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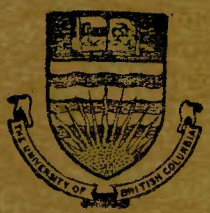
OF
British Columbia



CALENDAR

NINTH SESSION

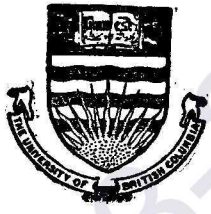
1923 - 1924

VANCOUVER, BRITISH COLUMBIA
1923

The University

OF

British Columbia



1923-24

CALENDAR

NINTH SESSION

1923-1924

VANCOUVER, BRITISH COLUMBIA

1923

1923-24

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ACADEMIC YEAR 1923-1924.

1923. Monday, September 10th.	Registration Day for First Year Applied Science.
	Summer School in Mechanical Engineering 2 opens.
Wednesday, September 12th.	Matriculation Supplemental Examinations begin.
	Supplemental Examinations in Arts begin.
Friday, September 21st.	Supplemental Examinations in Applied Science begin.
Friday, September 21st.	Last day for Registration for Arts and Science, Agriculture, and Second, Third, and Fourth Year Applied Science.
Tuesday, September 25th.	Lectures begin.
Saturday, October 6th.	Last day for payment of First Term fees.
Saturday, October 13th.	Last day for Change in Students' Courses.
Wednesday, October 17th.	Meeting of the Senate.
Friday, December 7th.	Last day of Lectures for Term.
Tuesday, December 11th.	Examinations begin.
Wednesday, December 19th.	Meeting of the Senate.
Thursday, December 20th.	Examinations end.

1923-24

1924. Monday, January 7th.	Second Term begins.
Saturday, January 19th.	Last day for payment of Second Term fees.
Wednesday, February 20th.	Meeting of the Senate.
Thursday, April 10th.	Last day of Lectures.
Monday, April 14th.	Sessional Examinations begin.
	Field Work in Applied Science begins immediately at the close of the Examinations.
Thursday, April 24th.	Last day for payment of Graduation fees.
Wednesday, May 7th.	Meeting of the Senate.
Thursday, May 8th.	Congregation.
Thursday, May 8th.	Meeting of Convocation.
Monday, June 23rd.	Junior and Senior Matriculation Examinations begin.

1923-24

Faculty of Arts and Science Supplemental Examinations.

SEPTEMBER, 1923.

Date	Hour	First Year	Second Year	Third Year
Wednesday, September 12th	9 A.M.	History 1, 2, 3	History 1, 2, 3	To be arranged.
	1 P.M.	English Literature	English Literature	
Thursday, September 13th	9 A.M.	Latin Authors	Latin Authors	
	1 P.M.	Latin Composition, Sight, and History	Latin Composition, Sight, and History	
			Calculus	
Friday, September 14th	9 A.M.	French Authors	French Authors	
	1 P.M.	French Grammar	French Grammar	
Saturday, September 15th	9 A.M.	Physics 1	Physics 1, 2	
			Philosophy 1	
Monday, September 17th	9 A.M.	Geometry	Geometry	
		Greek	Greek	
		Trigonometry	Botany 1	
			Zoology 1	
	1 P.M.	Chemistry 1	Chemistry 1, 2	
		German	German	
Tuesday, September 18th	9 A.M.	Algebra	Algebra	
	1 P.M.	English Composition	English Composition	
			Geology 1, 2	
Wednesday, September 19th	9 A.M.	Economics 1	Economics 1, 2	
	1 P.M.	Biology 1	Biology 1	
		Geography	Geography	

TIME TABLE

FACULTY OF ARTS

NOTE: Students will report to the Heads of the various Departments for

KEY TO THE ROOMS: X, Y and Z are in the Auditorium; Ch is the Baptist Lecture Room; G is Geology Lecture Room; 23, 31, 32, 33 and 34 are in the are in the Physics Building; CB is in the Commercial Building.

MORNINGS

	MONDAY	ROOM	TUESDAY	ROOM	WEDNESDAY	ROOM
9	English 1 a	XYZ	English 1 b	XYZ	English 1 a	XYZ
	Secs. 1, 2, 3, 4, 5.	CP	Secs. 6, 7, 8, 9	C	Secs. 1, 2, 3, 4, 5.	CP
	Philosophy 1 a	33	French 2 a	32	Philosophy 1 a	33
	French 2 c	24	French 2 b	31	French 2 c	St
	French 2 d	31	French 2 e	34	French 2 d	31
	French 2 f	34	Latin 2	33	French 2 f	34
	Economics 3	Ch	Economics 2	23	Economics 3	Ch
	P. H. Nursing	.....	Latin 6	Sc. 3	Greek 2	32
	Greek 2	32	Zoology 2	B	P. H. Nursing	.....
	Heredity	B	Zoology 3	B	Heredity	B
	English 13	23	Plant Physiology	B	English 13	23
	Mathematics 10	CB	Plant Histology	B	Mathematics 10	CB
	Geology 3 and 4	G	Geology 5 and 12	G	Geology 3 and 4	G
10	Mathematics 1 a	XY	Mathematics 1 b	XYZ	Mathematics 1 a	XY
		23, 33		C23		23, 33
	Physics 1 b	P	Physics 1 a	P	Physics 1 b	P
	Greek 1	32	History 6	St	Greek 1	32
	Economics 1 a	Ch	French 4	33	Economics 1 a	Ch
	Physics 3	.....	Geology 2	G	Physics 3	.....
	History 5	St	Government 1	CB	History 5	St
	French 3 Hon.	34	Philosophy 2	31	French 3 Hon.	34
	English 9	Z	English 17	34	English 9	Z
	Chemistry 3	C	P. H. Nursing	B	Chemistry 3	C
	Geology 1	G	Economics 1 d	Ch	Geology 1	G
	P. H. Nursing	B			Geology 7	G Lab.
	Economic Flora	B			P. H. Nursing	B
					Plant Pathology	B
11	French 1 a	33	Latin 1 b	Z	French 1 a	33
	French 1 e	Y	French 1 b	33	French 1 e	Y
	French 1 g	Ch	French 1 f	M3	French 1 g	Ch
	Economics 1 b	X	French 1 h	M2	Economics 1 b	X
	Mathematics 2	23	Economics 1 c	X	Mathematics 2	23
	History 7	St	French 3 Pass	23	History 7	St
	English 14	CB	Philosophy 8	31	English 14	CB
	History 2	P	Government 2	Ch	History 2	P
	Chemistry 7	C	Physics 2	P	Chemistry 7	C
	Biology 1	G	History 3	Y	Biology 1	G
	Geology 8	G. Lab.	Chemistry 4	C	Latin 1 a	Z
			Botany 1	B	Geology 8	G Lab.
			Zoology 1	G		
			Geology 6	.....		

—1923-24

AND SCIENCE

arrangements for those subjects not in the Time Table.

Church; St is St. George's Church; C is Chemistry Lecture Room; P is Physics Arts Building; M1, M2 and M3 are in the Mining Building; S1, S2, S3 and S4

MORNINGS

THURSDAY	ROOM	FRIDAY	ROOM	SATURDAY	ROOM
English 1 b	XYZ	English 1 b	XYZ	English 1 a	XYZ
Secs. 6, 7, 8, 9	C	Secs. 1, 2, 3, 4, 5	CP	Secs. 6, 7, 8, 9	C
French 2 a	32	Philosophy 1 a	33	French 2 a	32
French 2 b	31	French 2 c	St	French 2 b	31
French 2 e	34	French 2 d	31	French 2 e	34
Latin 2	33	French 2 f	34	Latin 2	33
Economics 2	23	Economics 3	Ch	Economics 2	23
Latin 6	Sc. 3	P. H. Nursing	B	Latin 6	Sc. 3
Zoology 2	B	Greek 2	32	Geology 10	.....
Zoology 3	B	English 13	23		
Plant Physiology	B	Mathematics 10	CB		
Geology 5 and 12	G	Geology 3 and 4	G		
Mathematics 1 b	XYZ C23	Mathematics 1 a	XY 33, 23	Mathematics 1 b	XYZ C23
Physics 1 a	P	Physics 1 b	P	Physics 1 a	P
History 6	St	Greek 1	32	History 6	St
French 4	33	Economics 1 a	Ch	French 4	33
Geology 2	G	History 5	St	Government 1	CB
Government 1	CB	Chemistry 2	C	Philosophy 2	31
Philosophy 2	31	French 3 Hon.	34	English 17	34
English 17	34	English 9	Z	Economics 1 d	Ch
P. H. Nursing	B	Geology 7	G	Geology 10	.....
Economics 1 d	Ch	P. H. Nursing	B		
		Economic Flora	B		
Latin 1 b	Z	French 1 a	33	Latin 1, Dist.	Z
French 1 b	33	French 1 e	Y	French 1 b	33
French 1 f	M3	French 1 g	Ch	French 1 f	M3
French 1 h	M2	French 2 Dist.	G	French 1 h	M2
Economics 1 c	X	Economics 1 b	X	Economics 1 c	X
French 3, Pass	23	Mathematics 2	23	French 3 Pass	23
Philosophy 8	31	History 7	St	Philosophy 8	31
Government 2	Ch	English 14	CB	Physics 2	P
Physics 2	P	History 2	P	History 3	Y
History 3	Y	Latin 1 a	Z	Government 2	Ch
Chemistry 4	C	Geology 8	G Lab.	Geology 10	.....
Botany 1	B	Zoology 5 and 6	B		
Zoology 1	G				
Geology 6	.....				

TIME TABLE

AFTERNOONS

	MONDAY	ROOM	TUESDAY	ROOM	WEDNESDAY	ROOM
1	French 1 c	23	Maths. I Dist. a	XYZ	French 1 i	CB
	Beg.'s Greek	32		23	French 1 c	23
	Chemistry 1 a	C	English 1 b	GPC	Bag.'s Greek	32
	English 2 b	XYZ	Secs. 1, 2, 3, 4, 5.	B 33	Chemistry 1 a	C
	Philosophy 4	34	Physics 4	.....	English 2 a	XYZ
	History 4	St	Geology 1 Lab.	.....	Philosophy 4	34
	Latin 4	31	Bacteriology 1	.....	History 4	St
	French 4 d	P	English 5	34	Latin 4	31
	Zoology 5 Lab.	.....	Zoology 2 Lab.	.....	French 4 d	P
	Zoology 6 Lab.	.....	Zoology 3 Lab.	.....	Zoology 6 Lab.	.....
	Economic Flora Lab.	.....	Economics 7	Ch	Plant Physiology Lab	.....
	Sociology	33	Plant Histology Lab.	.....	Plant Histology Lab.	.....
	French 1 i	CB			Zoology 5 Lab.	.....
					Geology 7 Lab.	G
					Sociology	33
2	Geography 1	G	Beg.'s Greek	32	Geography 1	G
	Chemistry 1 b	C	English 7	X	Chemistry 1 B	C
	French 1 d	23	French 1 Dist.	Z	French 1 D	23
	History 1	Z	English 2 Dist.	P	History 1	Z
	Economics 4	X	Chemistry 1 Lab. 2.	.....	Economics 4	X
	English 16	Y	Bacteriology 1	.....	English 16	Y
	History 8	St	Zoology 2 Lab.	.....	History 8	St
	Chemistry 7 Lab.	.....	Zoology 3 Lab.	.....	English 10	CB
	English 10	CB	Physics 3 Lab.	.....	Zoology 5 & 6 Lab.	.....
	Physics 1 Lab.	.....	Physics 1 Lab. 3	.....	Latin 2 Dist.	31
	Zoology 5 Lab.	.....	Geology 1 Lab.	.....	Philosophy 1 B	33
	Zoology 6 Lab.	.....	P. H. Nursing	B	Plant Physiology Lab	.....
	P. H. Nursing	B	Plant Histology Lab.	.....	Plant Histology Lab.	.....
	Philosophy 1 b	33	Mathematics 3	34	P. H. Nursing	B
	Plant Physiology Lab.	.....			French 1 j and k	.....
	Economic Flora Lab.	.....			Geology 7 Lab.	.....
	French 1 j and k	.....				
3	P. H. Nursing	B	Physics 1 Lab. 3	.....		.....
	Physics 1 Lab. 1	.....	Chemistry 1 Lab. 2.	.....		.....
	Chemistry 1 Lab. 1	.....	Chemistry 2 Lab. b	.....		.....
	Chemistry 2 Lab. a	.....	Zoology 2 Lab.	.....		.....
	Bacteriology 1	.....	Zoology 3 Lab.	.....		.....
	Physics 4 Lab.	.....	P. H. Nursing	B		.....
	Zoology 5 Lab.	.....	Physics 3 Lab.	.....		.....
	Zoology 6 Lab.	.....			P. H. Nursing	B
	Chemistry 7 Lab.	.....				.....
	Plant Physiology Lab.	.....				.....
	Economic Flora Lab.	.....				.....
	Geology 5	G				
4	Physics 1 Lab. 2	.....	Physics 1 Lab. 4	.....		
	Chemistry 1 Lab. 1	.....	Chem. 1 Lab. 2	.....		
	Chemistry 2 Lab. a	.....	Chem. 2 Lab. b	.....		
	Bacteriology 1	B	Zoology 2 Lab.	.....		
	Physics 4 Lab.	.....	Zoology 3 Lab.	.....		
	Zoology 5 Lab.	.....	Physics 3 Lab.	.....		
	Zoology 6 Lab.	.....				
	Chemistry 7 Lab.	.....				
	Economic Flora Lab.	.....				
5	Chem. 1 Lab. 1	.....	Physics 1 Lab. 4	.....		
	Chem. 2 Lab. a	.....	Chem. 2 Lab. b	.....		
	Bacteriology 1	.....				
	Physics 1 Lab. 2	.....				
	Physics 4 Lab.	.....				

