 18.102.

18.203 Front Office Management

Front office organization and psychology. Materials, equipment, and supplies used; rooms salesmanship; reservations, registrations, and front office "accounting" for various-size hotels; handling of cash and credit transactions; the night hand-transcript, and the processing of accounts and the night audit on billing-audit equipment.

18.300 Summer Work Practicum

Each student must work, during the four-month summer break between first and second years, for a minimum of three months full time in the hospitality/tourist industry. A report, covering this practical experience, must also be completed.

18.302, 18.402 Food and Beverage Management

Volume feeding management; menu pricing; pre-cost and control; budgeting; standards measurement; function catering; food service layout; food processing; organization of the department and staff scheduling; calculation of work loads; staff training and human relations; institution and hospital food services; environment and atmosphere. Study of the complexities of menu planning; menu writing and terminology; merchandising in menu presentation; wine manufacturing and terminology; association of wine and food.

18.305, 18.405 Food Production and Service

Research in food preparation to balance quality preparation with cost of production; testing of new products to evaluate the possibility of their uses in a practical production situation; menu planning; development of certain manipulative skills to permit students to be in a position to eventually train and supervise others; dining-room service.

18.313 Food and Beverage Control

Food and beverage purchasing, receiving, storing, production, and sales controls; payroll (labour costing) control techniques.

18.316, 18.416 Human Relations

Systematic approach to the personnel problems in today's business organizations, including human needs and wants, motivation process, social systems, leadership, unions, management techniques, communication problems, staff hiring and appraisal, training, incentives. Lab discussions based on real-life cases help develop ability to make decisions upon critical analysis of facts available.

18.325, 18.425 Marketing and Sales Promotion

This course serves to explore the relative positions of all components of the tourism industry—travel agent, tour operator, air or surface carrier, recreation facilities, and accommodation. How and where they depend on each other, how they buy and sell between themselves, and, finally, how they get their individual products or combined products to the market place.

18.330, 18.430 Tourism and Travel

The development of tourism from the early pilgrimages to present-day outer-space travel. Current trends and future projections. The economic and political ramifications of this growth and an investigation of what causes people to travel and go where they do.

18.331 Recreation Facilities Management

Development and growth of recreation in society. Study of the organization and management of recreation facilities, from private membership sporting clubs to community recreational facilities to resort operations to provincial or national parks.

18.332, 18.432 Tourist Destinations Study

Study of the geography and history of tourist destinations at the provincial, national, and international levels.

18.402 See 18.302.

18.405 *See* 18.305.

18.413 Hospitality Industry Accounting

Preparation, interpretation, and analysis of hotel balance sheets and profit and loss statements; budgeting and forecasting; feasibility studies; financing and cash flow; valuation; insurance; income tax.

18.416 *See* 18.316.

18.418 Front Office Accounting

Review of front office guest accounts, using both manual and machine systems; preparation of the night transcript for smaller hotels and motels; completion of night audit for large hotels, using equipment such as the "NCR 42." This course will involve as much practical use of the equipment as is possible.

18.425 *See* 18.325.

18.430 *See* 18.330.

18.432 *See* 18.332.

18.435 Ticketing and Documentation

Introduction to reservation and ticketing procedures, and use of schedules for itinerary planning. Duties and responsibilities of travel agents and their relationship to other segments of the tourist industry, such as hotels, transportation companies, and tour operators.

18.450 Research Project

Each student will select, or will be assigned, a topic related to the hospitality/tourist industry. With the guidance of an instructor, the student will then develop and submit an appropriate research report.

MARKETING MANAGEMENT

20.090 Marketing (for Computer students)

A marketing course designed for Computer Programming and Systems Programme students covering the essential areas of the two-term marketing course in one term. *See* 20.180, 20.280.

20.180, 20.280 Marketing

An introduction to the marketing environment and marketing institutions; detailed study of the basic marketing functions, marketing research, product planning, selection of trade channels, merchandising, advertising and sales promotion, salesmanship. Embraces marketing of industrial as well as consumer goods.

20.190, 20.290 Writing and Sales

The course familiarizes the students with advertising techniques, particularly in the broadcast media. Lectures and workshop sessions relate to the writing and evaluation of radio and television commercials. Basic marketing concepts, the function of advertising in society, and the economics of broadcast are related. Commercials are studied in detail. Special emphasis is placed on developing student's ability to work within a group situation. While students may not become writers, the course may lead to a position in broadcast sales, sales promotion, or advertising generally.

20.191, 20.291 Marketing (Administrative and Financial)

This course is designed to give the Administrative and Financial students a good understanding of the role of marketing in a firm. Marketing plays a critical role in any firm dealing in product or service; the decisions made by the marketing manager are reflected in the administrative and financial functions of a firm. The lab sessions will deal with typical marketing problems and students are exposed to the decision-making process in Marketing Management.

20.275 Salesmanship

Introduction to professional selling. Emphasis on practical problems of locating and qualifying prospects, use of the depth approach, and improving sales preparation and organization. Some examination also given to improving interpersonal communications in nonselling situations.

20.280 *See* 20.180.

20.290 *See* 20.190.

20.291 *See* 20.191.

20.310 Retailing

This course is designed to acquaint the student with the retailer's role in the distribution process, the types of retail establishments and their relative strengths and weaknesses, the analysis of a trading area, site location, store layout, the influence of changing life styles on consumer demand patterns, techniques for determining customer demand, policy formulation, store image, the organization and "four walls" operation of a retail establishment.

20.322, 20.422 Marketing Management

Knowledge of how the marketing system operates as gained through the introductory marketing course is supplemented by understanding the varied responsibilities of the marketing manager—the influence of business policies; use of market research; demand, competition, cost analysis; marketing planning; and controlling the marketing programme.

20.323 Sales Management

General principles of sales management. Emphasis is given to the human resource, with stress placed on selection, assimilation, training, and supervision; also examination of sales research, planning, organization, and analysis is made. The course finishes with a discussion of sales management ethics.

20.331 Modes of Transportation

A study of the various ways of moving commodities, including services offered by air, highway, pipe-line, rail and water carriers (private and public), and the problems encountered by carriers, shippers, and consignees.

20.332, 20.432 Transportation Economics

An analysis of the economic principles of transportation, including transport policies, prices and rate structures, costs, intermodal competition, and planning for effective utilization and allocation of transport resources for public service, yet obtaining a fair return on investment.

20.333 International Trade

A comprehensive coverage of the procedures, rules, and regulations necessary for the movement of goods, both domestic and foreign. A study of information systems and techniques for forwarding freight. Emphasis will be placed on international traffic, the export/import of commodities.

20.371 Advertising and Sales Promotion

Advertising philosophy and purpose. Organization of the advertising function. Relationship of advertising to other business divisions. Advertising planning. The business management of advertising. The creative process. Research. Media—newspaper, radio, TV, magazines, direct mail, outdoor, public relations. Copy, layout, art. Strategies and campaigns. Production and communications. Controls. Evaluating results. The course is designed to make the student a competent advertising critic.

20.372 Consumer Behaviour

An examination of consumer purchase decisions. Special emphasis will be placed on areas such as motivation and arousal, perception, attitude and attitude change, and consumer decision processes.

20.381 Interpersonal and Organizational Behaviour

Study of human elements in organizations, with emphasis on group behaviour. Basic concepts and applications are examined in human relations, leadership, power, authority, group dynamics, formal and informal organization, communications, conflict, and introducing change.

20.382, 20.482 Marketing Research

The purpose is to relate how to make the most effective use of marketing research in business. The course examines how research can help in decision-making and outlines the company activities undertaken in Canada. Detailed analyses are made of the marketing research procedure and the special application of marketing research.

20.411 Merchandising

This course is a natural continuation of Retailing. In it the student is introduced to the considerations relating to the establishment, procurement, maintenance, periodic appraisal, and promotion of the merchandise assortment.

20.422 *See 20.322.*

20.432 *See 20.332.*

20.432 Transportation Regulation

The evolution and foundation of governmental regulatory agencies—Canadian Transport Commission, provincial and municipal legislation and controls. An analysis of common and statutory law in relation to transportation duties and liabilities of carriers will be included.

20.435 Distribution Management

This course will cover storage and warehousing and will include diverse matters, such as inventory control, palletization, unitization, containerization, packaging, and general materials handling.

20.436 Transportation Trends

From here to —, pipe-lines under the ocean, robot trains, automated terminals, conveyors under the city, SST's on the horizon, ice-free waterways, hydroplanes and hydrofoils, etc.—an analysis of what's going on now in transportation and what is likely to occur.

20.437 Marketing Research for Transportation

The purposes of the course are to provide the student with a knowledge of the procedures and applications of marketing research within the context of the business firm involved in the transportation field. Case studies and problems will be used to incorporate the practical aspects.

20.482 See 20.382.

20.483 Management of Human Resources

The Management of Human Resources course is designed to provide the student with an opportunity to experience and learn about cause-and-effect human relationships within a business environment. The course will involve study of individuals, groups, and organizations from a managerial and personnel administrative point of view. Heavy emphasis will be placed on involvement and simulation techniques as the key to effective understanding of management of the human resource.

20.484 Transportation and Materials Handling

The field of transportation, storage, and materials handling is an integral part of the distribution system. This course will investigate the Canadian transportation systems, warehousing and other storage, and the materials-handling techniques associated with transportation and storage in our complex distribution system.

20.490 Directed Studies

Seven hours of the student's time-table are allocated to two major projects. The projects are to be in marketing areas of the student's choice and carried out under the guidance of assigned faculty members.

20.492 Personnel Administration

An introduction to the fundamentals of personnel management, including organization of the personnel function; recruiting, testing, interviewing, selection; job descriptions and evaluation, salary administration, fringe benefits; training, management development and performance appraisal; constructive discipline, grievances, and morale. This course is directed toward Operations Management students.

20.700 Agricultural Products Marketing

The course objective is to introduce the application of business skills to agribusiness and to study in particular the marketing functions as related to the marketing of agricultural products and services. Case studies and readings are used to relate to the practical problems of agribusiness.

20.701 Wood Product Marketing

An introduction to the marketing environment and marketing institutions in the wood products industry. Study of the basic marketing functions: marketing research, product planning, selection of trade channels, merchandising, advertising and sales promotion. Case studies and readings used to relate to the practical problems of the wood products industry.

OPERATIONS MANAGEMENT

22.100 Applied Mathematics

Review of basic algebra, graphs, and logarithms with business applications. Mathematics of finance, simple and compound interest, loan-payment plans, annuities, methods of evaluating investments, and an introduction to probability theory.

22.101 Problems Laboratory

A series of diversified problems from the business community with a major project problem report on the last portion of the course.

22.110 Business Mathematics

Review of basic mathematics applicable to business and industry; mathematics of finance, including retail operations, simple and compound interest, discounts, annuities, financial papers, and depreciation methods. Emphasis is on practical applications as applied to Business Administration.

22.114 Applied Mathematics

Review of basic algebra, graphs, and logarithms with business applications. Mathematics of finance, simple and compound interest, loan-payment plans, annuities, methods of evaluating investments, and an introduction to probability theory.

22.116 Business Mathematics

Review of basic mathematics applicable to business and industry; mathematics of finance, including retail operations, simple and compound interest, discounts, annuities, financial papers, and depreciation methods. Emphasis is on practical applications as applied to the field of Financial Management.

22.118 Business Mathematics

Review of basic mathematics applicable to business and industry; mathematics of finance, including retail operations, simple and compound interest, discounts, annuities, financial papers, and depreciation methods. Emphasis is on practical applications as applied to the Hotel, Motel industry.

22.120 Business Mathematics

Review of basic mathematics applicable to business and industry; mathematics of finance, including retail operations, simple and compound interest, discounts, annuities, financial papers, and depreciation methods. Emphasis is on practical applications as applied to the Marketing area of business.

22.200 Statistics in Business and Industry

Fundamentals of descriptive statistics and a comprehensive study of the use of statistical inference. Topics include probability theory and distributions, sampling, hypothesis testing, chi-square, rank correlation, linear regression, and index numbers. The course is tailored to the needs of the Operations Management Technology.

22.201 Method Study

A comprehensive approach to problem-solving by defining, recording, and analysing work situations. Application of sampling techniques to work environments. Introduction to the principles of layout analysis and their application to a project problem.

22.210 Business Statistics

Major emphasis on descriptive statistics, including numerical and graphical presentation of data, measures of central tendency and dispersion, elementary probability, index numbers, and time series. Introduction to inferential statistics through selected topics as sampling, confidence limits of the mean, hypothesis testing, and simple linear regression. The course is tailored, where possible, to the needs of the Administrative Management Technology.

22.214 Statistics in Business and Industry

Fundamentals of descriptive statistics and a comprehensive study of the use of statistical inference. Topics include probability theory and distributions, sampling, hypothesis testing, chi-square, rank correlation, linear regression, and index numbers. The course is tailored to the needs of the Computer Programming and Systems Technology.

22.216 Business Statistics

Major emphasis on descriptive statistics, including numerical and graphical presentation of data, measures of central tendency and dispersion, elementary probability, index numbers, and time series. Introduction to inferential statistics through selected topics as sampling, confidence limits of the mean, hypothesis testing, and simple linear regression. The course is tailored, where possible, to the needs of the Financial Management Technology.

22.218 Business Statistics

Major emphasis on descriptive statistics, including numerical and graphical presentation of data, measures of central tendency and dispersion, elementary probability, index numbers, and time series. Introduction to inferential statistics through selected topics as sampling, confidence limits of the mean, hypothesis testing, and simple linear regression. The course is tailored, where possible, to the needs of the Hotel, Motel, and Food Services Technology.

22.220 Business Statistics

Major emphasis on descriptive statistics, including numerical and graphical presentation of data, measures of central tendency and dispersion, elementary probability, index numbers, and time series. Introduction to inferential statistics through selected topics as sampling, confidence limits of the mean, hypothesis testing, and simple linear regression. The course is tailored, where possible, to the needs of the Marketing Management Technology.

22.247 Basic Operations Management

Management problem-solving and work simplification with particular application to the Natural Gas and Petroleum Industry. Includes method study, some measurement techniques, plant layout, planning and scheduling.

22.300, 22.400 Quantitative Methods for Management I and II

Applications of the scientific method and mathematical modelling to decision-making in business and industry. Topics include break-even analysis, additional probability and decision theory, inventory control, vectors, matrices, linear programming, simulation models, and queuing theory.

22.301 Performance Measurement

The application of time studies, predetermined motion-time systems, rated work-sampling, analytical estimating, and production studies up to the development of standard data, a research report on nonphysical-type work performance.

22.302 Applied Programming

Instruction in the Fortran IV computer-programming language. Computer programmes will be written in Fortran IV to solve business and engineering problems.

22.303 Systems Analysis

The total systems concept. Analysis and application of techniques used in business systems, information systems, equipment application, resource management, forms control, manuals and reports, office layout, and landscaping. Application of appropriate techniques to a major case problem—a prelude to a Term 4 project in the field.

22.304, 22.404 Production Control Management I and II

Introduction to the basic concepts of production control, with a special emphasis on the design of control systems for operating environments. Practical experience in controlling a production system will be given through the operation of a simulated production shop. Topics include scheduling, planning, organization of production departments, dispatching and progress control, maintenance, and quality control.

22.310 Management Engineering I

Scientific approach to problem-solving, with particular application to administrative management problems. Includes method study, systems and procedures, charting and analysis, forms design and control, work distribution, layout, planning and scheduling, measurement and costing.

22.314 Introduction to Operations Research

An introduction to the use of mathematics in decision-making in business, with special emphasis on applications that are commonly solved through the use of a computer. Topics include expected value, marginal analysis, linear programming, scientific inventory management and simulation.

22.318 Basic Management Engineering

Approaches to problem-solving and work simplification, with particular application to hotel and restaurant operations. Includes method study, some measurement techniques, layout, and systems concepts.

22.320 Management Engineering I

The scientific approach to problem-solving, with particular application to business enterprises. Topics include method study, systems and procedures, charting and analysis, forms design and control, work distribution, layout, planning and scheduling, work measurement, and costing. The course material is slanted toward the needs of the traffic and transportation side of marketing.

22.334 Management Engineering I

The scientific approach to problem-solving, with particular application to business enterprises. Topics include method study, activity sampling, layout, forms design and control, the critical path method of scheduling and planning, work measurement, and costing. The course work will be slanted toward the Computer Programming technologist's needs.

22.339 Basic Operations Management

The study of problem-solving in industry, with particular emphasis on heavy construction and manufacturing problems. The course includes method study, process charting, activity-sampling, work measurement, motion economy, and productivity. Special emphasis is placed on the human problems associated with change. The course is particularly slanted toward Civil Engineering.

22.342 Operations Management I

This course covers the material shown for 22.339; however, it is a longer course and continues into 22.442, Operations Management II. *See* 22.442 for additional topic listing.

22.346 Operations Management I

The study of problem-solving in industry, with particular attention being given to the Forest Resource industry. Topics include method study, work measurement, process charting, activity-sampling, motion economy, and productivity. Worker-management relations are also considered throughout the course.

22.349 Operations Management I

The scientific approach to the problem-solving in industry, with special emphasis on problems in the Mechanical Engineering field. Studies include method study, work measurement, process charting, activity-sampling, motion economy, and productivity. Relationships with management are also considered through the course.

22.400 *See* 22.300.

22.401 Industrial Engineering Concepts

A comprehensive external study in a local firm requiring the application of material from various recordings and analysis of data from the field, terminating in a written report and an oral presentation of the project.

22.402 Industrial Organization and Operations

The study of major functional sections of business enterprises in a systems concept. Emphasis of organization theory, marketing, finance, and labour relations. The case-study method of learning will be utilized as well as direct analysis of real-life business situations.

22.403 Materials Handling

An organized, systematic approach to analysing and solving materials-handling problems.

22.404 *See* 22.304.

22.410 Management Engineering II

A continuation of 22.310, involving the practical application of techniques right in business organizations. These are "live" projects which require research and detailed analysis plus the preparation of technical reports and a presentation to management and instructors.