—Continued AFTERNOONS

THURSDAY	ROOM	FRIDAY	ROOM	SATURDAY	ROOM
Maths. 1 Tut b	XYZ	French 1 c	23		
	23, 33	Beg.'s Greek	32		
English 1 a	GPC	Chemistry 1 a	C		
Secs. 6, 7, 8, 9	B	English 2 a	XYZ		
Physics 4	.....	Philosophy 4	34		
Geology 1 Lab.	.....	History 4	St		
Bacteriology 1	.....	Latin 4	31		
English 5	34	French 4 d	P		
Zoology 1 Lab.	.....	Sociology	33		
Botany 1 Lab.	.....	French 1 i	CB		
Economics 7	Ch	Geology 2 Lab.	.....		
Greek 1	32	Geography 1	G		
English 7	X	Chemistry 1 b	C		
Zoology 1 Lab.	.....	French 1 d	23		
Physics 1 Lab 5	.....	History 1	Z		
Geology 1 Lab.	.....	Economics 4	X		
Bacteriology 1	.....	English 16	Y		
P. H. Nursing	B	English 10	CB		
Botany 1 Lab.	.....	History 8	St		
Mathematics 3	34	Philosophy 1 b	33		
		Physics 1 Lab. 7	.....		
		Biology 1 Lab. 1	.....		
		French 1 j and k	.....		
		Geology 2 Lab.	.....		
Physics 1 Lab. 5	.....	Chemistry 1 Lab. 4	.....		
Chem. 1 Lab. 3	.....	Physics 1 Lab. 7	.....		
Chemistry 2 Lab. b	.....	Chemistry 2 Lab. a	.....		
Chemistry 3 Lab. b	.....	Physics 2 Lab.	.....		
Zoology 1 Lab.	.....	Chemistry 3 Lab. a	.....		
P. H. Nursing	B	Biology 1 Lab. 1	.....		
Botany 1 Lab.	.....				
Physics 1 Lab. 6	.....	Chemistry 1 Lab. 4	.....		
Chemistry 1 Lab. 3	.....	Physics 1 Lab. 8	.....		
Chemistry 2 Lab. b	.....	Chemistry 2 Lab. a	.....		
Chemistry 3 Lab. b	.....	Physics 2 Lab.	.....		
Zoology 1 Lab.	.....	Chemistry 3 Lab. a	.....		
Botany 1 Lab.	.....	Biology 1 Lab. 2	.....		
Chemistry 1 Lab. 3	.....	Chemistry 1 Lab. 4	.....		
Chemistry 2 Lab. b	.....	Chemistry 2 Lab. a	.....		
Chemistry 3 Lab. b	.....	Chemistry 3 Lab. a	.....		
Physics 1 Lab. 6	.....	Physics 1 Lab. 8	.....		
		Biology 1 Lab. 2	.....		

1923-24

Junior and Senior Matriculation Supplemental Examinations.

SEPTEMBER, 1923.

Date	Hour	Junior Matriculation	Hour	Senior Matriculation
Wednesday, September 12th	9 A.M.	History	9 A.M.	History.
	1 P.M.	English Literature German Translation	1 P.M.	English Literature. German Translation.
Thursday, September 13th	9 A.M.	Latin Authors and Sight	9 A.M.	Latin Authors.
	1 P.M.	Latin Grammar and Composition Agriculture	1 P.M.	Latin Composition, Sight, and Roman History. Trigonometry.
Friday, September 14th	9 A.M.	French Translation	9 A.M.	French Literature.
	1 P.M.	French Grammar	1 P.M.	French Language.
Saturday, September 15th	9 A.M.	Physics	9 A.M.	Physics.
Monday, September 17th	9 A.M.	Geometry	9 A.M.	Geometry. Greek Grammar and Composition.
	1 P.M.	Chemistry German Grammar	1 P.M.	Chemistry. German Grammar and Composition.
Tuesday, September 18th	9 A.M.	Algebra	9 A.M.	Algebra.
	1 P.M.	English Composition Botany Greek	1 P.M.	English Composition. Greek Authors.

THE UNIVERSITY OF BRITISH COLUMBIA

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CHRISTOPHER SPENCER, ESQ., Vancouver. Term expires 1925.
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ROBERT P. MCLENNAN, ESQ., Vancouver. Term expires 1927.
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(*a*) The Minister of Education, The Honourable JOHN DUNCAN MACLEAN, M.D., C.M.
The Superintendent of Education, S. J. WILLIS, ESQ., B.A.
The Chancellor.
The President (Chairman).
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Dean of the Faculty of Forestry.
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The Principal of Victoria Normal School, D. L. MACLAURIN, ESQ., B.A.

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Westminster Hall, Vancouver (Theological), REV. W. H. SMITH, M.A., Ph.D., D.D.
The Anglican Theological College of British Columbia, Vancouver, REV. W. H. VANCE, M.A.

(*h*) Elected by Convocation:—
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Department of Bacteriology.

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R. E. COLEMAN, M.B. (Toronto), Lecturer in Bacteriology.
MISS FREDA L. WILSON, B.A. (Brit. Col.), Assistant in Bacteriology.

Department of Botany.

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Department of Chemistry.

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M. J. MARSHALL, B.Sc., M.Sc. (McGill), Ph.D. (Mass. Inst. of Technology), Assistant Professor of Chemistry.
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J. A. DAUPHINEE, B.A. (Brit. Col.), Assistant in Chemistry.

J. ALLAN HARRIS, B.A. (Brit. Col.), Assistant in Chemistry.
S. R. MACDOUGALL, B.A.Sc. (Brit. Col.), Assistant in Chemistry.
W. O. BANFIELD, B.A.Sc. (Brit. Col.), Assistant in Chemistry.
WILLIAM URE, Assistant in Chemistry.
CHRISTIAN SIVERTZ, Assistant in Chemistry.

Department of Civil Engineering and Surveying.

WILLIAM E. DUCKERING, A.B., B.S. in C.E., C.E. (Washington), Professor of Civil Engineering and Head of the Department.
E. G. MATHESON, B.A.Sc. (McGill), M.E.I.C., M.Am.S.C.E., Associate Professor of Civil Engineering.
W. H. POWELL, B.Sc. (McGill), Lecturer in Civil Engineering.
A. LIGHTHALL, B.Sc. (McGill), Instructor in Civil Engineering.
G. M. IRWIN, B.Sc. (McGill), Instructor in Civil Engineering.
F. A. WILKIN, B.A.Sc. (McGill), Lecturer in Civil Engineering.
W. O. C. SCOTT, B.A.Sc. (Brit. Col.), Assistant in Descriptive Geometry.

Department of Classics.

L. F. ROBERTSON, M.A. (McGill), Professor of Classics and Head of the Department.
O. J. TODD, Ph.D. (Harvard), Professor of Greek.
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A. N. ST. JOHN MILDMAY, M.A. (Oxon.), Assistant in Classics.

Department of Dairying.

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Department of Economics, Sociology and Political Science.

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HENRY F. ANGUS, B.A. (McGill), B.C.L., M.A. (Oxon.), Associate Professor of Economics.
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Department of English.

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FRANCIS COX WALKER, B.A. (U.N.B.), A.M., Ph.D. (Harvard), Assistant Professor of English.

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MISS STELLA MCGUIRE, B.A., M.A. (Brit. Col.), Assistant in English.

MISS KATHERINE MCKAY, B.A. (Queen's), Assistant in English.

MISS ISOBEL HARVEY, M.A. (Brit. Col.), Assistant in English.

Department of Forestry.

H. R. CHRISTIE, B.Sc.F. (Toronto), Associate Professor of Forestry.

F. MALCOLM KNAPP, B.S.F. (Syracuse), M.S.F. (Wash.), Lecturer in Forestry.

Department of Geology and Geography.

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W. L. UGLOW, B.A., M.A. (Queen's), B.Sc. (School of Mining, Kingston), M.S., Ph.D. (Wisconsin), Professor of Mineralogy and Petrography.

M. Y. WILLIAMS, B.Sc. (Queen's), Ph.D. (Yale), F.G.S.A., Professor of Palæontology and Stratigraphy.

Department of History.

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Department of Horticulture.

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E. E. JORDAN, M.A. (Dal.), Assistant Professor of Mathematics.
L. RICHARDSON, B.Sc. (London), Assistant Professor of Mathematics.
B. S. HARTLEY, M.A. (Cambridge), R.N. (retired), Assistant in Mathematics.
JOHN HENRY, M.A. (Cambridge), Assistant in Mathematics.
MISS MAY L. BARCLAY, M.A. (Brit. Col.), Assistant in Mathematics.
M. HOME, Assistant in Mathematics.

Department of Mechanical and Electrical Engineering.

CEDRIC C. RYAN, M.Sc. (McGill), Associate Professor of Mechanical Engineering.
H. P. ARCHIBALD, B.A.Sc. (McGill), Instructor in Mechanical Drawing and Shopwork.
E. M. COLES, B.A.Sc. (Brit. Col.), Instructor in Electrical Engineering.
HENRY OGILVIE, B.A. (Cantab.), Lecturer.
GEORGE WALKEM, B.Sc. (McGill), Special Lecturer.
E. G. PARSONS, Instructor in Thermo Laboratory.
H. TAYLOR, Instructor in Machine Shop.
H. ELLIOTT, Assistant in Steam Laboratory.
C. H. BARKER, Assistant in Workshop, Mechanical Engineering.
J. CROWLEY, Assistant (Moulder).
S. NORTHROP, Assistant (Woodworker).
JOHN HOGARTH, Assistant in Mechanical Engineering (Blacksmith).

Department of Mining and Metallurgy.

J. M. TURNBULL, B.A.Sc. (McGill), Professor of Mining and Head of the Department.
H. N. THOMSON, B.Sc. (McGill), Professor of Metallurgy.
GEORGE A. GILLIES, M.Sc. (McGill), Associate Professor of Mining.

Department of Modern Languages.

H. ASHTON, M.A. (Cantab.), D. Lett. (Univ. Paris), D. Litt. (Birmingham), Officier de l'Instruction Publique (France), Professor of French and Head of the Department.
A. F. B. CLARK, B.A. (Toronto), Ph.D. (Harvard), Associate Professor of French.
MISS ISABEL MACINNES, M.A. (Queen's), Assistant Professor of Modern Languages.
G. GROJEAN (Licencie es Lettres), Licencie en Droit (Toulouse), Assistant Professor of Modern Languages.
MISS MARGARET ROSS, Instructor in French.
MISS JANET T. GREIG, B.A. (Queen's), Instructor in French.
MISS KATHLEEN PECK, B.A. (Brit. Col.), Assistant in French.
MISS HAZEL E. MCCONNELL, B.A. (Brit. Col.), Assistant in French.
E. E. DELAVAULT, B. es L., L. en D. (Paris), Tutor in Oral French.
MRS. G. BARRY, Brevet Superieur, Certificat d'Aptitude Pedagogique (French State Diplomas), Tutor in Oral French.

Department of Nursing.

MISS ETHEL I. JOHNS, R.N., Assistant Professor of Nursing.

Department of Philosophy.

H. T. J. COLEMAN, B.A. (Toronto), Ph.D. (Columbia), Professor of Philosophy and Head of the Department.

JAMES HENDERSON, M.A. (Glasgow), Associate Professor of Philosophy.

Department of Physics.

T. C. HEBB, M.A., B.Sc. (Dal.), Ph.D. (Chicago), Professor of Physics and Head of the Department.

A. E. HENNINGS, M.A. (Lake Forest College, Ill.), Ph.D. (University of Chicago), Associate Professor of Physics.

J. G. DAVIDSON, B.A. (Toronto), Ph.D. (Cal.), Associate Professor of Physics.

CYRIL JONES, Assistant in Physics.

Department of Poultry Husbandry.

E. A. LLOYD, B.S.A. (Sask.), Associate Professor of Poultry Husbandry.

V. S. ASMUNDSEN, B.S.A. (Sask.), M.S.A. (Cornell), Assistant Professor of Poultry Husbandry.

R. J. SKELTON, B.S.A. (Toronto), Assistant (Field Enumerator) in Poultry Husbandry under Burrell Grant.

Department of Public Health.

R. H. MULLIN, B.A., M.B. (Toronto), Professor of Public Health and Head of the Department.

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Department of Zoology.

C. MCLEAN FRASER, B.A., M.A. (Toronto), Ph.D. (Iowa), F.R.S.C., Professor of Zoology and Head of the Department.

H. A. DUNLOP, B.A. (Brit. Col.), Instructor in Zoology.

C. P. LECKIE, B.S.A. (Brit. Col.), Assistant in Zoology.

KENNETH F. AUDEN, Assistant in Zoology.

HAROLD WHITE, M.D., C.M. (McGill), Medical Examiner to Students.

VICTORIA COLLEGE

(IN AFFILIATION WITH THE UNIVERSITY OF B. C.)

STAFF.

EDWARD B. PAUL, M.A. (Aberdeen), Principal and Registrar, Associate Professor of Classics.

E. HOWARD RUSSELL, B.A. (Queen's), Associate Professor of Mathematics.

PERCY H. ELLIOTT, M.Sc. (McGill), Associate Professor of Science.

MISS JEANETTE A. CANN, B.L. (Dalhousie), Assistant Professor of English and Philosophy.

MME. E. SANDERSON-MONGIN, Diplômée, Paris, Assistant Professor of French.

I. DILWORTH, M.A. (McGill), Instructor in English.

T. W. CORNETT, B.A. (Toronto), Instructor in History.

For Courses in Victoria College see under "Victoria College" in this Calendar.

1923-24

THE UNIVERSITY OF BRITISH COLUMBIA

HISTORICAL SKETCH.

The establishment of a University in British Columbia was first advocated by Superintendent Jessop in 1877, when he called public attention to the urgent need for providing the youth of the Province with an education which would adequately equip them for their various activities in the life of the Province. It was several years, however, before active steps were taken in this direction.

In 1890 the Provincial Legislature passed an Act establishing a body politic and corporate named The University of British Columbia. The first Convocation was held in Victoria on August 26th, 1890, when the Hon. John Robson, Provincial Secretary, presided. There were present seventy certified members of Convocation, who elected three members of Senate.

In 1891 the Act was amended by the addition of a clause requiring a meeting of the Senate to be held within one month after the election of Senators by Convocation. The Senators having been elected on June 2nd, the Chancellor, Dr. I. W. Powell, of Victoria, called a meeting of Senate for July 2nd. A quorum failed to assemble, and the first attempt to establish a University proved futile.

There being no immediate prospect of a Provincial University, some friends of higher education conceived the idea of bringing a university education—at least in part—within the reach of the youth of the Province by establishing relations with some one of the existing Canadian universities.

Owing to their efforts, an Act was passed in 1894 which empowered the affiliation of high schools in the Province to recognized Canadian universities; and this was supplemented in 1896 by an Act providing for the incorporation of affiliated high schools as colleges of the universities to which they were affiliated.

Under these enactments, Vancouver High School was admitted to affiliation with McGill University for the first year in Arts, and began University work under the name of Vancouver College in the year 1899. (The man to whom more than any other the credit is due for the inauguration and successful organization of the scheme of affiliation was the late Mr. J. C. Shaw, M.A., formerly Principal of Vancouver High School, and later Principal of Vancouver College, and of McGill University College.)

In 1902 an extension of affiliation was granted to cover the second year in Arts, and in the same year Victoria High School also became affiliated to McGill University for the first year in Arts under the name of Victoria College.

As the work grew, still closer connection with McGill University became necessary, and in 1906 an Act was passed incorporating the Royal Institution for the Advancement of Learning of British Columbia. In the same year the Royal Institution established at Vancouver the McGill University College of British Columbia, taking over (by agreement with the Vancouver Board of School Trustees) the Arts work previously done by the Vancouver College, increasing the number of options allowed, and adding two years of Applied Science.

In 1908 the course was further extended to include the third year in Arts.

In 1907 Victoria College came also under the control of the Royal Institution as a part of the McGill University College of British Columbia, with power to give courses in the first two years in Arts.

The instruction given was similar to that of McGill University, the standards were identical, and the University examined and accepted the undergraduates *ad eundem statum.*

During the last year of its existence the McGill University College enrolled 292 students at Vancouver and 70 at Victoria.

These institutions were maintained mainly by grants from the School Boards of Vancouver and Victoria, supplemented in the earlier stages by contributions from Sir William Macdonald, of Montreal, and many public-spirited citizens of British

Columbia, and later by grants from the Provincial Government, the City of Vancouver, and The University of British Columbia.

When The University of British Columbia opened its doors in the fall of 1915 these colleges ceased to exist, and at the same time the connection of the Province with McGill University in higher education—a connection which had existed for a period of sixteen years and was alike creditable to McGill and advantageous to the Province—was also brought to a close.

Meanwhile efforts for the establishment of a Provincial University had been renewed, and in 1907 the Hon. Dr. H. E. Young, Minister of Education, took definite steps to establish a University by introducing a "University Endowment Act," which was passed by the Legislature. By this Act (slightly amended in 1911 and 1913) the setting apart of 2,000,000 acres of land, by way of University endowment, was authorized.

Constitution of Present University.

In 1908 an Act establishing and incorporating The University of British Columbia and repealing the old Act of 1890-1 was passed. The Act of 1908 provides:—

> That the University shall consist of a Chancellor, Convocation, Board of Governors, Senate, and the Faculties; that the first Convocation shall consist of all graduates of any university in His Majesty's dominions resident in the Province two years prior to the date fixed for the first meeting of Convocation, together with twenty-five members selected by the Lieutenant-Governor in Council. After the first Convocation it shall consist of the Chancellor, Senate, members of the first Convocation, and all graduates of the University; that the Chancellor shall be elected by Convocation; that the Board of Governors shall consist of the Chancellor, President, and nine persons appointed by the Lieutenant-Governor in Council; that the Senate shall consist of: (*a*) The Minister of Education, the Chancellor, and the President of the University, who shall be Chairman thereof; (*b*) the deans and two professors of each

of the Faculties elected by members of the Faculty; (*c*) three members to be appointed by the Lieutenant-Governor in Council; (*d*) the Superintendent of Education, the principals of the normal schools; (*e*) one member elected by the high-school principals and assistants who are actually engaged in teaching; (*f*) one member elected by the Provincial Teachers' Institute organized under subsection (*e*) of section 8 of the "Public Schools Act"; (*g*) one member to be elected by the governing body of every affiliated college or school in this Province; (*h*) fifteen members to be elected by Convocation from the members thereof;

That the University shall be non-sectarian;

That instruction in Arts shall be free to all regular students matriculated in the University;

That women students shall have equality of privilege with men students;

That no other university having corporate powers capable of being exercised within the Province shall be known by the same name, or have power to grant degrees.

Instruction.

The Act of 1908 (consolidated August 2nd, 1912) provides for:—

(*a*) Such instruction in all branches of a liberal education as may enable students to become proficient and qualify for degrees, diplomas, and certificates, in Science, Commerce, Arts, Literature, Law, Medicine, and all other branches of knowledge; (*b*) such instruction especially, whether theoretical, technical, artistic, or otherwise, as may be of service to persons engaged in the manufactures, or the mining, engineering, agricultural, and industrial pursuits of the Province; (*c*) facilities for the prosecution of original research in Science, Literature, Arts, Medicine, Law, and especially the applications of Science; (*d*) such fellowships, scholarships,

exhibitions, prizes, rewards, and pecuniary and other aids as shall facilitate or encourage proficiency in the subjects taught in the University, and also original research in every branch; (*e*) such extra-collegiate and extra-university instruction and teaching as may be recommended by the Senate.

Selection of a Site.

Under authority of an Act passed by the Legislature in 1910, the Lieutenant-Governor in Council appointed a Site Commission whose decision was to be final. The personnel of the Commission was as follows:—

Dr. R. C. Weldon, Dean of Law School, Dalhousie University, Chairman.
Rev. Canon G. Dauth, Vice-Rector, Laval University, Montreal.
Dr. Walter C. Murray, President, University of Saskatchewan.
Dr. Oscar D. Skelton, Professor of Economics, Queen's University.
Dr. Cecil C. Jones, Chancellor, University of New Brunswick.

The Commission held its first meeting on May 25th, 1910, in Victoria, and after an exhaustive examination of the Province presented the following unanimous report:—

Victoria, B. C., June 28th, 1910.

To His Honour the Lieutenant-Governor in Council:

Sir,—The University Site Commission begs to submit the following report:—

In accordance with the provisions of the "University Site Commission Act, 1910," your Commissioners have visited and made a careful examination of the several cities and rural districts in the Province suggested as suitable University sites, and have selected as the location for the University the vicinity of the City of Vancouver.

Accompanying the main report was the following supplementary report:—

The University Site Commission are strongly of the opinion that

the University should not be placed on a site which may in time be completely surrounded by a city. They respectfully suggest that not less than 250 acres be set apart for the University campus, and 700 acres for experimental purposes in agriculture and forestry. This is exclusive of a forest reserve for forestry operations on a large scale.

The Commission are of the opinion that the most suitable site is at Point Grey, unless the soils there and those of the delta land adjacent are found to be unsuitable for the experimental work of the College of Agriculture. Should Point Grey prove impossible, the Commissioners suggest: First, a site along the shore of North Vancouver, provided the tunnel and bridge are constructed; second, St. Mary's Hill, overlooking the Pitt, Fraser, and Coquitlam Rivers, provided residences are erected for the students. Central Park, though conveniently situated, will probably be surrounded by the Cities of Vancouver and New Westminster, and because of this and of the absence of outstanding scenic advantages is undesirable.

While the Commissioners are firmly convinced that it is of the highest importance to have all the Faculties of the University doing work of University grade located together, they believe that the diverse conditions of agriculture in this Province make it advisable to divide the work of agricultural education between the College of Agriculture and Schools of Agriculture of secondary grade located in different centres. The College of Agriculture should conduct researches, provide courses leading to a degree, and supervise the extension work and Schools of Agriculture. These schools should be established in conjunction with the Demonstration Farms in typical centres, and should provide short courses (extending over the winter months) of two or three years for the sons of farmers. Each school might specialize in one or more branches, such as horticulture, dairying, etc.

Similarly, Technical Evening Schools might be opened in the different coal-mining centres for the preparation of candidates for mining certificates, and in the metal-mining districts for the assistance of prospectors and others.

The Commissioners have been greatly impressed by the marvellous richness, variety, and extent of the natural resources of this Province, and by the very generous provision made for the endowment of the University; and they are of the opinion that, if the University adopts a policy of offering salaries ranging from $3,800 to $5,000 to its professors, it will attract men of the highest ability, who, by their scientific investigations and outstanding reputations, will not only materially aid in developing the resources of the Province, but will also place the University on an equality with the best universities of America.

In the autumn the Executive Council, after a careful survey of the sites proposed, decided to locate the University at Point Grey, the site which the Commission named as its first choice.

In 1911 the Legislature passed an Act authorizing the Lieutenant-Governor in Council to grant this site to the University. In 1913 this grant was increased by a few acres.

The site at present consists of 250 acres lying upon the extremity of the headland of Point Grey at an elevation of approximately 300 feet above the sea. The waters of the Gulf of Georgia form more than half the boundary of the site, while the remaining sides are bounded by a tract of some 3,000 acres of Government land. It is accessible by water for passenger and freight service, and is within a mile and a half of the existing electric tram service, which will be extended to the grounds. The site has now been cleared and the main campus and some of the roads have been graded.

First Convocation.

Between May 1st and July 31st, 1912, 849 members of Convocation were registered, of whom twenty-five had been appointed by the Lieutenant-Governor in Council. The first Convocation, held August 21st of the same year, chose Mr. Francis Carter-Cotton as first Chancellor of the University and elected certain Senators.

Plans for Buildings.

In February, 1912, the Hon. H. E. Young, Minister of Education, called for competitive plans which should include plans in detail of four buildings to be erected immediately, and a block plan exhibiting the completed buildings as a beautiful and harmonious scheme in keeping with the site, one of the finest in the world.

The first prize was $5,000 and the probability of being engaged as the University architect; the second, third, and fourth, $2,000, $2,000, and $1,000 respectively. The competition was closed in November, and the first prize awarded to Messrs. Sharp & Thompson, of Vancouver, by a Board of Assessors consisting of: Hon. H. E. Young, Minister of Education;

F. Carter-Cotton, Chancellor; A. Arthur Cox, Samuel Maclure, and W. Douglas Caroe.

The President and Governors.

In March, 1913, the Lieutenant-Governor in Council appointed the President, F. F. Wesbrook, M.A., M.D., C.M., LL.D., and shortly after the following Governors:—

George H. Barnard, Esq., K.C., M.P.
Robert F. Green, Esq., M.P.
Robert E. McKechnie, Esq., M.D., C.M.
Robert P. McLennan, Esq.
Lewis G. McPhillips, Esq., K.C.
Robie L. Reid, Esq., K.C.
S. Dunn Scott, Esq., M.A., LL.D.
Campbell Sweeny, Esq.
George I. Wilson, Esq.

Buildings and Grounds.

The University architects are Messrs. Sharp & Thompson, of Vancouver, B.C., who obtained the award in the competition held in 1912. In November, 1913, Dr. C. C. James, Commissioner of Dominion Agricultural Instruction, met with a Commission appointed to examine and report upon the general design for the University. A general plan was prepared by this Commission and approved by the Board of Governors.

The report accompanying the plan presented a statement of the problem to be solved and the solution proposed by the Commission, and pointed out the practical and artistic possibilities of the design. With it were submitted drawings showing the building areas for the various constituent portions of the University, and the location proposed for the buildings which are to be constructed at once. The design is a comprehensive one, and provides for the needs of an institution potentially great, the relatively small beginnings of which must be arranged with due regard for present economy and efficiency, yet in such a manner as to ensure co-ordination with a properly planned and steadily developing scheme.

The Commission consisted of:—

Dr. Thomas H. Mawson, City Planner and Landscape Artist, of London, England.

Mr. Warren Powers Laird, Professor and Head, School of Architecture, University of Pennsylvania, and Advisory Architect to the University of Wisconsin.

Mr. Richard J. Durley, late Professor and Head of the Department of Mechanical Engineering, McGill University.

Messrs. Sharp & Thompson, the University Architects.

In accordance with the recommendations of the Commission's report, detailed plans and specifications are being prepared for the various buildings, and the Science Building is under construction.

This building is planned for the temporary accommodation of Physics, Chemistry, Biology and certain other Sciences, but it is intended ultimately for the sole use of Chemistry. With its equipment it is expected to cost about $600,000.

Preparations for Work.

In 1914 the Legislature voted $500,000 and the Government promised $1,000,000 for the following year, thus enabling the Board to proceed with actual work on the University. The clearing of the site was completed and necessary grading done; the steel-concrete work of the Science Building was completed; the Deans of Agriculture and Applied Science and some professors were appointed, and in general the necessary preliminary preparations were made for beginning University work in the fall of 1915.

War Conditions.

Upon the outbreak of war in August, 1914, the Board of Governors, feeling that it would be shortsighted and unpatriotic to commit the public to a large capital expenditure and heavy fixed charges when every available dollar in the country might be required in the struggle to preserve the rights and liberties of free peoples, decided to withhold the contract for the com-

pletion of the Science Building, to make no further contracts or appointments to the staff, and to postpone large expenditures upon the library and grounds. By this action the grant for the year largely reverted to the Provincial Treasury, and the people were not committed to a heavy outlay in 1915.

In 1915 the Legislature voted sufficient funds to enable the University to take over and carry on the work of McGill University College, and to add a year's work to it, thus giving a complete Arts Course leading to a degree and the first three years in a course in Applied Science. Funds were also voted to enable Dean Klinck to prepare and put under cultivation a small portion of the campus to be ready for experimental work by the time agricultural classes can be undertaken.

Growth and Progress.

A detailed statement of the growth and progress of the University since its opening in the fall of 1915 will be found in the President's Report for 1922-23.

1923-24

THE UNIVERSITY AND THE PROVINCE

The University of British Columbia is an integral part of the public educational system of the Province. As such it completes the work begun in the public and high schools.

By prescribing a number of studies during the first years of undergraduate work, and by giving to the student in his final years a wide choice under a definite system, the University is enabled to give direction without discouraging individual initiative.