22.420 Management Engineering II

A continuation of 22.320, involving the practical application of problem-solving techniques in business organizations. The student works on "live" projects requiring research and detailed analysis plus the preparation and

presentation of technical reports to managers and instructors. The course is tailored for the needs of the Traffic and Transportation Marketing student.

22.434 Management Engineering II

A continuation of 22.334, involving the application of scientific problem-solving techniques used in business organizations. The projects require research and detailed analysis plus the preparation and presentation of technical reports to managers and instructors.

22.439 Basic Operations Management

The techniques of management problem-solving and work simplification, with particular application to engineering and industrial organizations. Includes method study, some measurement techniques, layout, planning and scheduling. The course is slanted toward practical applications in the field of Mechanical Engineering.

22.440 Basic Operations Management

The techniques of management problem-solving and work simplification, with particular application to engineering and industrial organizations. Includes method study, some measurement techniques, layout, planning and scheduling. The course emphasizes practical applications in the building field.

22.441 Basic Operations Management

The techniques of management problem-solving and work simplification, with particular application to engineering and industrial organizations. Includes method study, work measurement, layout, planning and scheduling. The course is slanted toward problems in the Chemical and Metallurgical industries.

22.442 Operations Management II

Planning, scheduling, job loading and levelling, plant layout, and critical path network diagrams are considered and used in industrial-type projects. The course is completed when the student submits a term project which encompasses much of the material studied in class. The projects are designed to meet the needs of the Civil Engineering student.

22.444 Basic Operations Management

The techniques of management problem-solving and work simplification, with particular application to engineering and industrial organizations. Includes method study, some measurement techniques, layout, planning and scheduling. The course emphasizes practical applications in the field of Biological Sciences.

22.446 Operations Management II

Planning and scheduling, job loading and levelling, network diagrams, and plant layout are considered in practical applications. The student works on a term project in an industrial plant. The course is completed when the student submits the term project which encompasses much of the material studied in class. The course emphasizes problem-solving in the Forest Resource industry.

22.449 Operations Management II

Planning and scheduling, job loading and levelling, network diagrams, and plant layout are considered in practical applications. The student carries out studies in an industrial plant and presents a term project which encompasses much of the course material studied in class. The course and project work are closely associated with the Mechanical Engineering field.

22.E01 Management Engineering I

The development of the scientific principles of problem-solving covering the selection, recording, and examination of data leading to improved systems of management combined with the basic principles of office layout.

22.F01 Management Engineering II

A continuation of the scientific principles into analysis of paper flow, forms design, and application of self-recording methods of work measurement as well as work-sampling techniques. The study of an actual department with the presentation of a formal report in respect to the field project.

CHEMISTRY

30.101 Applied Chemical Principles

An applied course of basic inorganic chemistry, including simple stoichiometry, solubility product, selective precipitation, solution preparation, pH, buffer solutions, oxidation-reduction, acid-base theory, and titration calculations. Laboratory work consists of simple qualitative and quantitative analysis. Good laboratory techniques are emphasized.

30.102 General Chemistry

A basic chemistry course, including equation-balancing, solubility product, precipitate formation, molecular and ionic equilibria, oxidation-reduction, pH, neutralization, buffer solutions, applied gas laws, and titration calculations. Laboratory work emphasizes basic concepts and a variety of measurement techniques.

30.A03, 30.B03, 30.C03 General Chemistry for Health Technologists

This course includes basic inorganic and physical chemical principles, an introduction to organic chemistry, the properties and reactions of the major classes of organic compounds as well as a selection of biochemical materials such as carbohydrate and fat metabolism, amino acid metabolism, properties of proteins and their synthesis, enzyme action, hormones, pesticides, and herbicides.

Laboratory work consists of quantitative analysis, with emphasis on gravimetric and volumetric techniques, organic techniques and synthesis, properties of biological materials, enzyme reactions, and physical methods of analysis.

30.201 Applied Chemical Principles

A continuation of 30.101 that includes theory of gravimetric and volumetric analysis, titration curves, chemical kinetics, simple physical chemistry, atomic structure, ionic and covalent bonding, periodicity, and descriptive organic chemistry of selected groups. Laboratory work consists of qualitative and quantitative analysis, and physical separations.

30.202 General Chemistry

A continuation of 30.102 that includes bonding theory; physical behaviour of gases, liquids, and solids; electrochemistry; periodic trends in chemical properties of inorganic materials; and preparation and uses of some common industrial materials. Laboratory work consists of simple volumetric and instrumental chemical analysis.

30.B03 *See 30.A03.*

30.204 Chemical Laboratory Techniques

This course teaches basic techniques in sampling, weighing, moisture determination, ashing, extractions, filtration gravimetric methods, volumetric methods. Instrumental analysis and separation methods will be described, demonstrated, and, whenever possible, practised.

30.301, 30.401 Organic Chemistry

A general course covering properties, preparations, and reactions of all major classes of organic compounds—aliphatic and aromatic hydrocarbons, halides, alcohols, ethers, carboxylic acids and derivatives of carboxylic acids, aldehydes ketone, amines, amino acids, carbohydrates, heterocyclics, dyes, and polymers.

Laboratory work emphasises organic techniques, qualitative chemical analysis, and instrumental methods, infra-red, ultra-violet, and gas chromatography.

30.302 Physical Chemistry

This course presents the kinetic theory of gases, the first and second laws of thermodynamics, phase equilibria, chemical kinetics, and catalysis.

Laboratory work consolidates lecture material and gives experience in practical physical chemical measurements.

30.303 Instrumental Analytical Methods

This course introduces basic theoretical concepts, instrument construction and operation, and general application of the following methods: potentiometry, polarography, refractometry, polarimetry, visible, ultra-violet, and infra-red, and includes absorption and emission flame photometry and gas chromatography.

30.C03 See 30.A03.

30.306, 30.406 Analytical Chemistry

Conventional inorganic methods of analysis for the determination of the common metals in ores and alloys. Basic methods of fire assaying for gold and silver. Advanced analytical techniques using various instruments such as the polarograph, spectrophotometer, colorimeter, gas chromatograph, refractometer, spectograph, X-ray scintillometer, X-ray diffractometer, etc.

30.401 See 30.301.

30.404 Organic Chemistry

This course presents a survey of the properties and common reactions of the classes of organic compounds which are found in petroleum, or are of importance in the petrochemical industry. The chemistry of the refining processes, instrumental laboratory analysis, and synthesis of some petrochemicals are presented.

30.405 Chemical Instrumentation

This course presents the basic instrument components, their characteristics, and their modular construction in analytical instrumentation. The emphasis is on signal flow and the information represented by the same. Basic design patterns, as well as practical aspects of servicing, are presented with references to pH meters, polarographs, titrators, spectrophotometers, gas chromatographs, rate meters and scalars, chemical signal sources, electrical components, operational amplifiers as multipliers, subtractors, function generators, and servo-systems.

30.406 See 30.306.

ENGLISH

31.101, 31.201 Communication (primarily for the Engineering Division)

Introduction to general principles in written and oral communications and their application to business and industry.

31.A01, 31.B01, 31.C01 Technical Writing (primarily for students in the Electrical and Electronics Technology and the Biomedical Electronics Technology)

Introduction to general principles in written and oral communications and their application to business and industry.

31.102, 31.202 Communication (primarily for the Business Management Technologies)

Introduction to general principles in written and oral communications and their application to business.

31.A02, 31.B02, 31.C02 Communication (primarily for Health Data Technology)

Introduction to general principles in written and oral communications and their application to business.

31.A04, 31.B04, 31.C04 Modern Literature

A study of some 20th-century examples of poetry, drama, short and long fiction. Essays, reports, and exercises are required, and some attention will be paid to the principles of effective composition.

31.105, 31.205 Communication for Broadcasters

An introduction to general principles of written, oral, and visual communications and their application to the broadcast industry.

31.A06, 31.B06, 31.C06 Communication (primarily for Environment and Public Health students)

Introduction to general principles of written and oral communications, with considerable emphasis on all phases of public speaking.

31.107, 31.207 Reading Improvement (noncredit course)

Emphasis will be placed on purposeful and flexible reading techniques related to speed of comprehension. This will involve skill development in the following areas: reading rate, comprehension, vocabulary, prereading, note-taking, study habits, and skills.

31.A08, 31.B08 Communication (primarily for Medical Radiography, Nuclear Medicine, and Medical Laboratory Technologies)

Introduction to general principles of written and oral communication and their application in contemporary society, with particular attention to the Health field.

31.A09, 31.B09, 31.C09 Contemporary Studies I

A study of futures—questioning current views of the future; examining theoretical alternative futures; refining views of the future; selecting basic tools for future-imagining. Some emphasis will also be placed on communication skills, especially writing and speaking.

31.A11, 31.B11, 31.C11 Directed Reading

The student will plan and execute a study programme in an area of English, with subject-matter and meeting-times to be arranged with the instructor. NOTE—This course is intended for, and limited to, students who fulfil the following requirements:

- (a) Are capable of some initiative and independent study; and
- (b) Wish, for any reason, to take an English credit course in first year, but have been granted credit exemption from Modern Literature and/or Contemporary Studies I (i.e., transfer credit for courses already taken elsewhere).

31.112, 31.212 Tutorials in English Language (primarily for students whose first language is not English)

This course will attempt to bring students up to the minimum requirement for proficiency in speaking and writing.

31.201 See 31.101.

31.B01 See 31.A01.

31.202 See 31.102.

31.B02 See 31.A02.

31.B04 See 31.A04.

31.205 See 31.105.

31.207 See 31.107.

31.B08 See 31.A08.

31.B09 See 31.A09.

31.B11 See 31.A11.

31.301, 31.401 Industrial Communication (primarily for the Engineering Division)

This course continues the work of the first year with emphasis on three levels of communication—interpersonal, small group, and large organizational. The student explores these areas through assignments in various kinds of technical writing, public speaking, and presentation of information in visual and aural media. Practical examples are selected from the local governmental and industrial environment.

31.C01 See 31.A01.

31.302, 31.402 Communication (primarily for the Business Management Technologies)

Students will continue the work of the first year with emphasis on communication theory and on practical problems in the interpretation, evaluation, organization, and presentation of data in both written and oral form.

31.C02 See 31.A02.

31.C04 See 31.A04.

31.305, 31.405 Communication for Broadcasters

This course continues the work of the first year at a higher level.

31.C09 See 31.A09.

31.C11 See 31.A11.

31.C12 Corrective Language

Intensive tutorial-type classes for students who need further practice in composition skills. For such students, this is a required course, and is normally taken in the third quarter of the first year, in place of 31.C04, 31.C09, or 31.C11.

31.401 See 31.301.

31.402 See 31.302.

31.405 See 31.305.

31.G06 Communication (primarily for Environmental and Public Health students)

The work of the first year is carried on at a higher level.

31.G09 Contemporary Studies II

This course involves visits to off-campus locations; observation, discussion, reports on work contexts, and the communication environment.

31.G11 Independent Study

Individual projects and assignments, planned and executed by the student in consultation with the instructor, and relevant to the general concerns of the modern English field. This is a more advanced course in the series 31.A11, 31.B11, 31.C11.

NOTES—

- (1) No courses have prerequisites, unless so stated.
- (2) Any elective may be limited to maximum of 15 students.
- (3) Any elective having insufficient numbers may be deleted from the Department's offerings in that quarter.

MATHEMATICS

**32.XYZ Mathematics for the Engineering Technologies
(Except Electrical and Electronics Technology and
Surveying Technology)**

NOTES—

- (1) For a technology whose two-year programme is arranged over four terms: Units of study are indicated by the subject name(s) and the subject number 32.XYZ, where X denotes the term in which the subject is offered, and Y and Z denote the unit numbers (listed be-

low) associated with that term, e.g., 32.223 Calculus I and II indicates a mathematics course running in term 2 and consisting of units 2 and 3.

- (2) For a technology whose two-year programme is arranged over six quarters: Units of study are indicated by the subject name and the subject number 32.XYZ, where X denotes the quarter in which the subject is offered, and YZ denotes the number of the technology concerned, e.g., 32.B41 Calculus I indicates a first unit of Calculus running in quarter B for technology 41, i.e., Chemical and Metallurgical Technology.

The units of study are as follows:

Unit 1. Basic Technical Mathematics

Topics in algebra, trigonometry, and analytic geometry, with emphasis on technical applications; prerequisite for the courses described in Units 2 to 6.

Unit 2. Calculus I

An introductory course in calculus and its applications, involving the differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions.

Unit 3. Calculus II

Further calculus topics and applications; conics and calculus problems associated with these; power series; partial differentiation; differential equations.

Unit 4. Statistics I

An introduction to statistics. Organization and presentation of data; measures of central tendency and dispersion; frequency distributions; sampling; estimation; hypothesis testing; regression.

Unit 5. Numerical Methods I

Elementary numerical methods in theory and practice; iterative methods in the solution of algebraic and transcendental equations; finite differences; interpolation; numerical differentiation and integration; numerical solution of simple differential equations.

Unit 6. Special Topics—Calculus III, or Statistics II, or Analytic Geometry, or Spherical Trigonometry, or Numerical Methods II

Further applied mathematics topics of special importance in the student's chosen technology, within one of the categories shown above.

32.A70, 32.B70, 32.C70 Mathematics for Medical Laboratory Technology

32.A70 Basic Mathematics (Health)

Logarithms; base ten, general base, natural logarithms. Logarithmic and exponential functions with applications. Use of logarithmic graph paper. Functions and graphs.

32.B70 Calculus (Health)

The derivative. Differentiation of algebraic functions. Maximum and minimum problems; curve sketching. Differentiation of logarithmic and exponential functions. Rate of change; related rates of change. Small change and error calculations. Integration; area as integral. Simple differential equations.

32.C70 Statistics (Health)

Descriptive statistics. Measures of central tendency and spread. Probability. The binomial and normal distributions. Sampling; estimation; hypothesis testing.

32.C72 Mathematics for Medical Radiography Technology

32.C72 Basic Mathematics (Health)

Exponents and logarithms, common and natural; logarithmic and exponential equations; log-log and semi-log graphs. Plane geometry and its applications. Special topics; applications to specific branches of Health Technology.

32.A74, 32.B74, 32.C74 Mathematics for Nuclear Medicine Technology

32.A74 Basic Mathematics (Health)

Exponents and logarithms (common and natural); logarithmic and exponential equations; log-log and semi-log graphs; graphs of functions; limits; slopes of curves; special topics (applications especially suited to Health Technology).

32.B74 Calculus and Statistics (Health)

The derivative and its applications; the integral and its applications.

Descriptive statistics; organization and graphical presentation of data; measures of location, variation, skewness, and kurtoses.

32.C74 Further Statistics (Health)

Probability; theoretical frequency distributions; sampling and sampling distributions; estimation; hypothesis testing; correlation and regression.

32.A78, 32.B78, 32.C78, 32.E78, 32.B79 Mathematics for Biomedical Electronics Technology

32.A78, 32.B78, 32.C78, 32.E78

These courses are similar to 32.A90, 32.B90, 32.C90, and 32.E90 respectively, with applications throughout appropriate to the Biomedical Electronics field.

32.B79 Numerical Methods and Computing

An introduction to numerical methods. Solution of systems of equations, roots of polynomials, interpolation, numerical solution of differential equations. The formation of algorithms, flowcharting. Students will write programmes for the IBM360, using the Fortran language.

32.A80, 32.B80, 32.C80, 32.E80, 32.F80, 32.G80

Mathematics for Health Data Technology

32.A80 Basic Mathematics (Health)

Topics in algebra, logarithms, functions, and graphs, with appropriate applications.

32.B80 Introductory Statistics (Health)

Descriptive statistics, organization and graphical presentation of data, measures of location and variation, frequency distributions, sampling.

32.C80 Further Statistics (Health)

Further topics in statistics of special importance in the Health Data field.

32.E80 Computer Applications I

A basic course in a high-level language. Examples will be mainly statistical analysis of data. An introduction to the use of files on tape and disk.

32.F80 Computer Applications II

Data-based systems. The formation of a data-base file on disk. File maintenance, protection, and security. Sorting and search procedures.

32.G80 Computer Applications III

Information storage and retrieval. Processing textual data, update and extension procedures. Analysis of data-handling systems. System simulation.

32.A82, 32.B82, 32.C82, 32.E82 Mathematics for

Environmental Technology—Public Health

32.A82 Basic Mathematics (Health)

Exponents and logarithms, common and natural; logarithmic and exponential equations; log-log and semi-log graphs. Elementary trigonometry; sine and cosine rules for any triangle. Binomial theorem.

32.B82 Statistics (Health)

Introduction to statistics; measurement of central tendency and dispersion. Probability. Frequency distributions; sampling, estimation, tests of significance.

32.C82 Calculus and Further Statistics (Health)

Introduction to calculus; the derivative and its applications; integration of simple functions. The chi-square distribution. Correlation and regression.

32.E82 Introduction to Computers

Introduction to computers, elements of a computer language, data types, data media, use of subprogrammes. Problem solving, algorithms, mathematical models, error analysis.

32.A90, 32.B90, 32.C90, 32.E90 Mathematics for Electrical and Electronics Technologies

32.A90 Basic Mathematics (Electrical)

Linear equations, matrices, and determinants, with applications to mesh circuits analysis. Logarithmic and exponential functions, with applications to transient and power problems. Trigonometry, with emphasis on wave-forms, vectors, and use of identities. Complex numbers and their use in a.c. circuit calculations.

32.B90 Calculus I (Electrical)

An introductory calculus course dealing with the following topics, with applications throughout in the electrical and electronic fields: The differentiation and integration of algebraic, trigonometric, exponential, logarithmic, and hyperbolic functions.

32.C90 Calculus II (Electrical)

A further calculus course with appropriate applications in the field, dealing with techniques of integration, first and second order differential equations, partial differentiation, infinite series, elementary numerical methods.

32.E90 Transform Calculus (Electrical)

Laplace transforms; transform pairs of functions and operations, inverse transforms, applications to circuits involving integro-differential equations, the transfer function, pole-zero configurations. Analysis in the s-domain.

32.151, 32.251, 32.351, 32.451 Mathematics for Surveying Technology

32.151 Basic Mathematics

Logarithmic theory; Euclidean and analytical geometry; plane trigonometry; spherical trigonometry.

32.251 Calculus

Derivatives; Taylor's and Maclaurin's series; the differential; partial derivatives; the definite and indefinite integral; multiple integrals.

32.351 Statistics

Descriptive statistics; probability and distribution; sampling and estimation; error theory; quality control.

32.451 Matrix Algebra and Least Squares

Basic matrix algebra operations; least square theory; correlates; solution of normal equations.

32.444 Introduction to Computing (Biological Sciences Technology)

An introduction to digital computing, using the IBM 360 system and the Fortran language; flow-charting, Fortran statements, input and output statements; elementary numerical methods; applications from the biological sciences, especially in the area of statistics.

PHYSICS

33.101, 33.201 General Physics

This course is designed for the Mining and Natural Gas and Petroleum Technologies. General topics covered include kinematics, dynamics, friction, statics, angular motion, energy, momentum, simple machines, properties of matter, fluid mechanics, temperature and heat, thermal properties of matter, basic electricity and magnetism, wave motion and sound, electromagnetic waves, optics, atomic and nuclear phenomena. The laboratory programme stresses the subjects of measurement, data analysis, and technical report writing. Mathematical treatment requires only algebra and trigonometry. The applications of the general topics are relevant to the Mining and Natural Gas and Petroleum Technologies. A special feature of the course is the coverage of exploration geophysics in the laboratory part of 33.201 in the form of lectures and laboratory projects. This work is in preparation for second year courses 33.304 (Mining) and 33.406 (Natural Gas and Petroleum).

33.102, 33.202 Introductory Physics

This course covers somewhat the same general topics as 33.101, 33.201, but with level, application and emphasis relevant to the Biological Sciences, Forest Products, and Operations Management Technologies.

33.104, 33.204 Physics for Building Technology

This course covers somewhat the same general topics as 33.101, 33.201, but with application and emphasis relevant to the Building Technology. This course has no laboratory programme. Problem-solving is stressed.

33.A05 Basic Physics for Nuclear Medicine

An introductory course covering topics of force and motion, energy, d.c. electricity, electromagnetism, a.c. electricity, and some basic electronics related to nuclear instrumentation.

33.A06, 33.B06, 33.C06 Physics of Electrical and Electronics Devices

This course, for the Electrical and Electronics Technology, covers topics of electric charge, electric fields, the physics of semiconductors, fundamentals of magnetism, and magnetic forces and devices. It includes a survey of physics fundamentals in kinematics fluid dynamics, heat and wave motion relevant to the technology.

33.107, 33.207 Physics for Civil and Structural Technology

This course covers somewhat the same general topics as 33.101, 33.201, but with application and emphasis relevant to the Civil and Structural Technology. Special topics include the application of geophysical exploration techniques in the construction industry.

33.A09, 33.B09, 33.C09 Physics of Medical Radiography

This course emphasizes the application of physical phenomena in Medical Radiography. It includes the structure and physical properties of matter, static electricity, direct and alternating current, magnetism, mechanics, energy, wave motion, thermodynamics, optics, quantum concepts, production of X-rays, interaction of X-rays with matter, radioactivity, X-ray tubes, and photomultipliers and other detectors of radiation.

33.A10, 33.B10, 33.C10 Physics for Medical Laboratory Technology

This course is similar in content to 33.102, 33.202, but with application and emphasis relevant to the Medical Laboratory Technology.

33.111, 33.211 Physics for Instrumentation Technology

This course covers the same general topics as 33.101, 33.201, but with application and emphasis relevant to the Instrumentation Technology.

33.A12, 33.B12, 33.C12 Physics for Environmental Health Technology

This course covers the same general topics as 33.101, 33.201, but with level, applications, and emphasis relevant to the Environmental Health Technology.

33.114, 33.215 Physics for Chemical and Metallurgical Technology

This course covers the same general topics as 33.101, 33.201, but with emphasis and application relevant to the Chemical and Metallurgical Technology.

33.115, 33.215 Physics for Surveying Technology

This course covers the same general topics as 33.101, 33.201, but with application and emphasis relevant to the Surveying Technology. Special topics include electromagnetic distance measuring.

33.201 See 33.101.

33.202 See 33.102.

33.204 See 33.104.

33.B05 Radioactivity

This course, for Nuclear Medicine Technology, provides details of the elements of physics related to radioactivity and radiation phenomena. Major topics are the nucleus, nuclides, X-rays, radioactivity, modes of radioactive decay, nuclear reactions, fission, interaction of radiation with matter, and the production of radio-nuclides.

33.B06 See 33.A06.

33.207 See 33.107.

33.B09 See 33.A09.

33.B10 See 33.A10.

33.211 See 33.111.

33.B12 See 33.A12.

33.214 See 33.114.

33.215 See 33.115.

33.304 Mining Geophysics

This course, given to the Mining Technology, consists of lectures and laboratory work on geophysical methods of mineral exploration and development. In view of the material covered in the laboratory part of 33.201, emphasis is placed on induced polarization, electromagnetic methods, and drill-hole geophysics.

33.C05, 33.E05 The Measurement of Radioactivity

This course, for the Nuclear Medicine Technology, covers the theory of instrumentation used for detecting and analysing alpha, beta, gamma, and neutron radiation in a modern nuclear medicine laboratory. Topics include statistics, determinate errors, detectors (scintillation, ionization chambers, Geiger-Muller, proportional, semiconductor, solid state), gamma spectrometers, liquid scintillation counting, radionuclide scanning and collimation, gamma camera.

33.C06 *See 33.A06.*

33.C09 *See 33.A09.*

33.C10 *See 33.A10.*

33.C12 *See 33.A12.*

33.406 Petroleum Geophysics

This course, given to the Natural Gas and Petroleum Technology, consists of lectures on geophysical methods used in the exploration for natural gas and petroleum. In view of the material covered in the laboratory part of 33.201, emphasis is placed on seismic methods and well logging techniques.

33.E05 *See 33.C05.*

33.E30, 33.F30, 33.G30 Biophysics

A study of biophysics for the Biomedical Electronics Technology which covers mechanics, electricity, magnetism, waves, and heat. The emphasis in lectures, seminars, and projects is on the application of the physics to biological systems.

33.F30 *See 33.E30.*

33.G30 *See 33.E30.*

BUILDING

40.101, 40.201 Draughting and Design

Advanced draughting; lettering, isometric; perspective; presentation techniques, sketching; colour; model building.

Fundamentals of design, æsthetic and functional; design of utilitarian objects; architectural design principles; architectural design problems.

40.102, 40.202 Building Construction

Principles of building construction in terms of the assembly of materials; examination of typical systems of wood and masonry construction; study of architectural detailing.

Origins and purposes of building regulations; typical zoning and building by-laws; National Building Code; other Acts, codes, by-laws.

Aspects of common law and law of contract related to building premises.

Application of the above to the preparation of working drawings, in co-ordination with courses in Building Structures and Building Services. Trips to building sites and plants.

40.103, 40.203 Building Services

Introduction to building services complex; water supply; waste disposal; heating; electrical illumination. Emphasis on fundamentals and interrelation of services.

Preparation of working drawings for mechanical and electrical systems. Field trips.

40.104, 40.204 Construction Specifications and Estimating

Fundamentals of the construction industry—persons, land, contracts; the basic construction materials and methods and their costs.

Specific aspects of contracts and contract documents, particularly, construction specifications; construction work and the analysis of its cost through unit prices.

40.201 See 40.101.

40.202 See 40.102.

40.203 See 40.103.

40.204 See 40.104.

40.208 Landscape Draughting (Biological Sciences Technology)

Elements of building construction relative to concrete foundations, stud and joist framing, post and beam framing, patios, terraces; detailing of screens, trellises; glazing. Draughting related to the above. Some visiting lecturers.

40.301, 40.401 Design

Short history of architecture and building, particularly since the Industrial Revolution; contemporary architectural masterpieces, with analysis of their planning, structure, services, æsthetic quality, landscaping.

Draughting-room exercises in architectural design, integrated with other courses; sketching and rendering; model-making.

40.302, 40.402 Building Construction

Principles of construction as applied to masonry, concrete, and steel framed buildings; site fabrication and assembly; prefabrication.

Theory of selection and location of materials in the building fabric, especially roof and exterior walls. Interior finishing, detailing.

Preparation of working drawings, in co-ordination with the courses in Building Structures and Services. Trips to building sites and plants.

Short course in Survey, particularly relative to its use in building operations, numbered 51.104.

40.303, 40.403 Building Services

Ventilation; air conditioning; electrical illumination and power supply; mechanical equipment; transportation; communication; acoustics.

Preparation of working drawings related to above, and to projects in Design and Building Construction. Field trips.

40.304, 40.404 Construction Specifications and Estimating

Techniques of specifying and measuring construction work for estimating and bidding; practical applications in estimating the costs of various kinds of construction work, particularly wood-frame and reinforced-concrete systems.

Introduction to construction economics and cost accounting; the financial aspects of construction contracts; estimating the costs of various kinds of construction work.

40.305, 40.405 Building Services Systems

Gas supply systems; hot-water space-heating system design; practical fan laws; air-cleaning; steam-coil air-heating; hot-water coil-heating; combined direct radiation and coil-heated air-heating and ventilating systems; temperature control for space-heating and air-conditioning processes and design; air-conditioning controls.

40.306, 40.406 Land and Construction Economics

Principles of real property valuation, methods of appraisal, property assessment for taxation purposes, use of the assessment manual, land title registration, sources of information, practical office and field work.

Cost accounting methods for construction work; financial management, contract management; bid procedure and strategy; practical work in measurement, pricing, bidding, and analysis.

40.307 Planning and Design (Hotel, Motel, and Food Service Management Technology)

Fundamental introduction to blueprint reading; contracts; principles of design for hotels and restaurants; floor plans and traffic flows; selection of equipment and furnishings; principles of decoration and colour theory; lighting; sources, specifications, and qualities of furnishings, materials, and fabrics. Trips to plants, shops, hotels.

40.308 Landscape Draughting (Biological Sciences Technology)

Continuation of 40.208, dealing with landscape construction relative to grading, drainage, masonry construction, retaining-walls; draughting related to the above; specifications; estimating.

40.401 See 40.301.

40.402 See 40.302.

40.403 See 40.303.

40.404. See 40.304.

40.405 See 40.305.

40.406 See 40.306.

40.409 Tourist Facilities Design (Hotel, Motel, and Food Service Management Technology)

Fundamental introduction to plan-reading, contracts, principles of design for hotels, with emphasis on tourist facilities, floor plans, and traffic flows, equipment and furnishings, related services, decoration and colour theory, lighting, theatres, "floating" hotels. Trips to plants, shops, ships, and hotels.

40.780

40.F80 Building Renovation and Planning Procedures

An introduction to buildings and the construction industry through study functional design principles, planning, construction systems, presentation drawings, plan-reading, selection of equipment and furnishings, colour and lighting, with reference to Medical Record Department needs.

CHEMICAL AND METALLURGICAL

41.102 Laboratory Workshop

Use of hand and bench tools; soldering, brazing, and gas welding; glass blowing, basic electrical circuitry. Organization and controls of chemical laboratories, records, ordering, and inventory.

41.105, 41.205 Engineering Materials

For Chemical and Metallurgical, Mechanical, Instrumentation and Systems, and Natural Gas and Petroleum Technologies.

Comparative properties of all classes of engineering materials, including polymers, concrete, wood, metals, alloys, and ceramics. Common causes of failure in service, including fatigue, weathering, embrittlement, and corrosion.

41.107, 41.207 Engineering Materials (Forest Products Technology)

Comparison of materials of importance in Forest Products Technology, including wood and wood products, concrete, metals, alloys, polymers, and ceramics. Common causes of failure in service including weathering, corrosion, fatigue, and embrittlement.

41.205 See 41.105.

41.207 See 41.107.

41.210 Unit Processes

Flow charts for unit sequences. Instrumentation flow plan symbols, Material balance, heat balance, stoichiometry. Some representative production processes and operations.

41.304, 41.404 Physical Metallurgy

Solidification of metals, casting methods and defects, metal-forming operations, phase diagrams, alloying of metals, heat-treatment. Laboratory sessions emphasize physical testing of materials, metallography, and non-destructive testing.

41.305, 41.405 Assaying

Analytical chemistry applied to the ore minerals, with special attention to fire assaying for gold and silver. Gravimetric, volumetric, and instrumental methods are developed for the more common metals. Students are encouraged to attempt the examinations for the Provincial Government licence to practise assaying in British Columbia after at least one year's experience following graduation.

41.307, 41.407 Extractive Metallurgy

Fundamental unit operations of mineral-processing technology—comminution, sizing, classification, gravity separation, flotation, materials transport and storage. Fundamentals of extractive metallurgy—pyrometallurgy, hydrometallurgy, electrometallurgy studied from a unit process viewpoint and applied to metal production from processing nonferrous ores and concentrates. Statistics of sampling methods; numerical solution of design and operating problems.

41.311, 41.411 Pollution Science

An introduction to organic chemistry, biochemistry, microbiology, pollution law, and basic meteorology. This course complements the courses in Environmental Sampling Techniques, Waste Disposal Methods, and Environmental Analytical Methods.

41.314, 41.414 Mineral Processing

The essential unit operations applied to mineral-processing techniques for mining students. Crushing, grinding, gravity separation, flotation, cyclone classification, materials handling and storage, statistics applied to sampling problems. An introduction to chemical and bacterial leaching as applied to precious metal and nonferrous metal ores. The course emphasizes the numerical solution of operating-type problems.

41.320, 41.420 Unit Project

Projects relating to the student's chosen option are assigned in each term. Regular progress reports and a final term report are required.

41.341, 41.441 Unit Operations

First and second law of thermodynamics; enthalpy, entropy, phase rule, thermodynamic diagrams and tables; fluid flow and measurement in pipes and channels, piping, pipe fittings, and valves; solid handling, grinding, crushing, screening, mixing, settling, sedimentation, filtration, flotation; flow of heat, conduction, convection, radiation, film and over-all transfer coefficients, heat exchangers; principles and application of equipment for evaporation, distillation, absorption, extraction; humidification and dehumidification; drying; crystallization; ion exchange.

41.351 Pollution Control

Fundamentals of waste treatment and management systems. Basic sampling and testing techniques.

41.404 See 41.304.

41.405 See 41.305.

41.407 See 41.307.

41.408 Assaying (Extractive Metallurgy Option)

The identification of economically important minerals, general principles of quantitative analysis of ore samples, including representative volumetric determinations such as acid-base, oxidation-reduction, and volumetric precipitation. Fire assaying, stressing fusion and combination wet-fire methods. Practical applications in instrumental and physiochemical analysis, including the latest analytical aids, polarography, spectrophotometry, atomic absorption, and emission spectroscopy.

41.411 See 41.311.

41.412 Waste Disposal Methods

The unit processes and unit operations of solid, liquid, and gaseous treatment systems. Incineration, land fill, screening, sedimentation, flotation, neutralization, oxidation reduction, precipitation coagulation, aerobic systems, activated sludge, trickling filtration, aerobic digestion, anaerobic methods, stripping, ion-exchange, electrodialysis, adsorption, sorption, reverse osmosis, distillation, defoaming, foam-separation cooling towers, centrifuges, bag filters, cyclones, settling chambers, scrubbers, electrostatic precipitators, fume incineration, tall chimneys.

41.413 Environmental Analytical Methods

Physical, chemical, and biological methods of analysis of solid, liquid, and gaseous streams; BOD, carbon in water, nitrogen and phosphorus in water, chlorides, sulphates, alkalinity, surfactants, pesticides. Use of Orsat midget impinger, X-ray, photofluorimeter.

41.414 See 41.314.

41.420 See 40.320.

41.425 Nondestructive Testing

This course is given to students in the Physical Metallurgy Option. The course covers all the major methods of nondestructive testing, including radiography, ultrasonic testing, magnetic particle testing, eddy current testing, use of dye penetrants, leak testing. Emphasis is on actual use of equipment and interpretation of results.

41.441 See 41.341.

41.E91 Medical Materials

Comparative properties of all classes of engineering materials with emphasis on biomedical applications, including metals, plastic materials, adhesives, and composite materials; bonding forces in solids, microstructures, plastic deformation and annealing, alloying, heat treatment of steels, and non-ferrous metals; polymers, elastomers, and organic adhesives; corrosion and ageing of materials; interaction of materials with biological tissues, toxicity; reference sources and materials selection.

41.F91 Laboratory Workshop

A course for students in Biomedical Technology. Use of hand and bench tools; soldering, brazing, welding, adhesive bonding; basic glassworking; sheet-metal working; compression fittings.

CIVIL AND STRUCTURAL

42.101 Civil Engineering

Through participation in a series of projects involving analysis of engineered works or of engineering material, the student learns typical civil engineering principles, procedures, and calculations. Lecturing is minimal and takes place informally as student needs dictate. Full co-operation between students is encouraged as they analyse existing engineering works and see how planned objectives are achieved.

The projects are in the fields of Structures, Hydraulics, Hydrology, Highways, and Concrete Material. The methods and language of the industry are further revealed by field trips to engineered works.

42.102 Elementary Hydrology (for Surveying students)

The application of precipitation data to various run-off areas is learned in order to predict run-off yield and flood magnitude. Measurement of storages and flows in the field is studied, together with characteristics of open-channel flows.

42.103 Statics (for Mining students)

Vectors, force systems, graphical analysis, resultants, components, moments, equilibrium laws, force polygons, funicular polygons, frames and trusses, stress diagrams, Bowes' notation, flexible tension members, load shear and bending moment curves. Closely supervised problem sessions are used to provide the student with practice in common analytical and graphical solutions to problems of static load on simply determinate structures.