In addition to fostering the general educational interests of the Province, it is the policy of the University to render service to its constituency through three generally recognized channels —viz., teaching, research, and extension. The University undertakes to furnish instruction in the various branches of a liberal education, and in those technical departments which are most directly related to the life and industries of the Province. That its teaching may be vitalized, and that it may do its share in contributing to the advancement of knowledge, the University aims to encourage research in all departments. When a sufficiently firm foundation was laid in these two departments of University activity, extension work was organized. Through this channel new truths discovered in this or in other institutions of learning are presented in popular form in many centres throughout the Province. By this means those whose circumstances deprive them of the opportunity of attendance at the University may avail themselves of the latest contributions to knowledge, as well as of the most recent lessons of practical experience.

UNIVERSITY EXTENSION.

The University sends lecturers in popular subjects to all parts of the Province. These lecturers will go out during the examination weeks in December and April under the auspices of organizations applying for them. In the case of places which can be visited without prejudice to the duties of the lecturer at the University, lectures may also be arranged during the University term. The University may be able to contribute to the cost of travelling and hotel expenses, all local expense (hall, publicity, etc.) being borne by the local organization.

The University reserves the right to arrange dates so as to permit a lecturer to visit several places in the same district on succeeding days and thus to save time and travelling expenses. The number of lecturers sent to any one place will depend entirely upon the interest shown in that locality and upon the funds at the disposal of the Committee.

A list of subjects and lecturers can be obtained on application to the Secretary of the Extension Committee.

Illustrated pamphlets on the general work of the University are at the disposal of persons interested in educational progress in the Province. Applications for copies of these should be made to the Registrar.

ENDOWMENTS.

The "University Act" of 1908 (slightly amended in 1912) provides that:—

> "Any person or corporation may, with the approval of the Senate, found one or more professorships, lectureships, fellowships, scholarships, exhibitions, prizes, or other awards in the University, by providing a sufficient endowment in land or other property, and conveying the same to the University for such purposes, and every such endowment of lands or other property shall be vested in the University for the purpose or purposes for which it is given."

For Endowments in connection with:—
Scholarships, Exhibitions and Prizes, see under "Prizes, Medals and Scholarships."

DONATIONS

However well supported by public funds, a University must depend to a great extent upon private benefactors. Only a limited number are in a position to grant endowments, but undergraduates, graduates and friends of higher education may add greatly to the efficiency of the University by contributions that lie within their power to make.

It is gratifying to note that this means of assisting the University is being utilized by increasing numbers.

Among the more notable donations received during the past year are the following:

H. C. Giegerich, J. R. Giegerich, and D. McLellan—(1) Silver-lead-zinc ores from Slocan District, B. C. (2) Arsenic ores from Washington, D.C. (3) Native silver from Krao Mine, B. C.

A. W. Sanders—Gold crystals from Barkerville, B. C.

F. G. Tregillus—Gold crystals from Barkerville, B. C.

W. L. Uglow—Burnt shale (Oligocene), Similkameen, B. C.

J. D. Mackenzie—(1) Section of flattened stem, originally four feet long, from No. 4 Mine, Cumberland, B. C. (2) Many specimens illustrating structural geology from Vancouver Island.

Rev. R. Connell—Horse's tooth, probably Pleistocene, from Lake Bennett, Yukon.

James Gillen—(1) Indian arrowheads and scraper, B. C. (2) Arrowheads and celts from North of Ireland.

K. F. Auden—Arrowheads and celt from Ontario, Saskatchewan, and British Columbia.

Dr. W. D. Mathew, American Museum of Natural History, New York—Leg bones and teeth of Tertiary horses, including Merychippus, Mesohippus, and Eohippus.

H. T. James—Marine algae from lower Huronian of Michigan.

S. J. Schofield—(1) Suite of rocks and ores from Salmon River District, B. C., and Premier Mine. (2) Suite of rocks and ores from Butte Mining District, Montana. (3) Suite of rocks and ores from Britannia Mine, B. C.

J. Keele, Department of Mines, Ottawa—Collection of Canadian clays and clay products.

C. Graham, Canadian Collieries (Dunsmuir) Ltd.—(1) Core, log, and plan of borings, Cumberland, B. C. (2) Fossil tree trunk, mounted.

Major Graham, Jericho Air Station—Aerophotos illustrating local geography.

Imperial Oil Co., Ioco—Samples of oil products.

Marine Products Co., Prince Rupert—Samples of oil products.

Capilano Timber Co., North Vancouver—Sections of coast trees from Capilano Valley.

THE LIBRARY.

Librarian: John Ridington.

Classification, Catalogue ..... Dorothy M. Jefferd
Stack Room and Documents ..... Lionel Haweis
Reference and Reading Room ..... Frances M. Woodworth
Periodicals and Applied Science Reading Room... Gwendolyn Lewis
Stenographer ..... Alice E. Hearsey

The University Library consists of 45,000 volumes and about 10,000 pamphlets. It includes representative works in all the courses offered, and a growing collection of works of General Reference. It also possesses a fair number of periodical publications devoted to literature and the sciences, and of the Transactions of learned societies. Four hundred and fifty magazines and periodical publications are regularly received.

The Library is classified throughout on the Congressional system.

The Main and Subordinate Catalogues, making available the resources of the Library, total over 280,000 cards. Of these 135,000 are in the Main Catalogue in the Reading Room, and make all classified portions of the Library referable by Author, Title and Subject, with necessary analyticals.

The Reading Room has accommodation for 102 readers. Additional facilities for 14 students, engaged in work requiring frequent shelf reference, are provided in the Stack Room. Stack Room privileges are granted for specified days to Post-Graduate, Fourth, and Third Year Students.

Books to which the Teaching Staff have specially referred their classes for consultation are placed in a "Reserved" class. These are separately shelved in the Reading Room, and to them open access is given all students. Reserved books may be loaned only for periods during which the Library is closed. Other works, to the number of two, may be borrowed by students for a period of seven days, or for a shorter time should the volume be in general demand.

Unbound periodical publications are not loaned. Books that are costly, rare, or unsuitable for general circulation, are loaned only under special conditions.

While the Library is primarily for the use of Faculty and Students of the University, its privileges are available to those of the general public engaged in research or special study, in the prosecution of which it will be of value. On personal application to the Librarian, Extra-Mural Reader's Cards are issued to such persons, and the Library will give all facilities within its power to assist them in their work.

During the Session the Library is open from 8.45 a.m. to 10 p.m.; in Vacation it is open from 9 a.m. to 4 p.m., except on Saturdays, when the hours are from 9 a.m. to noon.

A number of valuable contributions to the Library are made each year by Governments, institutions, corporations and private friends of the University. The practice hitherto has been to make public acknowledgement of the most important of these donations by printing a list of gifts in the Calendar. The generosity of the friends of the Library during 1922 and 1923 has greatly exceeded any previous year. Considerations of space necessarily prevent the publication of a list of such length. The warm thanks of the Chancellor and President, the Governors and Senate, and of the Library Committee and Staff, are given to all who have thus assisted in making the Library of greater value to the institution.

HERBARIUM AND BOTANICAL GARDENS.

The University possesses a Herbarium of over 15,000 sheets illustrating the Provincial flora, including algæ, fungi, mosses, ferns, flowering plants. This has been accomplished largely through the co-operation of residents in all parts of British Columbia, in return for assistance in identification, or information regarding the usefulness or otherwise of native species.

There are several sets of specimens illustrative of poisonous and medicinal species, plants used by Indians, weeds, native trees, shrubs, and other species of economic importance.

The value of the Herbarium has been greatly enhanced by several donations of private herbaria. These include (1) the "Eli Wilson collection" of between 1,000 and 2,000 specimens; (2) the "A. J. Hill collection" of about 2,500 specimens, and 100 water-colour illustrations of fungi; and (3) the "A. E. Baggs collection" of nearly 1,000 specimens.

The Herbarium is at present located in the Arts Building, where fire-proof accommodation has been provided.

Botanical Gardens.

The Botanical Gardens are situated on the University site, Point Grey, and occupy 5 acres on the west side of the Campus. Here may be seen over 1,000 different species of native plants collected from all parts of British Columbia, including dry-belt, alpine, and coast species. One part of the gardens is devoted to the herbaceous collection, where plants are systematically arranged according to their families; another part is reserved for a native arboretum to illustrate the British Columbia species of trees and shrubs; another constitutes the nursery where duplicates are raised and plants for systematic research are assembled.

The economic flora is represented by several beds of medicinal plants, the nucleus of a Salicetum containing some of the best species and varieties of willows for basketry and ornamental purposes, the latter a donation of about fifty species from E. Versin, France.

Through the co-operation of Provincial correspondents numerous donations of seeds and plants are annually received; such donations help to make the native collection more complete.

Seeds of several hundreds of species of plants—mostly Himalayan—have been donated by the Botanical Survey of India, and as a result the University has the nucleus of a collection of Indian plants which are being acclimatized in British Columbia; these include some beautiful and interesting species of value in connection with the University classes in Botany.

The University, through this Department, offers assistance in the identification of native species, and desires to secure the co-operation of all interested in the flora, in the hope that such assistance and co-operation will aid in filling existing gaps in the collections of the Herbarium and Botanical Gardens.

1923-24

GENERAL INFORMATION.

Degrees.

The University Act gives the University full powers to grant such degrees in the several Faculties and different branches of knowledge as the Senate may from time to time determine. The Act reserves for the University the sole right in this Province to confer degrees, except in Theology.

Courses of Study.

For the Session 1923-24 the University offers instruction in the four years of the Arts Course, leading to the degree of Bachelor of Arts, which will be conferred upon those who successfully complete the course; in the four years of Courses in Applied Science, including Nursing, leading to the degree of Bachelor of Applied Science; and in the four years of the Course in Agriculture, leading to the degree of Bachelor of Science in Agriculture.

The Session.

The University year or session is divided into two terms, the first extending to the Christmas vacation, and the second from the end of the Christmas vacation to the end of the Sessional Examinations in April.

The Session of 1923-24 will begin on Tuesday, September 25th.

Two Matriculation Examinations will be held, one (Supplementals only) commencing on Wednesday, September 12th, 1923, and the other on Monday, June 23rd, 1924.

Equipment.

Laboratories and equipment are available for courses in the work undertaken. Facilities for field-work in Physical Geography, Geology, and Mining exist in the immediate vicinity of Vancouver. Climatic conditions permit class excursions to be made throughout the session.

Church Attendance.

Students are requested to report to the Registrar, in writing, the churches which they intend to make their places of worship. The reports will be used for the information of the various churches.

It is desirable that all students attend a church of the denomination to which they adhere.

Physical Examination.

In order to promote as far as possible the physical welfare of the student body, every student, on entering the University, will be required to pass a physical examination, to be conducted by, or under the direction of, the University Medical Examiner.

By such an examination physical defects and weaknesses, amenable to treatment, may be discovered. The student would then be expected to apply to his physician for such remedial measures as his case may require.

Each student will receive instructions regarding the time and place at which he will be required to present himself for this examination.

Board and Residence.

Good board and lodging can be obtained in the vicinity of the College buildings at a cost of from $35 per month upwards; or, separately, board at $30 to $40 per month; rooms at $8 to $12 per month.

Lists of approved boarding-houses, accessible to the University, may be obtained from the Registrar. Requests for these should state whether they are for men or women students.

Men and women students are not permitted to lodge in the same house, unless they are members of the same family, or receive special permission from the Senate.

Dean of Women

Last year there was appointed to the Staff of the University a Dean of Women, with whom parents and students may confer on matters not directly related to the curriculum.

During the Session the Dean of Women is frequently consulted about problems pertaining to living conditions, student employment, vocational guidance, and other questions that directly affect the social and intellectual life of the women students.

Academic Dress.

The Undergraduate's gown shall be black in colour and of the ordinary stuff material, of ankle length, and with long sleeves and the yoke edged with khaki cord. Graduate's gown the same, without cord.

Bachelor's hood shall be of the Cambridge pattern, black bordered with the distinctive colour of the particular Faculty; the Master's hood to be lined with the same colour. The colours are, for Arts, University blue; for Science, red; for Agriculture, maize.

1923-24

ADMISSION TO THE UNIVERSITY

ADMISSION BY MATRICULATION EXAMINATION OR ITS EQUIVALENT.

REGULATIONS.

All inquiries relating to admission to the University should be addressed to the Registrar.

All inquiries relating to the matriculation examinations should be addressed to the Secretary of The High School and University Matriculation Board, Education Office, Victoria, B.C.

1. The regular Matriculation Examination will be held beginning Monday, June 23rd, 1924, at all High School centres in the Province.

2. A second examination will be held in September, but only for extra-provincial students, and such students resident in the Province as may have been granted the privilege of taking a supplemental examination by the Matriculation Board. It will be held at the University, Vancouver, and Victoria College, Victoria.

3. Every candidate for the Matriculation Examination is required to fill up an application form and return the same to the Registrar of the Department of Education, Victoria, with the necessary fee, one month before the examination begins. Blank forms may be obtained from the Education Office.

4. Candidates will not be considered as having passed on the Matriculation Examination unless they obtain at least 50 per cent. on the aggregate and at least 40 per cent. on each paper.

5. *Supplemental Examinations.*—Supplementals granted on the examination of any year must be removed not later than September of the following year. A candidate may remove one or more supplementals at any examination during the period

prescribed. If writing only one paper, he must obtain 50%. If writing more than one paper, he must obtain an average of 50% and not less than 40% on each paper.

6. Matriculation certificates will be issued to candidates who have passed the Matriculation Examination, but not to those who have qualified by means of other certificates, except when the greater part of the requirements have been satisfied by passing the British Columbia Matriculation examination.

7. *Fees*—

For the first Examination, Junior Matriculation.....$5.00

For the first Examination, Senior Matriculation..... 5.00

For a subsequent Examination, Junior or Senior Matriculation, per paper..... 2.00

For examination of certificates, in respect of which candidates are exempted from the whole or part of the Junior or Senior Matriculation Examination..... 2.00

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8. Candidates for admission to the University who have been granted matriculation standing "with supplementals" may be allowed to enter the first year as conditioned undergraduates on the recommendation of the Committee on Admission, Standing, and Courses.