42.107 Building Structures (for Building students)

Similar to 42.103 Statics, but specially developed for the Building Technology.

42.202 Elementary Hydraulics (for Mining students)

Hydrostatics, properties of fluids, pressure, centre of pressure; flow of fluids, equation of continuity, velocity head, venturi, jets; orifices; notch and weir, friction and pipe flow; Reynolds' experiments, water hammer; flow laminar and turbulent; open-channel flow, regular channels, hydraulic jump, irregular channels; meters, valves, pumps. Laboratory experiments form a part of this course.

42.205 Strength of Materials (for Mining students)

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; slopes and deflection of beams; restrained and continuous beams. Strut theories; eccentric loading, lateral loading. Compound stress and strain; ellipse of stress; Poisson's ratio; principal stress and strains; Mohr's circle. Testing techniques; machines; extensometers; strain gauges; brittle lacquers; photo elasticity; evaluation of results.

42.207 Building Structures (for Building students)

Similar to 42.205 Strength of Materials, but specially developed for the Building Technology.

42.301 Civil Engineering Design

The student is instructed through his participation in a series of design projects where by applying design principles and engineering calculations he creates a structure or system to serve a specified objective. Much of the participation of the student is co-operative work on simulated engineering design problems such as would occur in a design office. Testing of materials to obtain design data is done as required. Lecturing is informal and occurs as it would from a design supervisor as he introduces his staff to new objectives and instructs them in the procedures needed to accomplish them.

Projects are in the fields of Structures, Hydraulics, Hydrology, Highways, Soil Mechanics and Foundations, Municipal Services, Traffic Engineering, Costing and Specifications, Bridge and Construction Practice, and Work Study.

Some projects are mandatory and others may be elected to total an acceptably complete programme.

42.307 Building Structures (for Building students)

Reinforced-concrete beams; tension steel only; one-way and two-way slabs; compressive reinforcements; tee beams; axially and eccentrically loaded columns; simple footings and retaining walls; reinforcing detailing, schedule, and placement; design of forms.

42.310 Land Engineering (for the Biological Sciences Technology)

An introduction to the behaviour of earth and land surfaces under various natural conditions and under the action of both static and dynamic forces commonly occurring in engineered works. Included are foundation loads, settlements, and bank stability of various soil types; also the occurrence and flow of water underground and on land surfaces.

42.407 Building Structures (for Building students)

Combined bending and axial loads; eccentric columns in steel and timber; built-up sections in steel and timber; beam-column connections.

Restrained and continuous beams; strain energy; moment-area; moment distribution; portal and multistorey frames; steel and timber detailing and fabrication.

Discussion of ultimate load design, prestressed concrete, advanced structural forms, and experimental stress analysis.

ELECTRICAL AND ELECTRONICS

43.A01 Circuit Devices and Techniques

Familiarizes the students with electrical and electronic components and develops an orderly approach to equipment packaging and fabrication.

Topics include resistors, capacitors, inductors, relays, switches, fuses, and circuit-breakers; conductors, cables, and harnesses; soldering; semiconductors and tubes; printed circuits; engineering standards.

43.A02, B02, C02 Electrical Circuits I, II, and III

Teaches the principles and methods of analysis related to d.c. and single-phase a.c. circuits.

Topics include electrical quantities such as energy, power, voltage, current, resistance, inductance, capacitance, impedance; MKSA units; relationships between quantities; single-port network configurations (series, parallel, series-parallel); two-port networks; circuit laws and theorems; network analysis methods (loop, nodal, superposition, equivalent circuit); maximum power transfer; quality and dissipation factors; transients; differentiation and integration; resonance; power-factor correction; transformer.

43.A03, B03 Shop Practice I and II

Provides practical training for the development of manipulative skills.

Topics include materials and their selection; welding (ferrous and non-ferrous metals); sheet-metal fabrication; cable splicing and termination; wiring methods; conduit bending and mounting; installation equipment (distribution boxes, switch boxes); electrical code; draughting and drawing interpretation.

43.A71, B71, C71, E71, F71 Electronics Principles and Practices

Teaches the Biomedical Electronics students the principles and practices current in the electrical and electronics fields.

Topics include electrical quantities and units; relationships between quantities; network configurations; network analysis; components, hardware and materials; wiring methods; equipment fabrication; semiconductors and tubes; characteristic curves; amplifier circuits and their analysis; transistor bias; oscillators; power supplies; heatsinking.

43.172, 272 Electrical and Electronics Fundamentals

Gives Instrumentation and Systems students a knowledge of electrical and electronics principles and hardware.

Topics include electrical quantities and units, theorems and laws; components; impedance transformation; filters; measurements; semiconductors; integrated circuits; amplifiers and oscillators; power supplies.

43.B01, C01 Electronic Circuits I and II

Teaches how electronic circuits work, how to analyse them numerically and how to design, modify, and combine them to perform complex functions. The circuits are about 80 per cent semiconductor and 20 per cent vacuum tube.

Topics include interpretation of transistor and tube characteristic curves; voltage and current amplifying circuits; loadline analysis; choice of Q-point; bias circuits; stability; a.c. equivalent circuits; interstage coupling and frequency response; feedback; oscillation and oscillator circuits; power supplies, including voltage and current regulating circuits in discrete and integrated form; low-frequency power amplifiers of various types; heatsink calculations; characteristics and application of other devices such as unijunction transistors, thyristors, field-effect transistors, and tunnel diodes.

43.B02 *See 43.A02.*

43.B03 *See 43.A03.*

43.B71 *See 43.A71.*

43.272 *See 43.172.*

43.C01 *See 43.B01.*

43.C02 *See 43.A02*

43.C03 Measurements

Makes the student familiar with the practical application of equipment and techniques for measuring electrical quantities.

Topics include electrical quantities, units, and symbols; measurement of current, voltage, power, resistance, inductance, capacitance, phase angle, time, frequency, distortion.

43.C71 *See 43.A71.*

43.373 Electrical Equipment Applications

Gives Mechanical Technology students an introduction to industrial electrical equipment.

Topics include a.c. and d.c. motors and their application to electro-mechanical drive systems; protecting and controlling motors; industrial electrical power systems and related equipment; sources of energy; utility rate

structures, transformation into primary and secondary voltage levels, distribution of power throughout the plant; switching; voltage control; power-factor correction.

43.374 Electrical Equipment Applications

Introduces Forest Resource Technology students to electrical systems used in the wood-products industry.

Topics include electrical distribution systems and related equipment associated with wood-processing plants, characteristics of typical electro-mechanical rotating machines, efficiency of machines under varying load conditions, cost of electrical energy.

43.E04 Digital Techniques I

Teaches the techniques basic to digital equipment and their application in communications, instrumentation, and industrial control systems.

Topics include switch and relay control; number systems; Boolean algebra; codes and coding; solid state logic (TTL, DTL, HTL); noise and loading; encoders, decoders, display generators, relay drivers, and delay devices; counters, shift registers, and arithmetic systems; digital to analog and analog to digital converters.

43.E11 Industrial Electronics

Applies electronic circuit principles to industrial controls and utility systems. Measurement techniques and the correct use of test equipment are stressed.

Topics include integrated circuits; operational amplifiers; thyristors (static switching, phase control, application considerations, protection); d.c.-a.c. and d.c.-d.c. power conversion (transistor and SCR inverters).

43.E12 Polyphase Circuits

Teaches the application of phasor notation to three-phase power circuits. Includes related measurement procedures.

Topics include load determination; power-factor correction; single-phase, three-wire distribution; balanced three-phase systems; phase-sequence determination; transformer polarity, three-phase transformer configurations.

43.E13, F13 Electrical Equipment I and II

Gives an understanding of the theory, characteristics, and operation of equipment used in the electrical industry. Deals with items individually and their application to complete electrical systems and drives.

Topics include d.c. and a.c. motors and generators (types, losses, efficiencies, load requirements, running characteristics), transformers (construction, losses, efficiencies); industry ratings, standards, temperature classifications.

43.E21 Electronic Circuits III

Provides a knowledge of electronic circuits specifically needed for the electronics options (Control and Telecommunications).

Topics include tuned amplifiers (discrete and integrated); stability of tuned amplifiers; wide-band amplifiers; operational amplifiers; parameter systems and their application to small-signal linear circuit analysis.

43.E22 Pulse Circuits

Teaches the analysis and synthesis of circuits for the generation and shaping of nonsinusoidal waveforms.

Topics include clippers, clamps and d.c. restoration; multivibrators (monostable, bistable, and astable); large-signal transistor circuits; blocking oscillators; Schmitt trigger; ramp and staircase generators; line-pulse generators.

43.E23 Telecommunications Principles

Teaches some of the communications principles common to telecommunications and electronic control systems.

Topics include history of communication; modulation and modulators; demodulators; frequency multipliers; single-side band techniques; frequency converters; transmitters and receivers.

43.E71 See 43.A71.

43.E75 Methods of Electrical Measurement

See 43.C03.

43.E76 Digital Principles and Techniques I

See 43.E04.

43.F11 Industrial Controls

Teaches a systematic approach to the design, operation, and troubleshooting of industrial controls.

Topics include mechanical, electromagnetic, and static control devices (characteristics, relative merits, and application to industrial control); control circuit design, static logic; motor control (d.c., induction, and synchronous motors).

43.F12 Circuit Analysis

Deals with the analysis of three-phase power circuits.

Topics include equivalent circuit technique; per unit and per cent systems; unbalanced three-phase loads; two and three wattmeter methods; short-circuit studies.

43.F13 See 43.E13.

43.F14 Protective Systems

Deals with protection principles and equipment as applied in electrical power systems.

Topics include purpose of protection; fuses; circuit-breakers; protective relays; current and potential transformers; lightning arrestors; co-ordination studies.

43.F15 Electrical Draughting

Gives an appreciation of the preparation and interpretation of electrical drawings.

Topics include standard symbology; schematic, connection, and block diagrams; single- and three-line diagrams; building layouts.

43.F16 Lighting Systems

Introduces the commonly used electrical light sources and the calculations pertaining to lighting systems.

Topics include incandescent and gaseous discharge light sources; lighting equipment, calculations, and layouts; branch circuit wiring; wiring types.

43.F24 Digital Techniques II

Applies the principles of digital techniques to the subsystems of industrial control, instrumentation, and communication systems.

Topics include analog-digital interfacing; digital instruments; phase-locked loops; analog multiplexing; data acquisition; error detection and correction; data transmission; supervisory and control systems; introduction to digital computer.

43.F31 Antennas and Transmission-lines

Provides a practical knowledge of the methods and devices used for the transmission of radio frequency energy.

Topics include electromagnetic fields and their propagation; dipole and simulated dipole antennas; loop antennas; antenna arrays; microwave antennas (horns, slotted, parabolic); coaxial lines; wave guides.

43.F32 Telecommunication Power Systems

Provides a knowledge of electrical power systems used in the telecommunication industry.

Topics include rotating electrical equipment; phase control; prime and standby a.c. power systems; rectifier power supplies; batteries; power distribution; converters and inverters.

43.F33, G33 Telephone Systems I and II

Deals with some common carrier telecommunication principles, techniques, and system operation.

Topics include evolution of telephone switching; subscriber's loop; telephone instrument; electronic, step-by-step, and cross-bar switching; exchange trunks; signalling; telegraph and data links; battery plant and distribution; office practices; outside plant; multiplexing; telephone network theory; operating performance (includes forms of distortion and losses).

43.F34 High Frequency Techniques

Teaches the principles and techniques involved in the generation and transmission of high radio frequencies.

Topics include generation of microwaves; klystrons, solid state generators, and travelling-wave tubes; wave guide hardware (principles and measurements); spot and swept frequency measurements of microwave systems.

43.F41 Industrial Electronics I

Investigates the application of electronics to industrial control.

Topics include thyristors in static switching; SCR phase control (single and polyphase); SCR application considerations; time ratio control; electronic relays and transducers.

43.F42 Feedback Theory

Creates capability in the analysis of various feedback systems and the solution of typical problems.

Topics include transfer functions; stability criteria and the correction of instability; analysis techniques; typical electronic and electro-mechanical systems (position servo, motor-speed control, temperature control); analog modeling.

43.F43 Electrical Equipment

Deals with the electrical equipment associated with electronic control systems.

Topics include industrial plant power distribution; three-phase synchronous generators (machines, controls, loads, power factor); single- and three-phase induction motors (industrial types, starting, overload protection); three-phase synchronous motors and their control; electromagnetic control circuits; d.c. generator and motor.

43.F44, G34 Electronic Equipment Fabrication

Deals with manufacturing techniques used in the electronics industry.

Topics include printed circuits (planning, components, component mounting, artwork, production processes); encapsulation; interconnection of units; materials (insulating, conducting, draughting).

43.F71 See 43.A71.

43.F76 Digital Principles and Techniques I

See 43.E04.

43.G11 Control Systems

Teaches the application of electronic control principles to typical industrial systems.

Topics include schematic diagram interpretation; photo-electronic controls; electronic sensors; utility system applications; feedback applied to machine control; calculations on machine regulators (performance and stability, steady-state and transient); process control.

43.G12 Systems Analysis

Teaches the analysis methods for predicting power system behaviour under normal and abnormal conditions.

Topics include voltage regulation; power transfer; load flow; transmission-line capability; power circle and angle diagrams; symmetrical components.

43.G13 Utility Systems

Deals with the organization of an electrical utility and the characteristics of its equipment.

Topics include utility system organization; generating sources, hydro and thermal; synchronizing; load sharing; transmission systems; substations; protective relaying; rate structures; system operation (load dispatch, wheeling, tie systems).

43.G14 Industrial Systems

Teaches the design of electrical systems for industrial plants and commercial buildings.

Topics include electrical system organization; feeder calculations and ratings; demand factors; motor control centres; switchboards; voltage levels; grounding.

43.G31 Navigation Aids

Applies the principles of telecommunications to electronic navigation systems.

Topics include RHO-THETA navigation aids (VOR, TACAN, DME); instrument landing systems; radar systems (marine doppler, surveillance); moving-target indicators; bright display; video mapping.

43.G32 Radio Systems

Provides an insight into the problems of radio systems and their solutions.

Topics include space-wave propagation; microwaves paths; environmental factors; site considerations; noise performance (types of noise, objectives, and calculations); supervisory and control equipment; satellite communications; point-to-point and mobile radio systems.

43.G33 See 43.F33.

43.G34 See 43.F44.

43.G41 Industrial Television

Covers the principles and applications of industrial and educational television systems.

Topics include television systems (industrial closed-circuit and multi-camera educational); interconnection problems; television cameras and monitors; video tape recorders; maintenance techniques; industrial installation problems and their solutions.

43.G42 Industrial Audio Systems

Relates the application of audio systems to industrial needs.

Topics include microphones; speakers; amplifiers; distribution systems; environmental factors; typical systems.

43.G43 Industrial Electronics II

This course deals with the application of electronic systems to the supervision and control of industrial machinery. Topics covered will include numerical control, utilizing both analogue and digital techniques; remote control systems; minicomputer-based control systems.

Approximately one-half of the term will be devoted to large-scale projects carried out in conjunction with the other courses in this term.

43.G44 Digital Systems

Teaches the use of the digital computer for supervision and control of industrial processes.

Topics include assembler language programming; computer interfacing (device selection, programme interrupt, buffer registers, real-time clocks, level changing, pulse duration changing); display generators and systems; magnetic tape; closed-loop control.

43.G45 Electronic Circuit Design

This course introduces the student to the principles and procedures required to process an electronic circuit from the initial concept to a completed working-model.

Topics include circuit design and synthesis, circuit prototyping and development, construction of the working-model.

43.G76 Digital Principles and Techniques II

Teaches the fundamental principles of digital techniques to the subsystems of control, instrumentation, and medical systems.

BIOLOGICAL SCIENCES

44.121 Introductory Microbiology

The course is designed to train students in the basic microbiological procedures employed in a laboratory: the use and care of the microscope; staining methods; aseptic techniques; methods of identifying micro-organisms.

44.122 Biology

A study of the principles underlying living phenomena, including the organizational attributes of living matter. Evolutionary development is traced from one-celled organisms to higher plants and animals. The economic importance of various classes of plants and animals is included.

44.201 Food Processing

The composition of foods. Nutritional aspects. An introduction to the processes of canning, freezing, pasteurizing, dehydrating, salting, smoking, fermenting, and treating food with ionizing radiations. Experimental lots of food will be preserved by these methods during laboratory periods.

44.221 Microbiology for Food Processing

The application of microbiology to food-manufacturing. The isolation of micro-organisms of significance to food-processing for purposes of differentiation and classification. Maintaining high bacteriological standards in processed foods. Shelf-life studies. Spoilage control. Food fermentations. Assessing microbiological test results and report writing to management.

44.223 Microbiology for Food Production

The application of microbiology to agricultural food production. An introduction to plant and animal pathology and to immunology. Seminar project. Assessing and reporting microbiological test results.

44.224 Zoology

General classification of the animal kingdom. Basic vertebrate zoology. The development of the vertebrate from embryo to adult. The study of the vertebrate body, including the skeletal, muscular, digestive, circulatory, urogenital, and endocrine systems. Laboratories consist of comparative vertebrate anatomy.

44.251 Food Production

An introduction to plant science with particular reference to basic plant morphology and physiological processes. Soil types and soil analysis. Animal husbandry and animal nutrition.

44.253 Introductory Botany and Soils

An introduction to plant morphology and physiology, with particular reference to ornamental and horticultural plants; soil types and introduction to soil testing.

44.263, 44.363 Applied Horticulture

The principles of plant taxonomy and nomenclature. Identification of ornamental species to the family, genus, species, and cultivar level, with

emphasis on woody species used commercially. Propagation of plants. Basic greenhouse techniques. Culture of representative ornamental species. Culture of lawns and turfgrasses.

44.301, 44.401 Food Processing

Detailed studies of specific food-manufacturing processes, including dairy-products manufacture, fruit and vegetable processing, jams and jellies, fish and meat products, edible fats and oils, food emulsions, processed potato products, dehydrated and freeze-dried foods, tea and coffee, spices, confections and products of milling and baking. Characteristics of packaging materials, including flexible films, and how they meet the package requirements of various foods.

44.311, 44.411 Quality Control

Responsibilities and organization of a quality-control department in the food industry. Equipping a control laboratory. Methods of measuring and controlling quality factors, such as colour, texture, flavour, and consistency in foods. Principles of statistical quality control. Federal and Provincial Government standards. Laboratory periods will provide practical experience in the scoring and grading of processed foods and in the use of various control instruments.

44.312 Introductory Food Analysis

Chemistry of the principal components of the major representative classes of foods and feeds. Moisture in foods. Proximate composition and energy values. Standard methods of analysis for common constituents. Techniques and procedures in general use in food and agricultural products laboratories.

44.341 Mechanics of Machines

Basic mechanical principles of food processing and agricultural equipment. Force and motion, work, energy and power. Thermodynamics. Fluid mechanics as applied to pumps and pumping systems. Electrical power equipment. Materials of construction. Maintenance and lubrication of equipment.

44.352 Genetics

Principles of genetics, including heredity and environment, Mendel's law of segregation, expression and interaction of genes, and multiple factor inheritance. Applied plant breeding and animal breeding.

44.361 Plant Technology

Plant environment and control. Plant processes and their manipulation in commercial crop plants. The application of the various techniques of plant culture in crop production, with reference to representative cereals, forages, vegetables, small fruits, and tree fruits grown in British Columbia.

44.363 See 44.263.

44.364 Nursery Crop Production

Propagation and field culture of nursery plants. Growing structures, storage. Inventory control, costing, marketing, and handling. Grades and grading of nursery stock.

44.366, 44.466 Landscape Structural Detail

Role of the technician in the site-planning and production of landscape architectural projects. Preparation of sketches and models. Comparative studies of construction systems.

44.371 Animal Technology

A general familiarization with the live-stock and poultry industries as they relate to food production. Animal physiology. Role of basic nutrients in metabolism. Nutritive requirements of live stock during growth, reproduction, and lactation. Feed ration formulation. Feed additives.

44.401 See 44.301.

44.402 Process Analysis

This course is designed to acquaint the student with the basic engineering aspects of the unit operations encountered in food processing. The engineering principles of raw-material operations, conversion and preservation operations, together with materials handling and plant design. Laboratory sessions will involve experimentation, demonstration, and problem-solving.

44.411 See 44.311.

44.412 Food Analysis

Detailed chemistry of the products of the food industry: fat and oil, sugar, cereal, fruit and vegetable, dairy, fishery, meat, and poultry products. Vitamins and nutritional supplements. Chemistry of various types of food deterioration and its prevention. Food additives—preservatives, colouring, flavouring, and sweetening agents. Physiochemical and instrumental methods used in food analysis.

44.413 Agricultural Analysis

Chemistry and standard methods of analysis of agricultural products. Determination of major and minor nutrients in feeds and fertilizers. Elemental analysis of plant materials and soils. Analysis of cereal grains and animal products. Chemistry of pesticides and fungicides. Instrumental and chromatographic procedures for determination of pesticide and other potentially hazardous residues in feeds.

44.414 Experimental Techniques

Design and layout of experiments using typical biological subjects. The application of the scientific method and of statistical methods. Recording and presentation of experimental data.

44.431 Sanitation

Organization of a sanitation programme in the food industry. The chemistry of cleaning. Properties of a good detergent. Types of cleaning compounds and formulation. Methods of disinfection and sterilization. Sanitary aspects of buildings and equipment. Safe water supply. Waste treatment and disposal. Effective insect and rodent control. Employee training in sanitary practices. Inspection techniques and laboratory tests.

44.432 Food Handling and Sanitation

The practical application of microbiology to the food service industry. The study and control of spoilage and pathogenic micro-organisms in food.

44.442 Agricultural Mechanics

A study of basic engineering principles as applied to agricultural and landscaping operations. Hydraulic systems. Agricultural spraying systems. Irrigation and drainage. Tillage and harvesting equipment. Introductory environmental control. Care of equipment.

44.462 Plant Protection

The morphology and identification of weeds, diseases, and insects. Life histories of representative species. Strategy of control by cultural, biological, or chemical means. The pesticides currently recommended are reviewed. Pesticide safety, pest and pesticide legislation.

44.465 Landscape Field Practice

Landscape specifications, plan reading, estimating. Landscape construction, levels, grades, irrigation, drainage. Landscape materials. Seeding and sodding of grasses. Planting procedures. Cost control. Equipment operation.

44.466 *See 44.366.*

44.467 Advanced Plant Identification

A continuation of the plant-identification studies in Applied Horticulture I and II, and Nursery Crop Production, with particular reference to the species and cultivar level. The use of plants in the landscape.

44.468 Supervisory Practices

Effective supervisory practices in Landscape Horticulture; the principles of supervision; knowing the organization; work-scheduling; motivating, counselling, and evaluating the employee; job and safety training; the supervisors responsibility; public relations.

44.481 Soil Technology

The origin, formation, and classification of soils, use of survey reports, map interpretation. Components of soils, soil colloids, cation exchange reactions, soil acidity, phosphorus, nitrogen, the crop as an indicator of fertility, soil organic matter, fertilizers. Soil-sampling procedures, extraction methods used in soil analysis.

FORESTRY

45.101 Introduction to Forest Land Management

This course provides students with background information and understanding regarding the important uses of forest land. It covers the resources associated with forest land and the problems of administration, management, multiple use, and utilization. The principal resources considered are forest, fish, wildlife, range land, water, recreation, and minerals.

45.102 Forest Measurement I

Fundamental concepts of Forest Engineering—measurement of distances, direction, and elevation. Traverse calculations, obtaining, recording, and plotting topographic detail. Care, maintenance and adjustment of equipment. This course will familiarize the student with forest surveying methods used in logging layout, and forest measurements.

45.103 Elementary Wood Technology

This subject is designed to enable Forest Technology students to appreciate the nature of the woods of the commercial tree species in British Columbia and be aware of how wood in the growing tree is affected by the natural environment and forest practices. Topics included are botanical origin of wood, structure, properties, wood deterioration, preservation, and specialty products, including the utilization of waste wood.

45.106, 45.206 Photo Interpretation and Mapping I, II

Practical use and application of aerial photography in forestry. Classification, reconnaissance, planning and inventory, using aerial photos. Practice in the use of photo-interpretation aids, including the use of stereometers. Construction of forest maps and plans. Transfer of detail from aerial photos, using Sketchmasters, Map-O-Graph, Kail plotters, and pantographs. Draughting and map reproduction techniques.

45.110, 45.410 Fire Control I, II

Historical review, fire behaviour with simulation through effect of topography, fuel, weather, including weather observation. Pre-suppression, including fire-danger ratings, detection, reporting, and general pre-organization of industrial and Government agencies. *Forest Act*, Part XI. Fire-suppression techniques through fire-simulation training in initial action and problem-solving.

45.111 Fire Science

Measuring and recording of weather data. Causes of fire in British Columbia. Fire behaviour related to weather, topography, and fuel. Fire-simulation exercises. Results of fire. Use of fire-fighting equipment. Slash-burning problems.

45.120, 45.220 Forest and Range Botany

Structure, physiology, taxonomy, and uses of plants, with emphasis on those having important biological and economic significance in the biotic zones of British Columbia. Introduction to reproduction of plants, with particular emphasis on conifers. Recognition and evaluation of common plant associations in the forest, range land, and alpine habitats of British Columbia and their uses in land management practices.

45.125 Public Information Techniques

The course objective is to introduce the student to the practical techniques of effective communication in his chosen field. The preparation, design, and use of audio, visual, and other communication media will be emphasized and encouraged in the development of all written and oral presentations. The oral presentation of topics prepared from related courses in the option, supplemented by library research and literature survey, will be required of the student in a variety of speaking practicums.

45.202 Forest Measurement II

Methods of measurement of standing and felled timber. Direct measurement of tree diameters, heights, and ages. Characteristics and use of standard volume tables. Construction of local volume tables. Stand and stock tables. Measurement of site index. Forest inventory and operational cruising techniques, with elementary statistical analysis. Types of sampling, and design. Application of aerial sampling and point sampling. Compilation methods for sample data. Report writing.

45.206 See 45.106.

45.220 See 45.120.

45.224 Public Administration

This course deals with the fundamentals of public administration, including Government of Canada; fiscal and accounting procedures in Government departments and agencies; personnel administration; administrative law; statute interpretation; jurisdiction and functions of administrative tribunals.

45.226 Ecology

Introduction to basic concepts of ecology, with emphasis on their application to management of renewable resources. The course is divided into two main aspects. The first portion deals with the ecological principles, the second portion with the practical application of these principles to renewable resource management. Examples are drawn from current environmental issues.

45.227 Geology and Soils

A study of the geology, land forms, and development of soils in British Columbia. Physical and chemical nature of soils. Soil erosion and preventive measures. Soil surveys and land-use studies.

45.302, 45.402 Forest Measurement III, IV

Field application of cruising techniques. Office compilation by hand and by computer. Cruise-report preparation, including recommendations for environmental considerations. Preparation of forest maps. Familiarization with British Columbia cruising systems. Inventory as opposed to operational cruising. Logging-waste assessment. British Columbia log scale applications to Coast and Interior operations. British Columbia board-foot rule. Weight-scaling.

45.305 Timber Harvesting

Description and analysis of timber-harvesting systems presently used on the British Columbia Coast and Interior. Techniques in the theory and application of logging lay-out. Environmental considerations in timber harvesting. Multiforest land-use concepts. Woods safety.

45.308, 45.408 Roads and Transportation I, II

Truck-road location, construction, and maintenance. Preparation of plans and profiles. Measurement of earth and rock work. Optimum road standards. Road-costing. Culvert and simple log-span bridge design. Hauling costs. Log dumps and booming-grounds. Water transportation of logs.

45.313, 45.413 Forest Pestology I, II

An integrated study of forest insect and disease problems. Basic life-histories. The interactions of damage agencies in the forest. Improved cruise techniques related to insect and disease damage. Use of subject literature. Co-operation with authoritative government agencies. Prevention and control of damage. Measuring and reporting of insect and disease damage. Recognition of the currently important insects and diseases.

45.316 Forest Management

Principles of sustained yield, regulation of the cut, rotation, allowable cut. Administration of Crown and private timber via Timber Sales, Timber Sale Harvesting Licences, Tree-Farm Licences, Pulp Harvesting Areas. Inspections and supervision. Sloan Report. *Forest Act*. Stumpage appraisal—principles, methods, and application of estimations of value of standing merchantable timber. Forest land valuation. Integrated land-use policies.

45.321 Park Management

An introductory course in Park Management. Development and recreational use of areas designated as natural parks. Survey of outdoor recreation, history, and organization of agencies providing recreational activities in parks. Park development, planning, and design. Practical exercises in site analysis, planning, and design for specific uses. Park and natural-history interpretation. Park operation and administration.

45.322, 45.422 Wildlife Management I, II

The principles and practice of wildlife management, with particular reference to problems and procedures in British Columbia wildlife environments. The dynamics of wildlife populations. Methods of study. Harvesting. Regulations. Natural and artificial regulation of animal numbers. Diseases and parasites. The economics of wildlife, particularly in forest habitats. Extensive field study to support and extend lecture and laboratory material.

45.323, 45.423 Fish Management I, II

The biology of British Columbia fishes, including anatomy, taxonomy, physiology, behaviour, and ecology. Management aspects of fisheries, including population dynamics, habitat evaluation and improvement, harvesting, pollution and fishery regulations. Laboratories will deal with methodology as it applies to the above, and much of the training in this regard will be done in the field. Emphasis throughout is on the British Columbia situation.

45.326 Habitat Evaluation

A review study of the roles of geology, soils, climate, and vegetation in the formation and development of major habitat types in British Columbia, based on the framework of the biogeoclimatic zones of British Columbia. Evaluation of the effects of management practices on the maintenance and alteration of these habitats. Practice of the description and evaluation of any habitats in a report. Field identification and evaluation of habitats is aided by a five-day field trip to the central Interior of British Columbia.

45.327, 45.427 Projects

Special study seminars or projects designed to introduce students to current problems and solutions in resource management. Partial or complete involvement with potential employers will be encouraged.

45.402 See 45.302.

45.405 Log Production and Cost Control

Log-production planning and scheduling. Production and cost control. Cost analysis. Operations research techniques. Contracts and contract logging. Woods organization. Industry and Government relationships in logging, particularly as related to development and management of the related resources.

45.408 See 45.308.

45.409 Silviculture

Introduction to elementary silvics, silvicultural principles and systems. Natural and artificial regeneration, including site preparation, brush control, planting, seeding, and nursery practices. Planting surveys and crew supervision. Pesticides and their use. Silvical characteristics of major British Columbia species. Forest soils. Forest-stand types and relations to logging planning. Introduction to genetics and ecology.

45.410 See 45.110.

45.413 See 45.313.

45.421 Wildland Recreation Management

Assessment and development of wildland recreational areas outside of established parks. Recognition of recreational sites by aerial-photo interpretation of land forms. Private and public programmes in forest recreation. Land tenures and land acquisition for recreation. Wildland landscaping. Summer and winter sports area developments.

Water-oriented activities, wildland access problems and trail design, mountaineering, search and rescue.

45.422 See 45.322.

45.423 See 45.323.

45.427 See 45.327.

FOREST PRODUCTS

46.101 Forest Utilization

An introduction to the manufacture of forest products. Identification of British Columbia commercial tree species. Forest and integrated resource management and some aspects of logging are included. Field trips to forestry and industrial sites form an integral part of the course. This course is designed to assist students in their option selection entering into Term 2.

46.199 Special Projects

Designated as a replacement for the first term of chemistry for those students who commit themselves to the Wood Products Option in the first term. Included are log utilization and lumber tallying.

46.212 Pulp and Paper Fundamentals

An introduction to the commercially important pulping processes, with the emphasis on the kraft and mechanical systems.

Raw-material analysis includes water, fibre, and chemicals. The use of the microscope and an aid to manufacturing is covered.

Major and auxiliary items of mill equipment will be covered. The laboratory portion of the course is designed to equip students to undertake summer employment in a routine mill-testing function.

46.214 Lumber Manufacturing and Grading

Students will attend lumber-grading classes and write the industrial examinations. Practical grading and lumber manufacturing as it relates to grade recovery. Lumber tallying. Processing of wood in preparation for lumber

manufacturing—debarking; chipping, screening. Wood anatomy and wood growth. Natural wood defects and agents of deterioration. Strength of wood. Adhesives, coatings, preservation.

46.301, 46.401 Pulp and Paper Technology I, II

Alkaline pulping concerned mainly with the kraft process, chemical and heat recovery, bleaching, newsprint manufacture.

Pulp and paper instrumentation, with emphasis on the theory and application of process control, including computer control systems.

Pollution abatement technology—application of physical, chemical, and biochemical methods to reduce air and water effluents.

46.305, 46.405 Pulp and Paper Testing I, II

Standard laboratory techniques. Process control and product testing, including pulp viscosity, bleachability, screening and cleaning efficiency, and dirt count utilizing electronic test equipment. The study and application of advanced techniques in the physical, optical, and chemical evaluation of paper pulps and manufactured papers. Projects are undertaken in conjunction with the laboratory section of the Pulp and Paper Technology course. A large portion of this course will be devoted to pollution control testing.

46.315, 46.415 Wood Processing I, II

Lumber manufacturing and quality control; lumber-manufacturing machines and operating procedures; saws and alignment; log conversion and secondary manufacturing.

Lumber seasoning, plywood manufacture, and quality control; preservation and fire retardants; laminated woods; edge and end gluing; composition boards; millwork.

46.370, 46.470 Mill Services I, II

Cost analysis as applied to lumber manufacturing and converting plants. Case studies involving principles of supervision and industrial relations. Accident and fire-prevention programmes related to various types and sizes of mills.

Maintenance management programmes, as well as an introduction to the maintenance trades. Mobile equipment characteristics and pollution abatement.

A large portion of the time will be spent on specific assignments in manufacturing plants.

46.401 See 46.301.

46.405 See 46.305.

46.415 See 46.315.

46.470 See 46.370.

NATURAL GAS AND PETROLEUM

47.101 Introduction to Petroleum Hydrocarbons

Hydrocarbon families, alkanes, olefins, ring molecules, isomers. Hydrocarbon content of crude oils and classification. Phase behaviour of petroleum hydrocarbons at high pressures.

47.202 Petroleum Geology

Origin of petroleum. Historic and structural geology of petroleum reservoirs. Well logging. Construction of isopach and isochore subsurface maps. Porosity and permeability of rocks. Petroleum geology of Western Canada.

47.221 Distribution and Utilization (Gas)

City gate stations; regulation and odourization; high, medium, and low pressure distribution systems; network analysis; services; service regulators; meters; combustion stoichiometry; furnaces, boilers; installation codes; industrial and power utilization; corrosion control; peak shaving; storage.

47.311 Gas and Oil, Production and Transmission

Hydrocarbon 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; measurement; laws and regulations.

47.409 Process Dynamics

Measurement transducers, interface devices, indicators and recorders. Controllers and control functions. Dynamics of process systems, lumped parametric solutions. Upset solutions. Computer applications of system modelling.

47.431 Oil Refining and Utilization

Crude oil, distillation; cracking, thermal and catalytic; reforming; hydrogenation; oil products, product testing, storage, loading, combustion stoichiometry; oil and gas engines, oil burners.

INSTRUMENTATION AND SYSTEMS

48.100, 48.200 Process Measurements

Introduction, symbols, static characteristics, applications, dimensional analysis.

Weight—Units and standards, beams, spring balances.

Density—The hydrometer, Westphal balance, bubble-tube.