9. Certificates and diplomas covering the Matriculation requirements of other universities will, if submitted to the Registrar, be accepted *pro tanto* in lieu of the Matriculation Examination; i.e., in so far as the subjects and standard of the examination taken to obtain them are, to the satisfaction of the Faculty, equivalent to those required for the British Columbia Matriculation Examination. Candidates offering certificates which are not a full equivalent will be required to pass the

Matriculation Examination in such of the necessary subjects as are not covered thereby.

10. *Intending students who wish to enter by certificates other than Matriculation certificates issued in British Columbia should under no circumstances come to the University without having first obtained from the Registrar a statement of the value of the certificates they hold, as many of these may lack one or more essential subjects, or the work done in a subject may not be adequate, or, again, the percentage gained may not be sufficiently high.* (See *Regulation 4.*) *Moreover, it must be remembered that a certificate may admit to one Faculty and not to another. When an applicant's diploma or certificate does not show the marks obtained in the several subjects of the examination, he must arrange to have a statement of his marks sent to the Registrar by the Education Department or University issuing such diploma or certificate. The fee for examination of certificates is $2.00.*

1923-24

SUBJECTS OF EXAMINATION.

JUNIOR MATRICULATION.

The subjects for Junior Matriculation are as follows:—

1. **English.**
2. **History and Historical Geography.**
3. **Mathematics; Algebra and Geometry.**
4. **French, or German, or Latin.**
5. (*a*) The two languages in 4 not already taken,

or (*b*) *One* of the languages in 4 not already taken and *one* of the following sciences: **Chemistry, Physics, Botany, Agriculture.**

or (*c*) Two of the following sciences: **Chemistry, Physics, Botany, Agriculture.**

NOTE.—**Greek** may be taken in place of *one* science, but only by students offering **Latin.**

REQUIREMENTS IN EACH SUBJECT.

English.

1. *Composition and Reading.*—The principles of English composition, as in *High School English Composition, Western Canada Series* (Copp, Clark Co. Ltd.), with short essays on a general subject and other subjects based on works prescribed for reading as follows: (*a.*) Prose (two books to be selected)—Washington Irving: *The Sketch Book* (Macmillan, Oxford); Scott: *Kenilworth*; George Eliot: *Silas Marner* (ed. Stevenson, Copp, Clark; or Macmillan or Dent); Southey: *Life of Nelson* (Everyman's Library). (*b.*) Poetry (one to be selected)—Shakespeare: *As You Like It* (ed. Stevenson, Copp, Clark; or Macmillan); Tennyson: *Gareth and Lynette* (Macmillan or Ginn).

The editions are merely recommended, not required.

The books to be selected should be read carefully, but the student's attention should not be so fixed upon details that he fails to appreciate the main purpose and beauty of the work.

Frequent practice in composition is essential.

2. *Literature* (for critical study).—Shakespeare: *Merchant of Venice* (ed. Stevenson, Copp, Clark) or *Henry V.* (Junior School ed., Blackie & Sons); *Poems of the Romantic Revival* (Copp, Clark Co.), omitting the selections from Coleridge and Byron.

Candidates will be expected to memorize some of the finest passages.

Two examination papers of two hours each; one on Composition, the other on Literature.

Spelling will be tested by the candidate's papers in English. Examiners in other subjects will also take note of misspelled words and will report flagrant cases to the Board.

History and Historical Geography.

The essentials of European history, ancient, mediæval, and modern (to the eighteenth century), as presented by Breasted & Robinson in their *Outlines of European History,* Part I. (Ginn & Company). The revised edition is entitled *History of Europe, Ancient and Mediaeval* (Ginn & Company, 1920). Either edition may be used for the school year 1923-24. (Teachers should emphasize and develop the sections treating of British history.)

The geography required will be that relating to the history prescribed.

One paper of two hours.

(It is expected that West's *World Progress,* revised and in part rewritten for use in Canadian schools, will be introduced in 1924.)

Mathematics.

1. *Algebra.*—As in the first thirty-one chapters, and the graphical work of Articles 411 to 428, inclusive, Hall & Knight's *Elementary Algebra,* omitting the articles in Chapter 29 marked with an asterisk. Questions may be assigned which will test the candidate's accuracy in the elementary processes of Arithmetic, Vulgar and Decimal Fractions, and Square Root.

One paper of two hours.

2. *Geometry.*—

For the examination in June, 1923:

Parts I., II., III. (omitting pp. 212-218), and IV., of Hall & Stevens' *School Geometry,* London Edition.

One paper of two hours.

For the examination in June, 1924, and following years:

A. CONSTRUCTIONS:

Use of such simple instruments as graduated ruler, compasses, set-squares, and protractor, etc., in the accurate construction of figures; some leading propositions reached by induction as a result of these constructions.

To bisect a given angle, a given straight line.

To draw a perpendicular to a given straight line from a given point (*a*) in the line, (*b*) not in the line.

Locus of a point equidistant from two given lines.

To construct a triangle with sides of given length.

To construct an angle equal to a given angle.

Through a given point to draw a straight line parallel to a given straight line.

To divide a line into any number of equal parts.

To describe a parallelogram equal to a given triangle and having one of its angles equal to a given angle.

To draw a triangle equal in area to a given quadrilateral.

To describe a parallelogram equal to a given rectilineal figure, and having an angle equal to a given angle.

The plotting of points on squared paper.

The areas of rectilineal figures on squared paper.

To find the centre of a given circle.

To circumscribe a circle about a given triangle.

To draw a tangent to a given circle from a given point on or without the circle.

On a given straight line to construct a segment containing an angle equal to a given angle.

In a given circle to inscribe a triangle equiangular to a given triangle.

To inscribe a circle in a given triangle.

To draw an escribed circle of a given triangle.

About a given circle to circumscribe a triangle equiangular to a given triangle.

To find the fourth proportional to three given straight lines.

To divide a given straight line internally and externally in a given ratio.

To find the mean proportional between two given straight lines.

B. THEOREMS:

Definitions.

If two triangles have two sides and the contained angle of one respectively equal to two sides and the contained angle of the other, the two triangles are congruent.

The angles at the base of an isosceles triangle are equal, with converse.

If two triangles have the three sides of one respectively equal to the three sides of the other, the triangles are congruent.

Relations between angles formed by a transversal cutting two parallel lines, with converse.

The exterior angle, made by producing one side of triangle, equals the sum of the two interior and opposite angles; and the sum of the three interior angles is two right angles.

The greater side of a triangle has the greater angle opposite it, with converse.

If two triangles have two angles and a side of one respectively equal to two angles and the corresponding side of the other, the triangles are congruent.

If two triangles have two sides of one respectively equal to two sides of the other and have the angles opposite one pair of equal sides equal to each other, the angles opposite the other pair of equal sides are either equal or supplementary.

Any two sides of a triangle are together greater than the third side.

If two triangles have two sides of the one respectively equal to two sides of the other, but the contained angle in one greater than the contained angle in the other, the triangle which has the greater contained angle has the greater third side, with converse.

Straight lines which join the ends of two equal and parallel straight lines towards the same parts are themselves equal and parallel.

In any parallelogram, the opposite sides and angles are equal, the diagonal bisects the area and the diagonals bisect each other.

Parallelograms on the same or equal bases and between the same parallels are equal in area.

Triangles on the same or equal bases and between the same parallels are equal in area.

If two equal triangles are on the same side of a common base, the straight line joining their vertices is parallel to the common base.

The complements of the parallelograms about the diagonal of any parallelogram are equal to each other.

Algebraic and geometric proofs of areas of squares and rectangles in connection with the segments of a straight line.

The square described on the hypotenuse of a right-angled triangle is equal to the sum of the squares on the other two sides, with converse.

In an obtuse-angled triangle, the square on the side opposite the obtuse angle equals the sum of the squares on the other two sides increased by twice the rectangle contained by either of these sides and the projection of that side on the other.

In any triangle the square on the side opposite the acute angle is equal to the sum of the squares on the other two sides diminished by twice the rectangle contained by either of these sides and the projection of that side on the other.

If from a point within a circle more than two equal straight lines are drawn to the circumference, that point is the centre.

Equal chords of a circle are equidistant from the centre, with converse.

Of two chords in a circle the one which is nearer to the centre is greater than the one which is more remote from the centre, with converse.

The angle at the centre of a circle is double the angle at the circumference on the same arc.

The angles in the same segment of a circle are equal, with converse.

The angle in a semi-circle is a right angle, in a major segment is acute, and in a minor segment, obtuse.

The opposite angles of any quadrilateral inscribed in a circle are supplementary, with converse.

The radius drawn to the point of contact of a tangent is perpendicular to the tangent; the perpendicular to the tangent at the point of contact passes through the centre; the perpendicular from the centre on the tangent passes through the point of contact.

If two circles touch one another, the centres and the point of contact are in one straight line.

The angles made by a tangent to a circle with a chord drawn from the point of contact are respectively equal to the angles in the alternate segments of the circle.

Triangles of the same altitude are to one another as their bases.

A straight line drawn parallel to the base of a triangle cuts the sides, or the sides produced, proportionally, with converse.

If the vertical angle of a triangle is bisected internally or externally, the bisector divides the base into segments which have the same ratio as the other sides of the triangle, with converse.

If two triangles are equiangular, their corresponding sides are proportional, with converse.

If two triangles have one angle of the one equal to one angle of the other, and the sides about the equal angles proportional, the triangles are similar.

If two triangles have two sides of one proportional to two sides of the other, and the angles opposite one pair of corresponding sides in the proportion equal, the angles opposite the other pair of corresponding sides are either equal or supplementary.

If two chords intersect within a circle, the rectangle contained by the segments of one is equal to the rectangle contained by the segments of the other.

If from a point without a circle a secant and a tangent be drawn, the square on the tangent is equal to the rectangle contained by the secant and the part of it without the circle.

The areas of similar triangles are proportional to the squares on corresponding sides.

NOTE.—Constructions and theorems on ratio and proportion are restricted to cases in which the ratios are commensurable.

At the examination, questions may be given in making the actual constructions in the prescribed course. Candidates will, therefore, provide themselves with a graduated ruler, compasses, set-square and protractor.

One paper of two hours.

Texts: Godfrey and Siddons' *Geometry* or Hall and Stevens' *School Geometry*.

Chemistry.

As in Chemistry—Cornish: *A Text-Book for High Schools* (Macmillan), and Cornish and Smith: *A Laboratory Manual in Chemistry* (Macmillan).

One paper of two hours.

Physics.

The general principles of physics as given in any standard text-book of High School Physics. The examination will be

based on the *Ontario High School Physics* (Merchant & Chant) and *The Ontario High School Laboratory Manual in Physics.*

Measurement—Chapter I.

Hydrostatics—Chapters X., XI., XII., XIII. and XIV.

Sound—Chapters XVIII., XIX. (omitting Sections 198 and 199), and Chapter XX. to the end of Section 206.

Heat—Chapters XXIV., XXV., XXVI., XXVII.,XXVIII., XXIX. and XXXI.

Light—Chapters XXXII., XXXIII., XXXV., XXXVI., XXXVII. and XXXVIII.

Magnetism and Electricity—Chapters XLI., XLII., XLIII., XLIV., XLV., XLVI., XLVII. and XLVIII. (omitting Section 529).

Exercises as in the Laboratory Manual (omitting numbers 6, 33, 34, 36, 37, 39, 51, 52, 58, 69, 77, 78, 83, 96, 97, 99 and 107).

Botany.

In this course the nature-study method of presentation should be adhered to throughout. No text-book is prescribed for use of pupils. Each pupil should have a good note-book in which to record his or her observations and conclusions. Careful drawings of parts studied should be emphasized.

Emphasis is placed upon comprehension of principles rather than mastery of detail, and upon observation rather than book knowledge.

The following points should be studied, as far as possible, from plants belonging to families given below.

1. *Growth:* Germination, growth regions, buds, meristem, cambium, growth movements in response to gravitation, light, water, contact (tendrils, and the sensitive plant).

2. *Nutrition:* Form, structure and function of roots, stems and leaves; their relation to each other, and to the absorption and conduction of raw materials, and especially in regard to food manufacture. Simple experiments to illustrate osmosis, photosynthesis, and transpiration.

Modifications for storage of food: tuberous roots, corms, bulbs, etc.

3. *Reproduction:*

(*a*) *Vegetative methods:*

Suckers, runners, stolons, tubers, etc.

(*b*) *Flowers:* Bracts, inflorescence, parts of flower, number of whorls, function of each, number and position of parts in each whorl, cohesion and adhesion of parts or whorls. Relation of structure to pollination and to classification of plants into families. To ensure completeness and accuracy of observation, the construction of floral diagrams and floral formulæ of flowers examined is recommended.

Fruits: Origin of parts, structure, texture, modifications for seed dispersal.

Seeds: Origin, structure, embryo, nature and position of food store. Modifications for dispersal.

4. *Classification of Plants* based on the increasing complexity of plant structure, development, reproduction and life histories.

Essential characteristics of the four divisions:—

(1) *Thallophytes.* Characteristics of sub-divisions Algæ, Fungi, Lichens.

(2) *Bryophytes:* Life history of moss.

(3) *Pteridophytes:* Life history of Fern. Characteristics of Horsetails and Club-moss.

(4) *Spermatophytes:*

(*a*) *Gymnosperms:* (Conifers). Study of leaves, cones, and general habit of at least three genera.

(*b*) *Angiosperms:* Familiarity with the local flora; particularly examples of the following families:

(Monocotyledons): Gramineæ and Liliaceæ.
(Dicotyledons): Salicaceæ, Ranunculaceæ, Cruciferæ, Rosaceæ, Leguminosæ, Umbelliferæ, Ericaceæ, Scrophulariaceæ, Labiatæ, Compositæ.

5. *Plant-Associations:*

It is recommended that visits be made to different habitats, to give pupils an opportunity of studying the flora and its relation to environment, differences of temperature, amount of available water, light intensity, nature of soil, etc.

6. *Economic Plants of British Columbia:*

Weeds, medicinal and poisonous plants, especially those belonging to the above families.

On application teachers will be provided with a supplementary outline of the prescribed work.

Teachers' Reference Books:

Bergen & Caldwell: *Practical Botany* (Ginn & Co.).

Coulter, Barns & Cowles: *Text Book of Botany,* Vols. I. & II. University of Chicago Press.