Level—Float, electrode, sonic, hydrostatic, and capacitance systems.

Pressure—Manometer, Bourdon gauge, bellows, diaphragm, Pirani and ionization gauges.

Dynamic response of instruments—First-order systems with step and linear inputs.

Flow—The venturi, nozzles, orifices, pitot tubes, rotameters, weirs, magnetic flow meters, turbine flow meters, volumetric flow meters.

Fluidics—Introduction; fluid dynamics; proportional devices; digital devices.

Temperature—Expansion thermometers, thermocouples, resistance thermometers, thermistors.

Shop practice—Precision machining and measurement of small items. Heat treatment, welding and soldering. Tube-bending and pipe-fitting.

48.200 See 48.100.

48.300, 48.400 Process Measurements

This course is essentially a continuation of 48.100, 48.200.

Force, torque, and strain—Mechanical, optical, electrical strain gauges, and load cells.

Humidity and dewpoint—Psychrometry, hygrometry, vapour equilibrium systems.

Viscosity—Rheology. Falling ball, variable area, capillary, rotating cylinder, and vibrating probe.

Gas analysis—Chemical absorption, thermal conductivity, paramagnetic, heat of combustion, and polarographic methods.

Electrolytic conductivity—Electrode and electrodeless.

pH—Dye and electrometric methods.

Spectrometry—Light sources, filters, dispersive elements, and detectors.

Chromatography—Separation and detection methods.

48.310, 48.410 Process Control

History of development. Concept of the process control loop.

Final control elements—Regulators and control valves, actuators, feedback concept, positioners.

Process response—Static and dynamic response, self-regulation, process time-constants, controllability.

Simple controllers—Two-position, single-speed floating and high-gain controllers, proportional control offset, speed of response.

Three-mode control—Proportional, reset, and rate actions in various combinations. Typical pneumatic and electronic controllers. Controller tuning and calibration.

Computer analysis—Process and controller analogues, special functions, typical control loop analogues, modelling and scaling.

Frequency response analysis—Gain and phase-shift characteristics in a control loop.

Special applications—Cascade, feedforward, and ratio control. Practical process layouts.

48.320, 48.420 Computer Techniques

Basic concepts—Types of computer. Hybridization. Use of components in instrumentation.

Analog components—Potentiometers, loading error, operational amplifiers.

Analog computer functions—Summation, integration, exponentials, multiplication, arbitrary functions, track-store, transportation lag.

Analog programming—Process analog, formula and modelling methods, scaling, repetitive operation, iteration techniques.

Digital systems—Number systems; coding systems; concept of OR, AND, NOT; gating methods.

Symbolic logic—Boolean equations, NOR and NAND logic, truth tables, algebraic and graphical methods of minimization.

Digital computer components—Flip flops, counters, shift registers, adders, multivibrators, memory, D/A and A/D conversion.

Digital programming—Computer organization, input-output systems, simple machine-language exercises.

48.330, 48.430—Plant Elective

Steam plant—Instrumentation graduates require only two months' boiler time to qualify for the 4th class steam ticket. This part of the course covers theory for the Provincial examination.

Instrument electronics—Some special applications in the use of electronics. Alarm and protection system, flow charts.

48.340, 48.440 Management Elective

Business—The market, supply and demand, corporation control, business law.

Finance—Reading a financial report, sources of money, the business firm and its costs.

Depreciation—"Straight line," "fixed percentage," and other methods; insurance.

Sales—Sales and advertising, servicing and warranty, inventory.

Management of people—Unions, collective bargaining, and public policy.

Feasibility—Estimating over-all costs of a new project.

48.350, 48.450 Process Instrumentation

An orientation course for students of other technologies. A comparative study of devices used to measure pressure, temperature, level, and flow. Flow sheets and symbols. Demonstration of static and dynamic responses. Applications to processing industries. Principles of process control, process reactions, and loop time-constants. Regulators, ON-OFF; proportional, reset and rate action. Multi-control loops, flow ratio and feedforward control. Applications, flow sheets, control problems. Introduction to digital techniques.

48.400 See 48.300.

48.410 See 48.310.

48.420 See 48.320.

48.430 See 48.330.

48.440 See 48.340.

48.450 See 48.350.

48.460 See 48.360.

48.E60, F60, G60 Medical Instrumentation

An orientation course for students from biomedical technology. Basic devices for measuring pressure, temperature, density, and flow. Concept of regulation and feedback control. A study of the principles of analysis instruments, using potentiometric, amperometric, and polarographic techniques; ultraviolet, visible, and infra-red spectroscopy; flame photometry; paper and column chromatography; electrophoresis and refractometric methods.

48.F60 See 48.E60.

48.G60 See 48.F60.

MECHANICAL

49.100 Mechanical Draughting I

Techniques of producing and reading mechanical drawings using standard format and the development of basic skills in applying these techniques. Use of instruments, line work, lettering, geometric constructions, with emphasis placed on orthographic projection, auxiliary views, sections, dimensions, and working drawings.

49.101 Draughting—Common Service Course

Techniques of reading and producing orthographic drawings using standard format and the development of basic skills in applying these techniques. Use of instruments, line work, geometric constructions, orthographic projection, isometric drawing and sketching, sections, dimensioning.

49.106 Engineering Concepts I

A study of applied mechanics and design concepts for non-Mechanical students. Topics include some metallurgy, forces, moments, couples, frames, beams, centroids, friction, and some elementary dynamics.

49.107 Applied Mechanics

(i) Statics. Vectors, force systems, concurrent and coplanar, nonconcurrent and coplanar. Graphical representation and solutions. Lami's Theorem. Ideas of equilibrium. Mathematical representation of equilibrium. Analysis of frames. Statically determinate structures. Redundancies. Beams, principle of moments, and centroids. Second moment of area. Theorems of parallel and perpendicular areas.

(ii) Dynamics. Kinematics. Basic equations of motion. Engineers and physicists units. Kinetics: Newton's laws. Problems involving space, velocity, and acceleration diagrams. Work, energy, and power. Impulse and momentum. Mechanical vibrations.

49.150 Production Engineering

Metal-cutting materials; mechanics of metal-cutting; single-point and multi-point cutting-tools; tool life and cutting speeds. Metal removal rates and power required with experimental work to demonstrate these principles. Costs and economics related to metal removal.

49.165, 49.265 Shopwork

Practical experience in the use and application of basic metal-cutting machine tools—engine lathe, drill press, shaper, milling machine, power saw, planer and precision grinder, layout and bench work.

Metrology—General concepts and principles of measurement. The use of standards. Graduated manual measuring-tools, dial indicators, gauges, micrometers, verniers, sine bar, etc.

49.200 Mechanical Draughting II

More-advanced techniques involving limits and fits, isometrics, descriptive geometry, intersections, developments, gears, threads and fasteners, weld symbols, and working drawings.

49.202 Draughting—Civil and Structural II

Intersections, developments, descriptive geometry, contours, sections, profiles, cut and fill problems. All treated in general on a project basis with C & S design procedures.

49.203 Draughting—Survey and Mining II

Techniques in ink; intersections and developments; dip, strike, and out-crop; contours; profiles; rights-of-way; mining and survey problems and projects.

49.204 Draughting—Chemical and Metallurgical and Forest Products

Intersections; developments; descriptive geometry; isometrics; piping diagrams; flow-sheets of typical mill processes; charts and diagrams; equipment layouts; field dimension and specifications.

49.206 Engineering Concepts II

Study of some of the basic principles required in engineering design. Solution of problems involving mechanics and strength of materials. Practical work to be carried out by the student in the engineering materials laboratory.

49.210 Strength of Materials

Study of stresses, strains, and deflections resulting from action of tensile, compressive, shear, and torsion forces on simple types of structural and machine elements. Consideration of beams, columns, shafts, thin-walled cylinders, riveted and welded joints. Laboratory testing of engineering materials and common machine elements.

49.225 Applied Heat and Introduction to Fluid Processes

Study of basic topics leading to engineering thermodynamics, including heat, energy, work; fluid properties, processes and systems, ideal gases, enthalpy and entropy; first and second laws of thermodynamics; Carnot engine and heat pump; standard air cycles; calorific values of fuels. Laboratory work will be carried out to supplement theory presented in lectures.

49.250 Production Engineering

The course deals with the mathematical approach to metal-cutting. The relationships of Tool Geometry. Chip compression ratio, tool forces, and tool life are considered. Learning as applied to machine tools and how automation skill, experience, and inexperience affect same. Simple production projects are carried out.

49.265 *See 49.165.*

49.266 Introduction to Machine Tools

A basic course designed to familiarize the student with shop tools and equipment and with shop terminology and established standards of workmanship. Demonstrations are carried out to provide a practical understanding of the subject.

49.267 Introduction to Machine Tools

The study of modern machine tools, with practical experience in their use and application. Costs and economics related to production.

49.300 Engineering Graphics

A study of advanced draughting practices and graphical solutions to engineering problems.

49.302 Civil Engineering Graphics

A special study of engineering graphics as applied in Civil and Structural Technology, involving road plans, profiles and sections; pipe services; pumping-stations; treatment plants; joint detailing; welded and bolted connections; dams. All work conducted on a project basis.

49.312 Machine Design

This course consists of a study of basic principles of machine design. Topics include stress analysis, design factors, stress concentration, notch sensitivity, and fatigue. Study of design is provided including practical design of beams and columns with axial and (or) transverse loading, belts, chain-drives, and gearing.

49.313 Production Mechanical Design

Emphasis is placed on application of basic design concepts to practical situations.

After a brief review of engineering materials and basic strength of materials formulæ, the course examines Mohr's circles of stress and strain; strain gauges; cyclic loading and stress concentration; threaded fasteners; components under combined loading-shafting; welded joints. An accompanying problem lab gives the students an opportunity to practise the material covered during lectures.

49.315 Fluid Mechanics

Principles of hydrostatics, including properties of fluids; pressure measurement; forces on submerged surfaces; fundamentals of fluid flow; flow through pipes, nozzles, and orifices; streamline and turbulent flow; flow measurement; flow distribution and pressure losses in pipe systems; application to fluid power systems.

49.325, 49.425 Thermal Engineering

Review of fundamentals of thermal systems. Study of steady-flow processes; thermodynamic properties of pure substances and of mixtures of liquids, vapours, and gases; energy sources and energy release; steam processes and power plants; centrifugal pumps and fans and associated systems; heat transmission, refrigeration and air-conditioning; air compressors and internal-combustion engines. Laboratory work includes investigation into fluid flow measurement, combustion of fuels, steam conditions and performance influences on machinery such as steam turbines and generators, heat exchangers, pumps, fans, refrigerators, air compressors, gas turbines and other internal-combustion engines.

49.350 Metrology and Quality Control

Interferometers and associated devices. Optical comparators, and measurement of surface texture and surface flatness. Air and electronic gauging procedures. Metrology of angles and screw threads. Use of precision measuring instruments. Fundamentals of inspection, lot-by-lot inspection and sampling continuous products. Installing such systems. Applying quality control in the plant. Mass-production gauging.

49.412 Machine Design

Basic principles derived in 49.312 are applied to various design elements. Topics include springs; roller bearings; power screws; spur and helical gearing; bevel and worm gearing; couplings, brakes, clutches; mechanical vibration, damping, critical speeds of shafts; systems having one and two degrees of freedom.

49.425 See 49.325.

49.435 Fluid Power

Energy transfer in bulk flow systems; hydraulic turbines and centrifugal pumps; fluid couplings and torque converters. Hydraulic and pneumatic power transmission and control systems; heavy-duty equipment and industrial applications. Introduction to fluidic control systems and logic principles.

49.445 Manufacturing Processes

Study of modern manufacturing processes, including the machines, materials, methods, and practices used in the mechanical industries; casting; welding; hot and cold forming; extruding; forging; die casting; stamping; and pressing. Course content is related to material covered in Engineering Materials and to training given in Shopwork 49.165 to 49.465. Field trips to appropriate local industries are arranged.

49.450 Production Engineering

Plant organization and management, plant locations and layouts. Labour management relations, personnel practices. Case studies. Inventory control, production control, maintenance control.

49.455 Tool Design

Study of tool design as related to manufacturing methods and requirements; tooling for production and gauging; standard tooling components and devices; consideration of drill jigs; press tools, punches, dies, and special devices.

49.465 Shopwork

The course will involve several projects which will act as vehicles to enable the students to process them through some of the more intricate machine-tools.

This will include study, processing, set-up, and operation of a jig borer machine, a numerically controlled drill, an omniversal milling machine, a universal milling machine, and a cutter grinding machine.

49.471 Mechanical Equipment

A study of mechanical equipment relating to the development, transmission, application, and control of power with particular reference to the wood-processing industry. References to types of prime movers, speed conversions, drives, bearings, hydraulic and pneumatic systems, and maintenance are included.

MINING

50.101, 50.201 Geology

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, non-metallics, ore deposits and their controls; geological history, pre-cambrian, paleozoic, mesozoic, tertiary, pleistocene; geologic maps.

50.102, 50.202 Mining

Nature of mineral industries, brief history, classification, search for economic mineral deposits, prospecting techniques; preliminary exploration methods; terminology; evaluation; production and treatment methods; recoverable unit value, smelter contracts, evaluation, sampling methods, weighted arithmetic mean, determination of average grade, ore reserves; the *Mineral Act*; exploitation of mineral deposits, planned systems of extraction, and classification of mining methods. In addition an introduction to some unit operations in mining, e.g., drilling and haulage.

50.201 See 50.101.

50.202 See 50.102.

50.301 Geology—Structural

Brief review of mechanical principles of rock deformation and of the primary structures of sedimentary, igneous, and metamorphic rocks. The origin, nature, and classification of joints, folds, and faults, with emphasis on their relation to mineral resources.

Laboratory work includes examination of specimens, methods of recording structural data, mapping and solution of structural problems, with emphasis on economic aspects.

50.302, 50.402 Mining—Operation and Equipment

Mining economics; cost components; selection and utilization of equipment: break-even ratio; breaking ground; ground support; ore- and waste-removal; development drives; examples of mining practice; control of water, drainage, grouting; ventilation; occupational hazards; *Mines Regulation Act*; mine organization.

Laboratory sessions; mainly field trips to mines and suppliers of mining equipment for familiarization with mining methods, systems, and equipment. Also sessions are given on power generation and distribution and electrical equipment for mine service, pumping, ventilation, V-belt drives, dust and noise control, hoisting, and compressed-air practice. Certificate in mine-rescue work can usually be obtained.

50.401 Geology—Mineral Deposits

The terminology, classification, manner of occurrence, distribution, and economics of mineral resources, with emphasis on typical Canadian occurrences. Ways of recognizing, discovering, and developing mineral deposits.

Laboratory work will illustrate and develop techniques in: megascopic study and identification of hand specimens; valuation of mineral deposits.

Field trips will be correlated with all classroom work in geology.

50.402 See 50.302.

SURVEYING

51.101, 51.201 Surveying

Introduction, types of survey; fundamental principles, accuracy and precision, errors and mistakes; measurement of distance, direction and elevation, calculation of latitude and departure areas and volumes; horizontal and vertical curves; use of plane tables, levels, compasses, theodolites, chains, and calculating machines; note-keeping and plotting of records; care, maintenance, and adjustments of equipment.

51.109, 51.209, 51.110, 51.210 Engineering Surveying

Fundamental concepts of surveying; measurement of distances, use of compasses, theodolites, plane tables, levels and chains, site surveys. Calculations relating to traverses, triangulations, areas, and volumes; obtaining, recording, and plotting topographic detail. Care, maintenance and adjustment of equipment.

51.110 *See* 51.109.

51.201 *See* 51.101.

51.203 Natural Sciences

Study of the forest flora of British Columbia; the characteristics of native trees, identifying features and common uses. *Elementary geology, including the study of rocks and minerals; geologic structures, general location and uses of common ores; soil classification and location.*

51.204 Introduction to Survey for Natural Gas and Petroleum Technology Students

Introduction to the theory of engineering survey; practical application of linear measurements; introduction to and theory of the theodolite; bearings and traverse computations; introduction to and theory of levelling; computation of areas and volume.

51.205 Introduction to Survey for Landscape

See 51.204.

51.206 Introduction to Survey for Building Students

Introduction to engineering survey; linear distance; introduction to the theory and use of the theodolite; direction, bearings, and angles; use of traverses in site engineering, areas and volumes; elevations, use and theory of the level; use of the plane table; simple circular curves.

51.209, 51.210 *See* 51.109, 51.110.

51.301, 51.401 Plane Surveying II

Generally deals with surveys which do not have to account for curvature of the earth.

Analysis of methods and instrumental errors, use of specialized equipment. Application of survey methods to engineering surveys, hydrographic surveys, mining surveys, legal surveys, and higher-order surveys.

51.302, 51.402 Geodetic Surveying II

Generally deals with surveys which take into account curvature of the earth; covers computations on the ellipsoid, triangulation, trilateration, trigonometric levelling, geodetic astronomy, co-ordinate systems, gravity, geodetic levelling, satellite geodesy, electronic surveying.

51.303, 51.403 Computation II

Theory of map projections, basic formulæ of deformation, various used projections, U.T.M., 3T.M., polyconic projection.

Theory of errors and the method of least squares, adjustment of direct observations, indirect observations and conditional observations, least squares in matrix notation.

51.304, 51.404 Field Surveying II

Deals with the field methods used in conjunction with plane and geodetic surveying and is done in conjunction with these subjects; 51.304 consists mainly with the students learning how to use the different instruments, and 51.404 mainly with practical projects making use of these.

Projects are aimed at engineering hydrographic, mining, legal, and precise surveys and include some triangulation and trilateration work.

51.305 Draughting

Application of draughting fundamentals to preparation of plans for, preliminary plans, construction plans, "as built" plans, subdivision plans, highway and other right-of-way plans, posting plans, and plans and field-notes under the *Land Act* and *Mineral Act* in accordance with the General Survey Instructions to British Columbia Land Surveyors.