Ganong: *A Text Book of Botany.* (Macmillan, 1916.)

Curtis: *Nature and Development of Plants.* (H. Holt, 1915.)

Henry: *Flora of Southern British Columbia.* (Gage, 1915.)

R. B. Thomson and H. B. Sifton: *Poisonous Plants and Weed Seeds of Canada.* (Univ. of Toronto Press, 1922.)

One paper of two hours.

Agriculture.

Soil Studies.—Origin and classification; water, air, and bacteria in soil; drainage; drainage surveys; physical analysis; composition; plant-foods; humus and fertilizers.

Soil Management.—Tillage, manuring and rotation of crops; humid and dry farming.

Vegetable Gardening.—Hot beds and cold frames; their preparation and use; selection of garden seeds; choice of varieties; cultural methods.

Small Fruits.—Soil and cultural requirements; standard varieties; harvesting and marketing.

Landscape Gardening.—Plans for beautifying home and school grounds; making and care of lawns, walks, and flower beds; best adapted ornamental trees, shrubs, and flowering plants.

Orcharding.—Location, planting, and management; harvesting and marketing; standard varieties.

Insect Study.—Identification and life-history of field, garden, and orchard insects; remedial measures.

Field Crops.—Selection, cultivation, harvesting, and disposition.

Live Stock.—Necessity of live stock in good farming; history, adaptability, and management of the principal classes.

Poultry.—Breeds, housing, feeding, and management.

Rural Economics.—Agricultural organizations and co-operative associations.

Bee Keeping.—Life history, care and management; equipment; recognition and treatment of diseases.

One paper of two hours.

NOTE.—Fifty per cent. of the possible total in the final examination will be awarded on the written paper, and fifty per cent. on term work, including certified laboratory note-books.

Latin.

Texts:—

Caesar Book IV., Chapter 20 to the end.

Caesar Book V., Chapters 1 to 23, inclusive.

Virgil Aeneid II., Lines 1 to 505.

Grammar.—Knowledge of grammar will be tested by translation and composition, and by questions based on the specified texts.

Translation at sight from Latin to English.

Composition.—Translation into Latin of detached English sentences and easy narrative based on the prescribed texts, as in Henderson and Little's *Matriculation Caesar* (Copp, Clark Co.).

Two papers of two hours each; one on composition and grammar, the other on prescribed texts and translation at sight.

NOTE.—The Roman method of pronouncing Latin is recommended.

Greek.

Lessons 1-48 of White's *First Greek Book* (Ginn & Co.).

One paper of two hours.

NOTE.—This course can be covered successfully in one year.

French.

Grammar.—Candidates will not be required to state grammatical rules, in writing, or to reproduce tables of verbs, regular or irregular. They will be expected to have a thorough *practical* knowledge of French accidence and of such points of syntax as are of frequent occurrence in ordinary prose style.

This knowledge will be tested by asking candidates to modify sentences given, to fill in words necessary to complete sentences, or to change infinitives to the tense required by the context. They may be asked to form sentences from elements given.

Translation at sight into English of a French passage of moderate difficulty, dealing with French life, trades, industries, history, travel. A knowledge of useful words is required.

Translation into French of detached sentences—chiefly common idioms (not rare idioms and little used proverbs) and an easy English passage. The latter may be a dialogue. It will be selected with a view to testing the candidate's knowledge of French, not of grammatical exceptions.

The text prescribed is Siepmann's *Primary French Course,* Part II. (Macmillan Co., Canada); the first twenty lessons

only. For supplementary work, teachers are recommended to use Allen and Schœll, *French Life* (Henry Holt & Co.).

Two papers of two hours each.

German.

Reading and speaking.

Candidates will be expected to have a fair knowledge of German sounds and pronunciation. They must be able to read with ease German prose or verse of ordinary difficulty and to answer correctly in German simple questions based on the reading prescribed.

Grammar.—They will be expected to have a thorough *practical* knowledge of German accidence and of such points of syntax as are of frequent occurrence in ordinary prose style.

This knowledge will be tested by asking them to modify sentences given, to fill in words necessary to complete sentences, or to change uninflected words to forms required by context, etc.

Translation at sight into English of a German passage of moderate difficulty, dealing with German life, ways, and customs. A knowledge of useful words will be required.

Translation into German of detached English sentences and of an easy English passage. A knowledge of simple idiomatic and colloquial German expressions will be required.

Books recommended: (*a.*) Zinnecker: *Deutsch fur Anfänger* (Exercises 1-32), (Heath); (*b.*) Haertel: *German Reader for Beginners* (Ginn & Co.).

N.B.—Teachers should insist upon correct pronunciation, and use the language as much as possible in class instruction.

Two papers of two hours each.

SENIOR MATRICULATION.

Candidates must furnish evidence of having passed Junior Matriculation, or its equivalent.

Candidates who have been granted Junior Matriculation standing with supplementals will be permitted to sit for the Senior Matriculation Examinations, but will not be granted full Senior Matriculation standing until they have completed both Junior and Senior Matriculation.

The subjects for Senior Matriculation are as follows:—

1. **English** and **History.**
2. **Mathematics (Algebra, Geometry** and **Trigonometry).**
3, 4, 5. Three of the following: **Chemistry, Physics, French, German, Greek, Latin.**

REQUIREMENTS IN EACH SUBJECT.

English.

1. *Composition*—Fundamental principles—words, sentences, paragraphs, the composition as a whole. Lomer & Ashmun: *The Study and Practice of Writing English* (Houghton, Mifflin & Co.), indicates the ground covered. Regular practice in Composition is essential.

2. *Literature*—

    1. Chaucer's *Prologue to the Canterbury Tales.*
    2. Spenser's *Faerie Queene,* Book I.
    3. Milton's *Comus.*
    These can be obtained in Macmillan's Pocket Classics.
    4. Halleck's *History of English Literature,* 1913 Edition (American Book Co.), pages 1-255, with such illustrations as time may permit. Suitable illustrative material will be found in Chambers' *Cyclopedia of English Literature.*

History.

The evolution of modern European society as interpreted by Robinson & Beard in their *History of Europe, Our Own Times* (Ginn & Co., 1921). This is the sequel to *History of Europe, Ancient and Mediaeval.*

Mathematics.

Algebra.—Equations, progressions, ratio, proportion, variation, surds, theory of equations, inequalities, maxima and minima, permutations, combinations, binomial theorem.

Text: Crawford's *Senior High School Algebra* (Macmillan), (omitting Chapters X, XIV, XV, XVI), or the same subject matter in similar text-books.

Plane and Solid Geometry.—As in Hall & Stevens' *School Geometry.*

Trigonometry.—Playne & Fawdry's *Practical Trigonometry* (Copp, Clark Co.), Chapters I to IX, inclusive, or the same subject matter in similar text-books. Wentworth & Hill's *Five-Place Tables* (Ginn & Co.).

NOTE:

Geometry for 1925 and following years:

A. *Synthetic Geometry.*

Loci, maxima and minima, the system of inscribed, escribed and circumscribed circles with metrical relations, the pedal or orthocentric triangle, Simpson's line, the nine-point circle.

To divide a given straight line internally and externally in medial section.

To describe a square that shall be equal to a given rectilineal figure.

To describe an isosceles triangle having each of the angles at the base double the third angle.

To inscribe a regular pentagon in a given circle.

The square on two sides of a triangle are together equal to twice the square on half the third side plus twice the square on the median to that side.

The perpendicular from the right angle to the hypotenuse in a right-angled triangle divides the triangle into two triangles which are similar to each other and to the original triangle.

To find the mean proportional between two given straight lines.

To describe a polygon similar to a given polygon and with the corresponding sides in a given ratio.

To divide similar polygons into similar triangles.

The areas of similar polygons are proportional to the squares on corresponding sides.

To make a polygon similar to a given polygon and such that their areas are in a given ratio.

In a right-angled triangle, any rectilineal figure described on the hypotenuse is equal to the sum of the two similar and similarly described figures on the other two sides.

If the vertical angle of a triangle be bisected by a straight line which also cuts the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the segments of the base together with the square on the straight line which bisects the angle.

If from the vertical angle of a triangle a straight line be drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

The rectangle contained by the diagonals of a quadrilateral inscribed in a circle is equal to the sum of the two rectangles contained by its opposite sides.

Two similar polygons may be so placed that the lines adjoining corresponding points are concurrent.

If a straight line meets the sides BC, CA, AB of a triangle ABC in D, E, F, respectively, then BD.CE.AF = DC.EA.FB and conversely (Menelaus' Theorem).

If straight lines through the angular points A B C of a triangle are concurrent and intersect the opposite sides in D, E, F,

respectively, then BD.CE.AF = DC.EA.FB, and conversely (Ceva's Theorem).

Exercises on the preceding.

B. *Analytical Geometry.*

Rectangular coordinates, distance between two points, the coordinates of the point dividing the line joining two given points in a given ratio, the area of a triangle.

Plotting equations of the forms, $ax+by+c=0$, $ax^2+by^2=c$, $ax^2=by+c$, $by^2=ax+c$.

Equations of the straight line in the forms $x/a+y/b=1$ (intercept form), $y=mx+b$ (slope form), $y-y_1=m(x-x_1)$ (general slope form), $x \cos \alpha + y \sin \alpha = p$ (normal form), $(y-y_1)/(y_1-y_2)=(x-x_1)/(x_1-x_2)$ (two point form). The interpretation of the different constants in these equations.

The angle between two straight lines, condition of parallelism, condition of perpendicularity.

The length of the perpendicular from a given point to a given straight line.

The equation of a line passing through the intersection of two straight lines.

The equation of the circle with centre at origin and with centre at (h, k). Finding the radius and the coordinates of the centre from the general equation $x^2+y^2+2gx+2fy+c=0$. The equation of a circle passing through three points.

The tangent to the circle with centre at the origin in the forms $xx_1+yy_1=r$, and $y=mx+r\sqrt{1+m^2}$.

The normal in the form $x/x_1=y/y_1$.

Exercises on the preceding.

Text: McDougall's *Advanced Geometry for High Schools* (Copp, Clark Co.).

One examination paper.

Chemistry.

General Chemistry.—This course is arranged to give a full exposition of the general principles involved in modern Chemistry, and comprises a systematic study of the properties of the more important metallic and non-metallic elements and their compounds, and the application of Chemistry in technology.

Students must reach the required standard in both theoretical and practical work, and are required to submit a certified laboratory note-book.

Book recommended:—Alexander Smith: *General Chemistry for Colleges* (Century Co.). Chapter XXXIX may be omitted.

Physics.

A general study of the principles of mechanics, properties of matter, heat, light, sound, and electricity. The course has two objects: (1) To give the minimum acquaintance with physical science requisite for a liberal education to those whose studies will be mainly literary; (2) to be introductory to the courses in Agriculture, Chemistry, Engineering, and Physics. Students must reach the required standard in both theoretical and practical work and are required to submit a certified laboratory note-book.

Text-books: *Ontario High School Physics,* and *Ontario High School Laboratory Manual in Physics.*

Latin.

Texts.—W. J. Woodhouse: *Cicero, Pro Lege Manilia* (Copp, Clark Co.).
Page: *Virgil, Aeneid IV., Georgic IV.* (Macmillan).

Composition.—Bradley: *Arnold's Latin Prose Composition.* (Longmans & Co.) Exercises I-XVIII.

History.—Pelham: *Outlines of Roman History to* 133 *B.C.* (Rivingtons).

Two papers of three hours each.

Greek.

Texts.—Bond & Walpole: *Lucian, Extracts* (Macmillan); Blakeney: *Euripides, Alcestis* (Bell's Illustrated Classics).

Composition and Grammar. — White's *First Greek Book* (Copp, Clark Co.).

History. — Cox: *Athenian Empire* (Longman's Epoch Series).

French.

(*a.*) *Literature.* — Molière: *Le Bourgeois Gentilhomme;* Bazin: *Six Contes* (Oxford Press); Allen & Schoell: *French Life* (Henry Holt).

(*b.*) *Language.*—Revision of the essentials of French Grammar applied to the correct writing of French. Oral work from Weil: *Leçons de Français* (Delagrave).

German.

Language.—Completion and Revision of Zinnecker: *Deutsch fur Anfänger* (Heath).

Composition based on texts read.

Reading.—Moser: *Der Bibliothekar* (Ginn); Freytag: *Die Journalisten* (Ginn); Heine: *Die Harzreise* (Allyn and Bacon).

ADMISSION TO APPLIED SCIENCE.

The requirements for Matriculation in Applied Science are the same as for Senior Matriculation. Students who have passed the First Year in Arts are admitted to the First Year in Applied Science without further examination.

RETURNED SOLDIERS

Returned soldiers will be admitted to the First Year in Applied Science on passing an examination as follows:

1. English (as for Junior Matriculation).

2. History and Historical Geography (as for Junior Matriculation).

3. One of the following:—
French, German, Latin (as for Junior Matriculation).

4. Algebra (as for Junior and Senior Matriculation). Two papers.

5. Geometry (as for Junior and Senior Matriculation). Two papers.

6. Trigonometry (as for Senior Matriculation).

7. One of the following:—
Botany, Chemistry, Physics, a language not already chosen (as for Junior Matriculation).

ADMISSION TO ADVANCED STANDING.

A student of another university applying for exemption from any subject or subjects which he has already studied is required to submit with his application a Calendar of the University in which he has previously studied, together with a complete statement of the course he has followed and a certificate of the standing gained therein in the several subjects. The Faculty will determine the standing of such a student in this University. The fee for examination of certificates, in respect of which candidates are granted exemptions, is $2.00.

AGE OF ADMISSION.

Except under special circumstances, no student under the age of sixteen is admitted to the First Year Courses in Arts, Applied Science or Agriculture, or under the age of seventeen to the Second Year.

REGISTRATION AND ATTENDANCE.

Registration.

APPLICATION FOR ADMISSION.

Those who intend to register as students of the University for the Session 1923-24 are required to make application to the Registrar before the beginning of lectures, on forms to be obtained from the Registrar's office.

Friday, September 21st, will be the last day of registration for all students.

Lectures will commence on Tuesday, September 25th.

The complete regulations regarding registration follow:—

1. Candidates entering on a course of study in any Faculty, whether as undergraduates, conditioned students, or partial students, are required to attend *in person* at the office of the Registrar before the beginning of the session, to furnish the information necessary for the University records, to register for the particular classes which they wish to attend, and to sign the following declaration:—

"I hereby accept and submit myself to the statutes, rules, regulations, and ordinances of The University of British Columbia, and of the Faculty or Faculties in which I am registered, and to any amendments thereto which may be made while I am a student of the University, and I promise to observe the same."

2. Students who for any reason have failed to register by the date specified above, may be permitted to do so within a limited time thereafter, but only on payment of a fee of $2 for late registration.

3. The Registrar is empowered to register all students whose records show that they are entitled to attend the classes applied for. To enable him to determine this, new students must present certificates at time of registration. (*See* paragraphs 9 and 10 under Regulations in reference to admission.) All doubtful cases will be dealt with by the Faculty.

4. Class Tickets will be issued to students when they register, and *only those for whom tickets have been received by an Instructor will be admitted to his class.* To students whose standing cannot be determined at the time of registration special tickets will be issued, which will give them the right of admission to classes until such time as their status is ascertained.

5. Students desiring to make a change in their choice of studies must make application to the Registrar, on standard form for "change of course." This application must be approved by the Committee on Courses, whereupon due notice will be sent by the Registrar to all parties concerned. *No change in registration will be allowed, except under special circumstances, after the fifteenth day of the session.*

6. Persons who wish to pursue courses in the University without a view to qualifying for a degree will be classified as *partial* students and shall not be admitted to any course until they have obtained the permission of the Dean and the Head of the Department concerned.

7. In the Faculty of Arts, where there is a choice of courses, students in attendance are requested to choose their electives for the next year before the close of the preceding session, or (in cases where this cannot be done) not later than one week before the opening of the session.

Attendance.

1. Students are required to attend at least seven-eighths of the total number of lectures in each course. Those whose unexcused absences exceed one-eighth of the total number of lectures in a course shall not be permitted to come up for the examination in that course, but may sit for supplemental examination; those, however, whose unexcused absences exceed one-fourth of the total number of lectures in any course must repeat the work in that course.

Excuses on the ground of illness or domestic affliction will be dealt with only by the Dean.

☞ *Medical certificates must be presented immediately on return to University work.*

2. A record will be kept by each professor or lecturer, in which the presence or absence of students will be carefully noted. This record will be submitted to the Faculty when required.

3. Credit for attendance at any lecture or class may be refused on the grounds of lateness, inattention, neglect of study, or disorderly conduct in the class-room or laboratory.

The following special regulations with regard to marking the attendance of students have been adopted:—

Lectures will commence on the hour, or at the conclusion of the roll-call. After the commencement of a lecture students are not allowed to enter, except with the permission of the Instructor. If permitted to enter, they will, on reporting themselves at the close of the lecture, be marked "late." Two "lates" will count as one absence. Lectures end at five minutes before the hour.

CLASSES OF STUDENTS.

There are three classes of students:—

(1.) Full undergraduates—students who have passed the Matriculation Examination and, in the case of Second, Third and Fourth Year students, all the examinations of their course in the years below that in which they are registered.

(2.) Conditioned undergraduates — those with defective entrance qualifications or those who have failed in one or more of the subjects of their course in the year previous to that in which they are registered.

(3.) Partial students—comprising all those who, not belonging to one of the above classes, are taking a partial course of study. Except as provided below, such students may (subject to the approval of the Dean and the Head of the Department) attend any class without previous examination.

FEES.

General Regulations.

1. The sessional fees are as follows:

REGISTRATION AND CLASS FEES

In Arts—

First Term, payable on or before Oct. 6th	$40.00	
Second Term, payable on or before Jan. 19th	35.00	
		$ 75.00

In Applied Science—

First Term, payable on or before Oct. 6th	$50.00	
Second Term, payable on or before Jan. 19th	50.00	
		100.00

In Agriculture—

First Term, payable on or before Oct. 6th	$40.00	
Second Term, payable on or before Jan. 19th	35.00	
		75.00

In Nursing—

First Term, payable on or before Oct. 6th	$40.00	
Second Term, payable on or before Jan. 19th	35.00	
		75.00

Alma Mater Fee—Payable on or before Oct. 6th	7.00
Caution Money—Payable on or before Oct. 6th	5.00

FOR PARTIAL STUDENTS

Fees per "Unit"—Payable on or before Oct. 6th	7.00
Alma Mater Fee—Payable on or before Oct. 6th	7.00
Caution Money—Payable on or before Oct. 6th	5.00

FOR GRADUATES

Registration and Class Fees—Payable on or before Oct. 15th	10.00

After these dates an additional fee of $2.00 will be exacted of all students in default.

1923-24

All cheques must be made payable to "The University of British Columbia."

At the request of the students themselves, and by the authority of the Board of Governors of the University, the $7.00 fee is exacted from all students for the Alma Mater Society.

The Caution money is returned at the end of the Session after deductions have been made to cover breakages, wastage, and use of special materials in laboratories, etc. In case the balance of the deposit remaining to the credit of a student falls below $1.50, a second deposit of $5.00 may be required.

2. Immediately after October 20th the Bursar shall send to the Instructors a list of the students who have not paid their fees, on receipt of which their names shall be struck from the registers of attendance, and such students cannot be readmitted to any class except on presentation of a special ticket, signed by the Bursar, certifying to the payment of fees.

3. Students registering after October 6th shall pay their fees at the time of registration, failing which they become subject to the provisions of Regulation 2.

4. Special fees are:—

Regular supplemental examination, per paper	$ 5.00
Special examination, per paper	7.50
Graduation	20.00

Supplemental examination fees must be paid two weeks before the examination, special examination fees when application for examination is made, and graduation fees two weeks before Congregation.

PRIZES, MEDALS, AND SCHOLARSHIPS

1. General proficiency scholarships are open to candidates in the Faculties of Arts and Science, Applied Science, and Agriculture.

2. No scholarship, medal, or prize will be awarded to any candidate who has failed to take 75 per cent. of the marks obtainable in the subject or subjects to which the award is attached.

3. No candidate will be permitted to hold more than one scholarship, but anyone who would, but for this provision, have been entitled to a second scholarship will have his name published in the lists.

4. When for this reason the scholarship cannot be awarded to the candidate obtaining the highest number of marks, it will be granted to the candidate ranking second, provided he has obtained the requisite number of marks.

5. A successful candidate, in order to retain his scholarship, must proceed with his course to the satisfaction of the Faculty concerned, but the Faculty may, upon satisfactory reasons being shown, permit a scholar to postpone attendance for a year. If at the end of a year a further postponement is necessary, special application must again be made. In every such case the payment of the scholarship will be postponed in like manner.

6. The scholarships will be paid in three instalments during the session following their award—on the 15th of November, the 15th of January, and the 15th of March.

7. Winners of scholarships who desire to do so may resign the monetary value, while the appearance of their names in the University list enables them to retain the honour. Any funds thus made available will be used for additional scholarships or student loans.

8. Scholarships, medals, and prizes will be awarded at the close of the session, and in case of Matriculation Examinations, after the June examination.

For 1923-24 the following scholarships, prizes, and medals will be offered:—

THE GOVERNOR-GENERAL'S MEDAL.

A gold medal, presented by His Excellency the Governor-General of Canada, will be awarded to the student standing at the head of the graduating class in the Faculty of Arts and Science. Honour and pass students may compete for this medal.

ROYAL INSTITUTION SCHOLARSHIPS AND LOANS.

(a) Matriculation Scholarships.

1. Seven General Proficiency Scholarships will be awarded on the result of the Junior Matriculation Examinations.

A. One of $150 to be awarded to the British Columbia candidate for matriculation who obtains the highest standing.

B. Six of $100 each, one for each of the following districts, to be awarded to the candidate from each of such districts who obtains the highest standing among the candidates from the district:—

1. Victoria District.
2. Vancouver Island (exclusive of Victoria District) and Northern Mainland.
3. Vancouver District.
4. Fraser Delta (exclusive of Vancouver District, but including Agassiz).
5. Yale.
6. Kootenays.

NOTE.—*In the district from which the winner of A comes, B will be awarded to the candidate standing second.*

These scholarships can be enjoyed only by students in attendance at the University of British Columbia.

2. A student who wins a Junior Matriculation Scholarship and proceeds to Senior Matriculation in his own district high school may have the scholarship reserved for him for one year, to be awarded subject to his obtaining satisfactory standing in the Senior Matriculation Examination.

3. A student winning a Matriculation Scholarship and taking his first two years of the Arts course in an affiliated institution, may be allowed to enjoy the privilege of the scholarship if he attends the University during the third year.

4. Sums accruing from unawarded Matriculation Scholarships shall be used, at the discretion of Faculty, in the form of bursaries or loans to assist returned soldiers.

(b) First Year Scholarships.

Four scholarships of $75 each (three in Arts and one in Applied Science) will be awarded for general proficiency in the work of the First Year.

(c) Student Loans.

A fund is provided from which a loan not to exceed $100 may be made to a deserving student who is in need of pecuniary assistance. Application for such a loan should be addressed to the President of the University.

UNIVERSITY SCHOLARSHIPS, ETC.

1. A scholarship of the value of $200 may be awarded to a graduate student who shows special aptitude for post-graduate studies. (Applications should be made to the Registrar not later than the last day of the final examinations.)

2. Two scholarships in Arts of $75 each will be awarded to students proceeding to the Fourth Year, the award to be based on the work of the Third Year.

3. Three scholarships (two in Arts and one in Applied Science) of $75 each will be awarded to students proceeding to the Third Year, the award to be based on the work of the Second Year.

4. A scholarship in Agriculture of $75 will be awarded to a student proceeding to the Second Year, the award to be based on the work of the First Year.

5. Two scholarships of $75 each may be awarded to returned soldiers taking the work of the First Year, the award to be based on the work of the year.

6. One scholarship of $75 will be awarded upon the results of the Senior Matriculation Examination.

7. The scholarships mentioned in the above sections will be awarded for general proficiency in the work of the respective years.

8. A book prize of the value of $25, open to all students of the University, will be awarded for an essay on a special literary subject, to be announced at the beginning of the Session by the Department of English.

DONATED SCHOLARSHIPS AND PRIZES.

The Shaw Memorial Scholarship.

This scholarship of $137.50, founded by friends of the late James Curtis Shaw, Principal of Vancouver College, and afterwards of McGill University College, Vancouver, will be paid throughout his undergraduate course to any child of the late Principal Shaw who is in regular attendance at the University as a fully matriculated student; when there is no such candidate, it will be awarded upon the results of the examination of the Second Year in Arts to the undergraduate student standing highest in any two of the following three subjects, English, Latin, Greek, and proceeding to the work of the Third Year.

The McGill Graduates' Scholarship.

This scholarship of $137.50, founded by the McGill Graduates' Society of British Columbia, will be awarded upon the results of the examinations of the Second Year in Arts to the undergraduate student standing highest in English and French, and proceeding to the work of the Third Year.

The Dunsmuir Scholarship.

This scholarship of $165, founded by the Hon. James Dunsmuir, will be awarded upon the results of the examinations of the Third Year in Applied Science to the undergraduate student standing highest in the Mining Engineering Course, and proceeding to the work of the Fourth Year.

NOTE.—The above three scholarships were originally donated to the Royal Institution, and have, with the consent of the

donors, been transferred by the Board of Governors of that institution to The University of British Columbia.

The Convocation Scholarship.

This scholarship, of the value of $50, donated by Convocation of The University of British Columbia, will be awarded annually to the student obtaining first place in the Fourth Year of Applied Science.

The Terminal City Club Memorial Scholarship.

This scholarship, of the value of $110, founded by the members of the Terminal City Club as a memorial to those members of the Club who lost their lives in the Great War, will be awarded upon the results of the examinations of the Second Year in Arts to the undergraduate student standing highest in English and Economics, and proceeding to the work of the Third Year.

The Anne Wesbrook Scholarship.

This scholarship, of the value of $100, given by the Faculty Women's Club of the University, will be open to both men and women graduates of this university who intend to pursue post-graduate study in this or any other approved university.

Applications for this scholarship should be made to the Registrar not later than the last day of the final examinations. Nomination for the award will be made by a joint meeting of the Committee on Scholarships and the Committee on Student Affairs of the Faculty Women's Club.

Graduate Scholarship in Applied Science.

This scholarship, of the value of $100, donated by Dean R. W. Brock, may be awarded to a graduate student in Applied Science who shows special aptitude for post-graduate studies.

Applications should be made to the Registrar not later than the last day of the final examinations.

The Arts '19 Scholarship.

This scholarship, of the value of $150, given by the students of Arts '19, will be awarded on the recommendation of the Faculty Committee on Scholarships to a Third Year student in Arts proceeding to the Fourth Year.

The award will be based on (1) literary and scholastic attainments, and (2) exhibition of moral force of character and instincts to lead and take an interest in fellow-students and in University activities.

This scholarship will be paid in full to the winner at the beginning of the session.

The Vancouver Women's Canadian Club Scholarship.

This scholarship, of the value of $75, given by the Women's Canadian Club, will be awarded to the student obtaining first place in Canadian History.

The Gerald Myles Harvey Prize.

A book prize of the value of $50, given by J. N. Harvey, Esq., in memory of his son, Gerald Myles Harvey, who died on active service, will be awarded to the student of the Third Year in Arts who submits the best essay on a specified subject in Economics or Political Science. The subjects for the Session 1923-24 are as follows:

(1) Improved methods of marketing within the Province the food products of British Columbia.

(2) The Fordney-McCumber tariff of the United States and the export trade of British Columbia.

(3) Considering the resources of the Province of British Columbia, its geographical situation, and financial position, what should be the commercial educational policy of the Province?

The Historical Society Prize.

Through the generosity of R. L. Reid, Esq., K.C., the Historical Society of the University has been able to offer,

annually, a prize of $25, open to all students in Arts, for the best essay on an assigned subject.

The Historical Society Gold Medal.

A gold medal, donated by E. W. Keenleyside, Esq., and known as the Historical Society Gold Medal, will be open to the members of the graduating class. The award will be made by the Department of History, on the basis of the student's standing in the courses in History which he has taken during his undergraduate course, and the general interest he has shown in the subject.