51.306, 51.406 Astronomy

Introduction to practical astronomy; spherical trigonometry; the celestial sphere; the astronomical triangle; universal time, mean solar time, sidereal time; the ephemeris and star almanacs; instruments used in solar and stellar observations; star identification; observations for latitude; observations for time and longitude; observations for azimuth.

51.307, 51.407 Photogrammetry

Introduction to photogrammetry; horizontal photographs, aerial photographs; cameras; flight planning for vertical photography; determination of scale; mapping from aerial photos; mosaics, principle of stereo-vision; determination of heights from aerial photos; photo interpretation; route reconnaissance; radial-line plotting; oblique photos; plotting machines.

51.308 Description for Deeds

Purpose and characteristics of descriptions; systems of survey, township system and district lot system, the preamble; the correct use of the words "more or less"; descriptions by adjoiners, description by aliquot parts, descriptions by metes and bounds, descriptions by exceptions, descriptions of rights-of-way by means of centre line; plans to accompany descriptions; Land Registry Office procedure, strata and space titles.

51.309, 51.409 Surveying for Civil and Structural Technology

Application of survey methods to construction surveys, topographic surveys; triangulation; base-line measurement, use of electronic measuring devices; route surveys, including preliminary profile and cross-sections, calculation of quantities and volumes, and plan preparation; site surveys, including horizontal and vertical control; bench-mark levelling and adjusting of nets; calculation of areas, volumes, closure, circular curves, transitional curves, and vertical curves; elementary photogrammetry applied to planning, site surveys, route surveys, grades, and quantities.

51.310, 51.410 Surveying for Mining Technology

Application of survey methods to underground surveying; illumination of stations; use of mining transits, connecting surface and underground surveys, location and control of tunnels, construction of plans and sections related to mining, elementary astronomy, elementary photogrammetry applied to mining, stope surveys and quantity calculations. Mining Acts related to surveying.

51.311, 51.411 Surveying (Photogrammetry Option)

Control surveys by triangulation, trilateration, and traversing; indirect optical distance measurement; electro-magnetic distance measurements; the gyro-theodolite; trigonometrical and barometric levelling.

51.315, 51.415 Cartography

Lettering and scales, diagrams; grids and graticules; symbolization (national map series); scribing; type patching; surround detail; topographical cartography; draughting materials and specifications.

51.317, 51.417 Photogrammetry

The geometry and physical nature of the photograph; the survey camera; mapping from single photographs, radial triangulation and plotting; stereo-scopy and height determination from parallax bar measurements; stereo-plotters and their operation; aerial triangulation; ground control; field completion; oblique photographs; terrestrial photogrammetry; air-photo interpretation; the organization of photogrammetric operations.

51.401 *See* 51.301.

51.402 *See* 51.302.

51.403 *See* 51.303.

51.404 *See* 51.304.

51.406 *See* 51.306.

51.407 *See* 51.307.

51.409 *See* 51.309.

51.411 *See* 51.311.

51.415 *See* 51.315.

51.417 *See* 51.317.

MEDICAL LABORATORY

70.A01 Medical Laboratory Orientation

A critical review of the basic theory and use of microscopes.

70.B01 Medical Laboratory Orientation

An introduction to principles and use of precision instruments and equipment.

70.C01 Medical Laboratory Orientation

The principles and procedures of volumetric analysis.

70.E02 Instrumentation in Clinical Chemistry

This course, designed primarily for the medical laboratory technologist, emphasizes the application of the following instruments: photometers and colorimeters, flame photometers, auto-analysers, fluorometers, etc. The use, care, and calibration of the instruments used in the clinical chemistry laboratory are taught, using biological specimens to demonstrate techniques involved.

70.E03 Hæmatology

Consists of a study of the composition of blood and the blood-forming tissues with emphasis placed on normal levels and functions; and an introduction to coagulation mechanism.

70.E04 Histology

The morphology of human cells, tissues, and organs. Emphasis is placed on the preparation of tissues for microscopic examinations: methods of fixation, embedding, sectioning, staining, and mounting.

70.E05 Microbiology and Parasitology

Introduction to principles and procedures of bacteriology and parasitology. Detailed study of laboratory procedures in clinical microbiology.

70.E08 Introduction to Clinical Laboratory Procedures (for Health Data Technology students)

An introduction to clinical laboratory procedures in the fields of Clinical Chemistry, Urinalysis, Hæmatology, Histology, and Blood Banking; for the purpose of interpreting laboratory reports in reference to conducting a medical audit.

70.F03 Hæmatology

Consists of detailed studies of cell series; abnormal levels and functions found in peripheral blood and in bone marrow; the anæmias; abnormal hæmoglobins; and special test procedures.

70.F05 Microbiology and Mycology

Introduction to principles and procedures of mycology. Detailed study of laboratory procedures in clinical microbiology.

70.F06 Biochemistry and Physiology for Medical Laboratory Technologists

Physiological, anatomical, and biochemical processes of interest to the medical laboratory technologist. Particular reference is made to the urinary and respiratory system.

70.F07 Blood Banking

Involves the study of the principles of blood grouping, inheritance of human blood groups; immunity, and general methodology and techniques utilized in the identification of human blood group antigens and antibodies. Records and controls.

70.F12 Clinical Chemistry

Principles, practice, and techniques of analysis of serum for nitrogeous substances. Emphasis is placed on the specific chemical principles, sources of error, and the practical and theoretical aspects of these procedures in both health and disease states.

70.G03 Hæmatology

Includes an introduction to the leukæmias; special test procedures; certain infectious disorders; and a detailed study of coagulation and test methods.

70.G05 Clinical Bacteriology

Introduction to principles and procedures of virology. Detailed study of laboratory procedures in clinical microbiology.

70.G07 Blood Banking

Specific methodology for the most important blood group systems encountered. Investigation studies for pre- and post-blood transfusions, fetal-maternal incompatibilities, donor blood selection, screening, collection, and storage. Utilization and minimum acceptable standards for whole blood and blood products.

70.G12 Clinical Chemistry

Designed for the medical laboratory technologists to enable them to become familiar with procedures for manual and automated methods for assaying serum, C.S.F., urine and faecal specimens. Emphasis is placed on the sources of error, techniques, and principles of procedures for non-nitrogenous substances in both health and disease states.

MEDICAL RADIOGRAPHY

72.A01 Introduction to Medical Radiography and Orientation

This course will acquaint the student with the activities of the X-ray department and the role of a radiographer. A study is made of the application of basic factors in producing a radiograph. During this term the student spends time in the X-ray department of one of the affiliated hospitals. Familiarization tours are made of the various departments within the hospital. The student is made familiar with the day-to-day operation of the X-ray department.

72.A02 Apparatus and Image Recording

This course introduces the student to the standard equipment used in the production of a radiograph. Fundamentals of the photo-recording system are introduced. Also studied are the basic factors of X-ray exposure, transformers, simple electrical controls, X-ray film construction, and the various film holders. Laboratory work related to all of these is included.

72.B01 Basic Medical Radiography

The student becomes familiar with the fundamentals involved in setting up a technique chart and the evaluation of the patient with regard to body habitus. Basic radiographic positioning in the examination of the upper and lower extremities is studied.

72.B02 Not allocated

72.B03 Radiographic Anatomy and Physiology

This is a detailed study of the formative and mature human skeleton. The individual bones of the upper and lower extremities, the bony thorax, the vertebral column, and the skull are considered. Included in the study are the surface landmarks and radiographic appearances of each of the bones and joints.

72.C01 Basic Medical Radiography

Basic radiographic positioning in the examination of the vertebral column, skull, and thoracic cage are studied. Considerable time is spent in the X-ray laboratory practising radiographic technique. Phantoms are utilized.

72.C02 Apparatus and Image Recording

Rectification, control circuits, and X-ray tubes comprise the apparatus studied in this course. The image-recording portion covers sensitometry and all aspects of radiographic processing. This includes developers, replenishers, fixers, ancillary chemicals, deep-tank, and various automatic processing systems.

72.C03 Radiographic Anatomy and Physiology

The organs, vessels, and other nonbony parts of the head, neck, chest, and abdomen are studied in this course. In addition to the specific structure and location of each component, emphasis is also placed upon the functions of structures as they relate to radiography.

72.E01 Radiographic Technique

This course, given concurrently with 72.E06, covers, in detail, routine radiography of the digestive, urinary, and biliary systems. Special techniques related to the skeletal system are studied. Instruction is given in the use of contrast media.

72.E02 Apparatus and Image Recording

The apparatus studied in this course comprises nonstandard equipment such as tomographic, fluoroscopic, photofluorographic, rapid-serial exposure, dental radiographic, and mobile units. The radiographic image is studied in detail. Included are storage and retrieval, illuminators, and photographic recording equipment such as still, rapid, and motion-picture cameras. Specialized image processing is covered. This includes videotape recording, disk, drum and tube storage, photographic reproduction, subtraction and image-enhancement methods.

72.E05 Radiobiology and Protection

A study is made of ionizing radiation and its interaction with matter. The röntgen, rad, and rem and their measurement are studied. Permissible exposures and their rationale are considered.

72.E06 Clinical Experience in Medical Radiography (Hospital)

This course runs concurrently with 72.E01. The student acquires a basic knowledge of medical radiographic techniques by applying classroom and laboratory training in actual clinical situations in the affiliated hospitals.

72.F01 Radiographic Technique

This course, given concurrently with 72.F06, provides instruction in radiographic procedures in examination of the skull, in detail. Included also is instruction in special procedures.

72.F02 Apparatus

This course includes the study of image amplifiers and closed-circuit television equipment. X-ray department planning and equipment faults are covered.

72.F05 Radiobiology and Protection

The mechanism of radiation injury is studied. Somatic and hereditary injury are considered. The operating procedures and equipment which will reduce radiation exposure to both operator and patient are covered in detail.

72.F06 Clinical Experience in Medical Radiography (Hospital)

This course runs concurrently with 72.F01. The student applies the more advanced classroom and laboratory training in the clinical situation.

72.F07 Pathology for Medical Radiographers

A study is made of the common pathological conditions which can be diagnosed radiologically.

72.G01 Radiographic Technique

This course, given concurrently with 72.G06, covers in detail paediatric radiography and special radiographic procedures.

72.G06 Clinical Experience in Medical Radiography

This course runs concurrently with 72.G01. The student acquires a broad knowledge of medical radiographic techniques by applying classroom and laboratory training in special procedures in actual clinical situations. The student also acquires more clinical experience in basic radiography.

72.G07 Pathology for Medical Radiographers

A study is made of the effect of pathology upon the technical factors used in radiography. During this term the student is taught to make a critical assessment of film quality as it is affected by pathology.

NUCLEAR MEDICINE

74.B07 Introduction to Nuclear Medicine

This course provides the student with an introduction to Nuclear Medicine and its scope and role in the field of diagnostic and therapeutic medicine. The basic concepts of how and why radiopharmaceuticals yield diagnostic information are discussed and illustrated. The student gains basic knowledge of the biological hazards of radiation. Radioactive contamination and its avoidance and containment are discussed. National and international regulations regarding the procurement, storage, handling, shielding, monitoring, and disposal of radionuclides are studied. Pertinent terminology is taught throughout the course.

74.C07 Introduction to Nuclear Medicine

This course provides the student with a complete study of the production, quality control, and storage of radio-pharmaceuticals currently in use. The mechanisms of localization of radionuclides both in vivo and in vitro are discussed. Future trends in Nuclear Medicine techniques are considered. Study is made of the calibration and decay of radionuclides. The types and uses of radioactive "standards" are covered, along with other basic aspects of radiopharmaceutical assay.

74.E04 Applied Physiology in Diagnosis and Therapy

In this course, and 74.F04 and 74.G04, the student is instructed in all aspects of the current applied physiology, including criteria, methodology, patient problems and approach, data collection and manipulation, etc.

Subjects covered specifically in this course include the thyroid gland, hæmatological studies, and the renal and hepatic systems.

74.E05, 74.F05, 74.G05 Clinical Experience in Diagnostic and Therapeutic Procedures

This course runs concurrently with 74.E04, 74.F04, and 74.G04. The student acquires a broad knowledge of nuclear medicine techniques by applying classroom and laboratory training in actual clinical situations in affiliated hospitals and clinics.

74.E06, 74.F06 Pathology for Nuclear Medicine Technologists

This course provides the student with a basic knowledge of human disease and the associated terminology. The causes of disease are studied. Emphasis is placed on those conditions likely to be encountered by the student in his role as a nuclear medicine technologist.

74.F02 Radiobiology and Protection

A detailed study is made of ionizing radiation and its interaction with matter. The roentgen, the rad, and the rem are studied. Primary and secondary guide levels and their rationale are considered in detail, as well as the estimation of safe working procedures in special situations.

74.F04 Applied Physiology in Diagnosis and Therapy

This course follows 74.E04. The areas covered include the central nervous system, the respiratory and skeletal systems; the G.I. tract and the pancreas.

74.F05 See 74.E05.

74.F06 See 74.E06.

74.F08 Image Recording in Nuclear Medicine

This course is designed to familiarize the Nuclear Medicine Technology student with the many methods and materials used to visually display the spatial distribution of radioactivity in nuclear imaging procedures. The utilization of optical, photographic, video tape, and computer visual displays will be covered in theory and practice.

74.G02 Radiobiology and Protection

The interaction of ionizing radiation with living systems is studied. The basic principles of radiation therapy and radionuclide dosimetry are considered.

74.G04 Applied Physiology in Diagnosis and Therapy

This course follows 74.E04 and 74.F04. It deals with the cardiac system, eye tumour localization, and the parathyroid glands. Therapeutic measures using radiopharmaceuticals are also included. Considered are the newer techniques and advances such as activation analysis and radioimmunoassay. A complete review of the Applied Physiology course, i.e., 74.F04, 74.F04, and 74.G04, will be presented.

74.G05 See 74.E05.

NURSING

76.A09, 76.B09 Human Growth and Development

This course provides the student with knowledge of normal physical and emotional behaviour. The course is comprised of class discussion and observational periods in community agencies.

76.A20 Nursing I

This course is designed to introduce the student to the concept of health as a dynamic process in which physical, emotional, and social factors unite to form a state of health equilibrium. Mild disequilibrium as it relates to comfort, exercise, and nutrition will also be introduced.

76.A25 Experience for Nursing I

This course involves the student in the practice of basic health concepts and manual skills. Experience with individuals, families, and other members of the health team, both in the community and hospital, will be provided.

76.B20 Nursing II

This course examines the factors contributing to maintenance of health equilibrium. Mild disequilibrium related to safety, hydration, elimination, work and leisure, rest, sleep, and oxygen will also be introduced. Concepts from growth and development, the family, and community dynamics will be integrated throughout the course.

76.B25 Experience for Nursing II

This course involves the student in applying manual skills related to minor disequilibrium and practising the nursing process with individuals and families, both in the community and hospital.

76.C02 Fundamentals of Patient Care

This course assists the student to understand the hospital environment and the health problems of the patient. Emphases will be placed upon observation and communication appropriate for the nuclear medicine technologists. The nursing laboratory will be used to practise basic technical skills and procedures required in emergency situations.

76.C30 Nursing III

This course is designed to focus upon the coping behaviours in health disequilibrium. The nursing process will be used to assess and plan nursing intervention required for inflammation, obstruction, pain, fever, hypoxia, and immobility.

76.C35 Experience for Nursing III

This course is designed to provide the student with an opportunity to apply the nursing process and begin to evaluate the effectiveness of his/her planning and intervention, in hospital settings. Manual skills will be reinforced and new skills will be learned.

76.D26 Physical Fitness

This course is designed to assist students to improve their physical fitness and to learn simple body-defence techniques.

76.D30 Nursing IV

This course is designed to focus upon consolidation of the theory in the nursing process as it relates to physical, psychological, and social disequilibrium. Crisis intervention theory will be introduced and analysed.

76.D35 Experience for Nursing IV

This course is designed to provide the student with an opportunity to apply the nursing process and demonstrate competence in all previously learned skills. An opportunity to learn new skills associated with some crisis situations will be provided.

76.E01 Fundamentals of Patient Care

This course assists the student to function effectively in the hospital. Emphases will be placed upon observation, communication, and the recognition that the patient and his health problems are the foci of activities of all members of the health team. Basic technical skills will be practised in the nursing laboratory.

76.E02 Introduction to Pharmacology

This course is designed to familiarize the student with common drugs and acceptable abbreviations used in the health field. The legal implications of drug usage are also discussed.

76.E30 Family Care Nursing

This course is designed to focus upon the physiological, psychological, and social adjustments which occur to individuals and expectant families during child-bearing. Some emphasis will be placed upon nursing intervention in high-risk situations involving mothers, babies, and their families in crisis.

76.E35 Experience for Family Care Nursing

This course provides the student with the opportunity to apply the nursing process and related manual skills when caring for the expectant mother, father, and the newborn in normal and crisis situations. Experience in doctors' offices, health agencies, and hospitals will be provided.

76.E39 Community Nursing

A study of the role of the nurse in the planning and provision of health care in the community. Selected handicapping conditions of children and adults are viewed in terms of presenting problems, family dynamics, principles of rehabilitation, pathophysiology of the condition, community resources, and nursing interventions. Emergency care and accident prevention are presented as vital components of nursing responsibilities in the community.

76.E40 Mental Health Nursing

This course is designed to focus upon mental health concepts which will enable the student to identify the role of the nurse in assisting people to cope with social and emotional disequilibrium. Some emphasis will be placed upon nursing intervention required in crisis situations.

76.E41 Psychiatric Nursing I

This course introduces the basic concepts of psychiatric nursing; providing the student with an understanding of communication, theory, personality development, and the nursing process as they apply to psychiatric nursing.

76.E44 Clinical Experience for Community Nursing

A supplement to 76.D39, Community Nursing, this course stresses the utilization of the nursing process in the assessment of health care and provides the opportunity to visit and assess community agencies, to visit the homes and communities of handicapped individuals and their families, to interview children and adults concerning their health, to observe the family physician as he interacts with children and adults, and to participate in health teaching and counselling.

76.E45 Experience for Mental Health Nursing

This course is designed to provide the student with an opportunity to practise interpersonal communication skills. The nursing process will be used to assist individuals to learn to cope with emotional and social disequilibrium and some crisis situations. In addition to working in acute-treatment centres, field trips and home visits will be included.

76.E46 Experience for Psychiatric Nursing I

This course provides clinical practice in long-term psychiatric treatment areas. Emphasis is placed upon the development of skills of observation, assessment, and communication.

76.E47 Neuroanatomy and Physiology

Students will study the anatomy and physiology of the human brain and nervous system, with special reference to those areas which have health implications.

76.E50 Medical-Surgical Nursing

This course is designed to focus upon the nursing intervention required in medical and surgical crises situations for both children and adults. Previously learned concepts such as obstruction, inflammation, hæmorrhage, stress, grief, and loss will be applied to crisis situations.

76.E55 Experience for Medical-Surgical Nursing

This course is designed to provide an opportunity for students to apply the nursing process and related manual skills to medical surgical crisis situations in hospitals.

76.F41 Psychiatric Nursing II

This is a study of patterns of behaviour or learning disorders which indicate that a state of disequilibrium exists between the individual and his environment. Patterns for both children and adults are considered.

76.F46 Experience for Psychiatric Nursing II

The student is expected to integrate his/her knowledge of behaviour patterns and skills in communication while practising in a variety of psychiatric settings.

76.F47 Psychology of Learning

This course introduces concepts of learning theory as they relate to the understanding of human behaviour. Principles of learning, motivation, problem-solving are considered.

76.G11 Basic Theatre Techniques

This course is designed to offer experiences in theatre techniques which will include self-expression exercises, theatre games, and body awareness. This course provides basic skills which can be applied to a variety of psychiatric treatment settings.

76.G26 Recreation and Activity—Nursing Tools

This course explores the use of recreation and planned activity by the psychiatric nurse in working with people who have mental health problems. The student will be required to plan and participate in a variety of activities enabling him/her to explore the therapeutic value for patients.

76.G30 Self-awareness

This course will consist of structured group situations designed to teach various techniques of relaxation and awareness.

76.G41 Psychiatric Nursing III

The student studies the major psychiatric theories and forms of treatment as they relate to an understanding of behaviour and to psychiatric nursing.

76.G47 Experience for Psychiatric Nursing III

The student is expected to assume responsibility for planning, implementing, and evaluating nursing care for patients in a variety of mental health centres. Emphasis will be placed upon the development of effective group skills.

76.H70 Advanced Nursing

This course is designed to focus upon the responsibilities of a beginning-nurse practitioner. Emphases will be placed upon group dynamics in the work-setting, organizational skills, legal implications, and professional responsibilities. Career opportunities and changes in nursing education and nursing practice will also be discussed.

76.H75 Experience in Advanced Nursing

This course involves the student in clinical practice in an area of her choice. In addition to using the nursing process and reinforcing and learning new skills, an opportunity is provided to assume some of the functions of a beginning practitioner.

BIOMEDICAL ELECTRONICS

78.E01, 78.F02, 78.G03 Biomedical Electronics

This course, taken concurrently with courses in the life sciences and mathematics, provides familiarity with the instrumentation associated with the electronic recording and measurement of biological and related signals.

78.F02 See 78.E01.

78.F04, 78.G05 Practical Experience in Biomedical Electronics

During quarters F and G, students gain practical experience in biomedical electronics and related fields while working under supervision at a number of local hospitals, research agencies, and private companies.

78.G03 See 78.E01.

78.G05 See 78.F04.

HEALTH DATA

80.A01 Introduction to Health Record Science

Unit A—This unit introduces the student to the principles underlying health record science. Special areas of consideration include orientation to the health care delivery system, hospital organization, hospital accreditation, the development and nature of source-oriented records, introduction to the problem-oriented record, quantitative analysis of health records, function of the medical record department in health care organizations, and an analysis of the health record practitioner according to classification and responsibilities.

Unit B—An introductory unit to the concepts of disease processes which includes basic rules of medical terminology, medical specialties, operative terminology, medical abbreviations, and the problem-solving approach in pathophysiology. Diseases studied follow the body by areas involved.

Unit C—This unit gives the student practice in setting up medical reports for transcription and answering letters of request pertaining to health data.

80.B01 Health Record Science

Unit A—Study of medical information flow, storage, and retrieval, including numbering and filing systems, record retention, and microfilming. Also studied is the medico-legal aspect of health records, Medical Staff Committees, and the role of the Health Data Technologist therein, and a comprehensive examination of the responsibilities and procedures of a Medical Record Department.

Unit B—Concepts of disease processes are studied further.

Unit C—Transcription systems are studied, as well as practice transcribing introductory level medical and surgical dictation.

80.C01 Health Record Science

Unit A—Management of medical information processing, including analysis and practice in the most current coding systems, including H-ICDA and SNO MED, and manual and computerized indexing.

Unit B—Concepts of disease processes study completed.

Unit C—Practice in medical/surgical transcription.

80.E01 Health Record Science

A problem-solving approach to medical record department management studied in depth, focusing on such areas as specialized hospitals and their medical record departments (psychiatric, rehabilitative, extended-care), current trends in health care (community health centres, emergency departments' changing role, the problem-oriented system, record linkage, universal numbering system), the health data technologist's role in evaluation of patient care (through medical and nursing audit, Canadian Council on Hospital Accreditation), and the basic principles of medical record department administration.

80.E02 Health Statistics

This course defines health statistics and examines their collection, analysis, and presentation, using both manual and data processing retrieval systems. Included is the tabulation and interpretation of health data, with subsequent preparation of statistical reports in table, chart, and graphic form.

80.E04 Medical and Surgical Transcription

Practice transcribing medical, pathological, and surgical dictation for health records.

80.F01 Health Record Science

Application of health record science principles as studied in 80.E01 through term papers, seminars, and projects.

80.F02 Health Statistics

Continued study of health statistics, with emphasis on the practical application (through student activities) of data retrieval, interpretation, and presentation.

80.F04 Medical and Surgical Transcription

Practice transcribing varied advanced-level medical reports. Latest methods and equipment for transcription studied.

80.G01 Health Data Practicum

Practical experience in the medical record departments of local general and specialized hospitals, under the supervision of the Director of Medical Record Services and a faculty member. *The student spends two intramural sessions of four weeks each in various hospitals for a total of eight weeks' practicum. (One week is spent after each practical session in comparative analysis and discussion of the health record procedures in the hospitals).* The final week of the quarter concentrates on a general health record science review in preparation for the final comprehensive examination.

ENVIRONMENTAL HEALTH SERVICES

82.A01, 82.B01 Public Health Inspection

This course will provide the student with a knowledge of duties and responsibilities in governmental organizations. A detailed review of related environmental and health legislation will be covered, as well as the division of control and authority at the Federal, Provincial, and local levels. Control techniques and methodology used by governmental organizations is stressed.

82.B02 Food Sanitation

An introductory course in sanitary practices and inspection techniques associated with the production, processing, and distribution of food. Visits are made to food premises.

82.C10 Draughting and Blueprint Reading

Fundamental introduction to draughting: lettering, oblique and isometric, perspective presentation techniques, charts and graphs, topographic maps, subdivisions, plan and profile of sewer systems, etc. Fundamental introduction to blueprint reading: *principles of design of buildings, food processing plants, swimming-pools, camp-sites; plumbing, ventilation, lighting, acoustics, floor and building layouts.*

82.C11 Private Water and Waste-disposal Systems

An introductory course which examines the means, methods, and the design and construction of facilities required to provide adequate potable water and sewage disposal in areas where municipal treatment systems are not available. Associated health hazards, protective measures, and how to solve problems encountered in individual systems will be considered. Further topics will include the characteristics of, and disposal methods for, agricultural wastes.

82.E04 Public Health Administration

The theoretical aspects of public health administration will be examined, showing the administrative philosophies from the classical school of administration to present-day philosophy. These administrative concepts will be dealt with as they apply to the functioning of governmental agencies and health departments. Particular reference will be made to Canadian governmental organization.

82.E08 Communicable Disease Control

This course is designed to provide the student with a sound knowledge of the natural history, spread, and control of communicable diseases. Emphasis is placed on specific diseases of Provincial and national importance and on epidemiological methodology.

82.E11 Hydraulics, Hydrology, Surveying

Hydrostatics, properties of fluids, pressure; flow of fluids, velocity head, venturic jets, orifices, wires, water hammers; flow laminar and turbulent meters, valve pumps. The application of precipitation data to various run-off areas, measurement of storage and flows, characteristics of open channel and pipe flows, hydraulics in treatment plant design. Surveying.

82.E15 Industrial Hygiene and Toxicology

An introduction to the ways and means of anticipating and recognizing potentially harmful situations. The course will cover topics such as types of surveys, industrial hygiene records and reports, human engineering and industrial safety sanitation, the mode of entry and action of toxic materials, pulmonary dust diseases and occupational dermatosis.

82.F05 Environmental Health Relations

This course examines the inter-relationships and interactions between various government departments, agencies, and corporations. Additionally, the forces which underlie the social behaviour of groups, large organizations, and communities will be examined. Interpersonal relations in the work-setting will be exemplified through the practical application of public health education and the interaction of organized men in the environmental health field.

82.F07 Industrial Chemical Processes

This course is designed to give the student an overview and familiarity of the various chemical processes used in industry; the chemicals used, chemical reactions, products manufactured, waste products and pollutants produced, and the hazards to personnel. Students will make field trips to selected industries.

82.F11 Municipal Water and Sewage-treatment Systems

This course is designed to familiarize the student with the field of municipal water supplies, including protection, treatment, and distribution, and associated problems. Various methods of municipal sewage treatment, the collection system, characteristics of domestic and industrial wastes, and treatment and disposal problems will be studied. Cost factors will be considered.

82.F15 Industrial Hygiene and Toxicology

This is a continuation of the course 82.E15. It will cover the following areas—fire and explosion hazards of combustible gases, vapours, and dusts; physiological effects of abnormal pressure; noise and hearing conservation; radiant energy, lighting, and the control of heat and its effects on workers.

82.G02 Food Sanitation

An examination in depth is made of the production methods of the main classifications of food, i.e., milk and milk products, meat, poultry, fish, baked goods, etc. Related sanitary control measures are studied. Visits are made to appropriate production plants.

82.G06 Applied Environmental Health—Personnel Administration

An introduction to the fundamental procedures of personnel management as applied to the public health organizational complex. Particular emphasis will be placed on individual interaction within the structure and techniques used to obtain the maximum effectiveness and efficiency of public health personnel.

82.G14 Environmental Health and Engineering

This course will cover a number of topics relevant to the field of environmental Public Health. Topics included will be Insect and Rodent Control, Solid Waste Disposal, Emergency measures, Camp and Recreational sanitation, Housing, Environment and Community planning.

82.G15 Air Pollution Control

Emphasis will be placed on the application of engineering control measures to prevent possible injury of persons working in industry. Areas considered are sampling analysis and evaluation of atmospheric contaminants, air conditioning and cleaning, ventilation, air pollution, control equipment, and the effects of air pollution.

BASIC HEALTH SCIENCES

98.A01, 98.B01, 98.C01 Human Anatomy and Physiology

This course is a systemic approach to the study of human anatomy and physiology. In the first quarter there will be an introduction plus a discussion of the skeletal and muscular system. The second quarter will focus on the nervous, circulatory, and respiratory systems. The digestive, urinary, and reproduction systems will be covered in the third quarter.

98.A03, 98.B03 Human Anatomy and Physiology for Biomedical Electronics Students

A study of human anatomy and physiology carried out by a consideration of the body systems. During the first quarter, attention is given to the structure and function of cells, tissues and the skeletal, muscular and nervous systems. The remaining body systems are considered during quarter B.

98.A05, 98.B05 Basic Anatomy and Physiology for Radiographers

A study of the fundamentals of human anatomy and physiology. Included in the course are the basic principles of physiological chemistry.

98.A06, 98.B06 Physiology

This course deals with those aspects of physiology which are indicated by the requirements of clinical applications. Anatomy commensurate with these physiological requirements is also included.

98.A07, 98.B07, 98.C07 Human Anatomy and Physiology for Health Data Technology Students

The course provides a basic knowledge of anatomy and physiology. It relates this knowledge to medical terminology used by health data technologists and to other aspects of their work, e.g., pathology, operative procedures, and coding.

98.A21, 98.B21 Introduction to Behavioural Sciences

This course provides the student with basic knowledge of behavioural science as it pertains to medical sociology and areas of individual concern. Emphasis is placed on the understanding and problem-solving of actual situations that the health technologist is likely to encounter in the working environment.

98.A22 Introduction to Behavioural Sciences

Same content as 98.A21 and 98.B21.

98.A23, 98.B23 Organizational Psychology

A study of organizational psychology as it pertains to health care organizations. Emphasis is placed on developing knowledge and skills to enable the medical records technologist to communicate, supervise, and evaluate in the medical records work situation.

98.A27 Introduction to Sociology

An introduction to the scope and methods of sociology as well as to basic concepts of the discipline. Emphasis is placed on the study of the family as a social institution, particularly the structure and functions of the family in Canada. Considers the nature of community organization and of social change and planning.

98.A44 Introductory Medical Microbiology

This course introduces the student to basic microbiological concepts, such as distinguishing characteristics of micro-organisms, methods of controlling infectious disease, and host-parasite relationships.

98.A45, 98.B45, 98.C45 Medical Microbiology and Epidemiology for Health Data Students

This course deals with the basic characteristics of the various types of micro-organisms that cause disease in man. The concepts of communicability and host resistance are included. The epidemiology of specific infectious diseases is covered, especially in Quarter C.

98.A82, 98.B82 Public Health and Pollution Control Microbiology

This course is designed to introduce the student to those areas of microbiology that he will use in his daily work. The areas include structures and physiological characteristics of bacteria, viruses, and fungi and their significance as related to food, water, sewage, and waste disposal.

98.B01 *See* 98.A01.

98.B03 *See* 98.A03.

98.B05 *See* 98.A05.

98.B06 *See* 98.A06.

98.B07 *See* 98.A07.

98.B09 Introduction to Psychology

Provides the student with an introduction to the basic concepts and concerns of contemporary psychology. In addition, research methods and a number of the more prominent theories of human behaviour will be considered. Particular emphasis will be placed on the relationship of the above to the problems of health care delivery.

98.B21 *See* 98.A21.

98.B23 *See* 98.A23.

98.B45 *See* 98.A45.

98.B82 *See* 98.A82.

98.C01 *See* 98.A01.

98.C03 Medical Genetics

A course designed to teach the paramedical student the basic principles of human genetics. By the use of actual examples, the various mechanisms in the transmission of genetic traits are discussed and include dominant, recessive, intermediate and sex-linked inheritance; chromosomal aberrations; mutagenic agents; consanguinity; mutants and mutant rates. A discussion on amniocentesis and genetic counselling is included.

This course should provide the student with a better understanding of some of the medical cases that will have to be administered and cared for.

98.C06 Physiology and Pathophysiology

A consideration of physiology beyond the levels established in Physiology for Nurses 98.A06 and 98.B06. In addition, pathological processes as applicable to the requirements of Nursing 76.C30 and 76.C35 are explored. This course must precede or be taken concurrently with the above nursing courses.

98.C07 *See* 98.A07.

98.C46 Introductory Microbiology

This course deals with the basic characteristics of bacteria, rickettsia, viruses, and pathogenic fungi. The concepts of infection, host resistance, disinfection, sterility, and aseptic technique are included.

98.C82 Occupational Health (Physiology)

An introduction to the physiology of the nervous, circulatory, respiratory, digestive, excretory, endocrine, and reproductive systems. The effects of environmental conditions on the systems will be considered in addition to the modes of how toxic materials enter, affect, and are excreted by the systems.

98.D28 Sociology of Health and Illness

This sociology course encompasses the concepts of health and illness in contemporary society. The course includes cultural, sociological, and constitutional aspects which affect the delivery of health services.

98.E02, 98.F02, 98.G02 Physiology for Biomedical Electronics Students

A review of human physiology, with emphasis on the cardiovascular, nervous, respiratory, muscular, and urinary systems.

98.E29 Sociology of Mental Health

This course will examine various concepts and theories of mental health (and mental ill-health) as reflected in the individual, in the community, and in the society.

98.E43 Introductory Principles of Immunology

A basic course designed to give a student encountering immunology for the first time a general background in the broad field of immunology. The course deals with the body defences in diseases, types of immunity, biologicals used, nature and function of antigens and antibodies, mechanics of antigen-antibody reactions, and hypersensitivity and allergy.

98.E44 Principles of Immunology and Hypersensitivity

This course provides the student with a basic understanding in the broad field of immunology. The course deals with the body defences in disease, types and performance of humoral immunity, cellular immunity, the biologicals used, nature and function of antigens and antibodies, mechanics of antigen-antibody reactions, hypersensitivities, auto-immunity, organ and tissue transplantation, and cancer control and surveillance.

98.F02 *See 98.E02.*

98.F30 Genetics for Health Data Students

This course provides a basic knowledge of medical genetics. It relates the knowledge of the basic principles of hereditary transmission to the medical terminology used by medical and paramedical personnel.

98.F47 Medical Microbiology

A continuing course which deals with the epidemiology of selected infectious disease processes.

98.G02 *See 98.E02.*

98.G41 Basic Medical Microbiology and Epidemiology

A beginning course designed to present the student with basic knowledge concerning micro-organisms of medical importance. Topics include physiologic behaviour of micro-organisms; host-parasite relationships; communicability of infection; sources of infection, particularly as they exist in a hospital environment; methods of control, including asepsis and use of destructive agents.

Printed by K. M. MacDONALD, Printer to the Queen's Most Excellent Majesty
in right of the Province of British Columbia.
1974