The Historical Society Silver Medal.

A silver medal, donated by Hugh Keenleyside, Esq., of the class of 1920, and known as the Historical Society Silver Medal, will be awarded in the Third Year on the same basis as the gold medal.

The Captain LeRoy Memorial Scholarship.

This scholarship, of the value of $250, donated by the Universities Service Club, will be awarded for the academic year 1923-24 to a returned soldier student in attendance at The University of British Columbia. Applications for this Scholarship may be made by returned soldier students who intend doing second, third, or fourth year work at The University of British Columbia, or post-graduate work at any approved institution. Each application must contain a statement of the academic record, the war record, and the special claims of the applicant, with two supporting references, and must be in the hands of the Registrar not later than April 30th, 1923.

The award will be made by Senate, upon recommendation of Faculty acting in consultation with the Executive of the Universities Service Club.

The Vancouver Women's Conservative Association Prize.

This prize, of the value of $25, given by the Vancouver Women's Conservative Association, is open to students taking

the Mathematics of the First Year in the Faculty of Arts and Science. In awarding the prize preference will be given to the son or daughter of a deceased soldier, provided satisfactory standing is secured in the subject.

The Scott Memorial Scholarship.

This scholarship, of the annual value of $110—the proceeds of an endowment of $2,000—founded by the Imperial Order of the Daughters of the Empire of the City of Vancouver, in memory of Captain Robert Falcon Scott, the Antarctic explorer, who sacrificed his life in the cause of Science, will be awarded for general proficiency in biological subjects to the student who has completed his Second Year in Arts, and who is proceeding in the Third Year to Honour work either in Biology or in a course including Biology.

The Vagabonds' Club Prize.

A prize of the value of $25, given by the Vancouver Vagabonds' Club, is offered for the best original short poem written by a student of the University. The award will be made on the recommendation of the Department of English.

The Players' Club Prize.

A prize of the value of $50, donated by the Players' Club, is offered for an original play suitable for the club's Christmas performance. The award will be made on the recommendation of the Faculty members of the Advisory Board of the Players' Club.

The Letters Club Prize

A prize of $25, presented by R. L. Reid, Esq., K.C., honorary member of the Letters Club, is offered annually for the best essay by an undergraduate student in Arts on an assigned subject in Canadian literature. The award will be made on the recommendation of the Department of English.

The British Columbia Dairymen's Association Prizes.

A sum of $100 is given annually by the British Columbia Dairymen's Association to encourage the judging of live stock among students in the Department of Animal Husbandry. It is awarded in three equal amounts to the students winning places on the team that represents the University in stock-judging at the Pacific International Exposition.

The British Columbia Fruit Growers' Association Scholarship.

This scholarship, of the annual value of $100, donated by the British Columbia Fruit Growers' Association, will be awarded to a student taking the horticultural options of the Third Year. To qualify for this scholarship candidates must attain scholarship standing, not only in horticultural subjects, but also in the work of the year, and must be proceeding to the Horticultural Course of the Fourth Year—the year in which the scholarship shall be enjoyed.

The Canadian Institute of Mining and Metallurgy Prizes. Undergraduate.

The British Columbia Division of the C. I. M. M. offers annually, to students of The University of British Columbia, three prizes of $10 each, to be awarded as follows:—

One for the best paper on a subject in Economic Geology.

One for the best paper on a subject in Mining.

One for the best paper on a subject in Metallurgy.

The papers submitted should be in the hands of the Secretary by June 1st. The authors of approved papers will give oral abstracts of their papers at the annual meeting of the Division.

Graduate Bursary in Mining and Metallurgy.

Through the British Columbia Division of the Canadian Institute of Mining and Metallurgy, the Granby Consolidated Mining and Smelting Company, and the Crow's Nest Coal Company each offer to give employment annually to two selected

graduates of The University of British Columbia, to enable them, while earning a livelihood, to obtain practical experience and personal knowledge of the various phases of metal mining or smelting, and coal mining, respectively, under favorable conditions and in the minimum of time.

The Provincial Board of Health Prizes.

The Provincial Board of Health of the Province of British Columbia offers two prizes of $60 and $40 for competition in the Short Course of Public Health Nursing.

P. E. O. Sisterhood Prizes

A prize of the value of $25, given by Chapter A of the P. E. O. Sisterhood, will be awarded to the woman student who attains the highest standing in the English of the First Year in Arts and proceeds to the English of the Second Year.

A prize of the value of $25, given by Chapter C of the P. E. O. Sisterhood, will be awarded to the woman student of the First Year in Arts who presents the best essay on an assigned topic, selected by the Department of English, subject to the approval of the donors. The essay must be handed to the Head of the English Department not later than January 15th.

The United Farmers of British Columbia Scholarship.

A scholarship of the value of $50, donated by the United Farmers of British Columbia, will be awarded to the candidate under nineteen years of age ranking highest in the competitive examinations conducted at the close of the extension schools in agriculture held under the auspices of the U. F. B. C. in co-operation with the Faculty of Agriculture of the University. This scholarship may be enjoyed by the winner either in the regular four years' course or in the series of short courses offered each year. For the year 1923-24 the scholarship is paid by the former president of the U. F. B. C., Mr. J. L. Pridham.

The W. C. Macdonald Scholarship.

A scholarship in Agriculture of the value of $500 for one year's postgraduate study at Macdonald College, P.Q., has been

put at the disposal of the University by W. C. Macdonald Registered (Inc.). The scholarship is primarily intended for graduates in Agriculture of The University of British Columbia, but, failing such, will be open to any resident of the province who is a graduate of an agricultural college.

The Rhodes Scholarship

An annual scholarship at one of the colleges of Oxford is assigned by the trustees of the late Mr. Cecil J. Rhodes to the Province of British Columbia. Each scholarship is tenable for three years, and is of the value of £300 a year, supplemented until further notice by an annual bonus of £50.

In accordance with the wish of Mr. Rhodes, the election of candidates will depend upon: (1) Force of character, devotion to duty, courage, sympathy, capacity for leadership; (2) Ability and scholastic attainments; (3) Physical vigor, as shown by participation in games or in other ways.

A candidate must be a British subject, with at least five years' domicile in Canada, and unmarried. He must have passed his nineteenth but not his twenty-fifth birthday on October 1st of the year *for* which he is elected.

He must be at least in his Sophomore Year in some recognized degree-granting university or college of Canada, and (if elected) complete the work of that year before coming into residence at Oxford.

He may compete either in the province in which he has acquired any considerable part of his educational qualification, or in the province in which he has his ordinary private domicile, home, or residence.

Candidates for the 1924 scholarship must have their applications, with all the required material, in the hands of the Secretary of the Selection Committee not later than October 20th, 1923. The committee is at present constituted as follows:

Chief Justice Hunter (Chairman), Mr. Justice Gregory (Deputy-Chairman), Messrs. H. R. Bray, A. G. Cameron, H. T. Logan (Secretary), E. A. Munro.

The University Women's Federation Scholarship.

The scholarship of the Federation of University Women in Canada, of the value of $1,000, available for study or research, is open to any woman holding a degree from a Canadian university. In general, preference will be given to those candidates who have completed at least one year of graduate study and have some definite research in preparation. Any candidate must be recommended by her own university; if successful in her application, she may pursue her studies at any university satisfactory to the Committee of Selection. Applications and recommendations must be received not later than February 1st.

The 1851 Exhibition Scholarship.

Under the revised conditions for the award of the 1851 Exhibition Scholarship in Science, The University of British Columbia is included in the list of universities from which nominations for scholarships allotted to Canada may be made.

These scholarships are of the value of £250 per annum, tenable, ordinarily, for two years. They are granted only to British subjects under 26 years of age, who have been *bona fide* students of science of not less than three years' standing.

The Khaki University and Young Men's Christian Association Memorial Scholarship Fund.

The sum of $12,000, given to the University by the Administrators of the Khaki University of Canada, provides a fund to assist Returned Soldiers who are in actual need of money to enable them to complete their courses, and to found scholarships, in the award of which preference should be given to the sons and daughters of Soldiers of the Great War.

SUGGESTED LOCAL SCHOLARSHIPS.

The number of Junior Matriculation Scholarships offered at present is quite inadequate to the needs of the Province, and opportunity is here taken to recommend a scheme for adding to their number.

This scheme is the establishment of local or district University Entrance Scholarships by City or Municipal Councils or other public bodies, as well as by private benefactors. These Scholarships would be awarded by a local authority, the University reserving to itself the right of confirmation.

In the award of such scholarships, standing in the Matriculation Examination, while important, need not be the only consideration; it is desirable that regard should be had also to financial circumstances, character, and intellectual promise.

In the large universities, both of Great Britain and the United States, such district scholarships have proved a strong bond between the community and the University, have brought the University close to the life of the young, and opened up the prospect of a University education to many who would not otherwise have contemplated it.

Scholarships may be offered to students taking a particular course; in this way the study of such sciences and technical branches of knowledge as have a bearing on the industries of the district will be encouraged and native sons prepared to assist in developing the resources of the Province.

The scheme has great possibilities both for the growth of the University and the prosperity of the Province, and it is earnestly recommended to consideration.

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FACULTY OF ARTS AND SCIENCE

INFORMATION FOR STUDENTS.

COURSES LEADING TO THE DEGREE OF B.A.

The degree of B.A. is granted only after four sessions of class-room work from Junior Matriculation. Students who enter with Senior Matriculation may complete their course in three years.

A double course leading to the degrees of B.A. and B.A.Sc. (Applied Science) is offered. (*See* page 179.)

The curriculum as laid down in the following pages may be changed from time to time as deemed advisable by the Faculty.

The Courses in Arts and Science are arranged on the unit system.

Definition of a Unit.—A unit is one lecture hour per week, or one continuous laboratory period of not less than two or more than three hours per week, throughout the College year.

Students in any affiliated Theological College who file with the Registrar a written statement expressing their intention of graduating in Theology will be allowed to offer, in each year of their Arts Course, in place of optional subjects set down in the University Calendar for the year and course in which they are registered, Religious Knowledge options, to the extent of three units taken from the following list: Hebrew, Biblical Literature, New Testament Greek, Church History, Christian Ethics and Apologetics.

First and Second Years.

1. The work of the first two years in Arts and Science is treated as a whole, according to the following scheme involving ten courses (30 units):

	Units.
1, 2.—English 1 (*a* and *b*), 2 (*a* and *b*), one course in each year	6

3, 4.—The first two courses in a language offered for Matriculation, one course in each year..... 6

5.—Mathematics 1, to be taken in the First Year 3

6.—Economics 1, or History 1 or 2 or 3, or Philosophy 1..... 3

7.—Biology 1, or Chemistry 1, or Geology 1, or Physics 1..... 3

8, 10.—Three courses—not already chosen—selected from the following:—
Biology 1, Botany 1, Chemistry 1, Chemistry 2, Economics 1, Economics 2, French 1, French 2, Geography 1, Geology 1, Geology 2, German 1, German 2, Greek 1, Greek 2, History 1, History 2, History 3, Latin 1, Latin 2, Mathematics 2, Mathematics 3, Mathematics 4, Philosophy 1, Physics 1, Physics 2, Physics 3, Zoology 1.... 9

NOTE.—Geology 1 and 2 are not open to First Year students.

2. No student may take less than 15 units of work in either his First or Second Year.

3. No student in his First Year may elect more than one beginners' course in language, and no beginners' course in language will count towards a degree unless followed by a Second Year's work in that language.

4. A student taking three languages in the first two years may defer the course selected under 7 (above) to the Third or Fourth Year.

NOTE (for students in First Year Arts intending to enter the Faculty of Applied Science)—Physics must be taken in First

Year Arts. Chemistry 1 or Biology 1 if taken in Arts will be accepted in lieu of these courses in First Year Applied Science. French is advisable for students intending to enter Geological Engineering.

THIRD AND FOURTH YEARS: PASS CURRICULUM.

1. The Curriculum of the Third and Fourth Years in Arts and Science includes at least 30 units of work, of which students must take, in their Third Year, not less than 15 units or more than 18.

2. In courses that involve laboratory work, one hour of lecture is regarded as the equivalent of two or three hours of attendance in the laboratory.

3. All students who are candidates for a Pass Degree must complete, during their Third and Fourth Years, at least 15 units of work in two Major subjects, in each of which, except in the case of Bacteriology, they must have done work in the first two years. A minimum of 6 units is required in each of the Major subjects. These Major subjects must be chosen from one of the following groups:

(*a*) Chemistry, Bacteriology, Botany, Geology, Physics, Zoology, Mathematics.*

(*b*) Economics, Philosophy, Mathematics.

(*c*) English, Greek, Latin, French, German, History, Economics, Philosophy.

4. All students who are candidates for a Pass Degree must take at least 6 units of work in a subject or subjects other than their two Major subjects.

5. During the Senior Year, students may elect, with the consent of the department concerned, one course of private reading, to count not more than 3 units. In such courses examinations will be set, but no class instruction will be given.

* To be taken only with Chemistry or Physics.

6. On or before March 31st of each year, all students in their Second Year must submit to the Dean of the Faculty a scheme of the courses which they propose to take during their last two years.

Courses open to Third and Fourth Year Students Session 1923-24:

	Units
Agricultural Economics 1	3
" " 2	3
Bacteriology 1	2
" 2	2
" 3	2
" 4	1½
" 5	3
Biology 1	3
" 2	1
" 3	2
Botany 1	3
" 2	2
" 3	2
" 4	2
" 5 (*a*)	2
" 5 (*b*)	2
" 6 (*a*)	1
" 6 (*b*)	1½
" 7 (*a*)	1
Chemistry 1	3
" 2	3
" 3	3
" 4	1½
" 5	3
" 6	2
" 7	3
" 8	2
" 9	3
" 10	1
" 11	3

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	Units
Chemistry 12	1
" 15	2
Economics 1	3
" 2	3
" 3	3
" 4	3
" 7	2
Government 1	3
" 2	3
English 5	2
" 7	2
" 9 (*a*)	3
" 10	3
" 12	2
" 13	3
" 14	3
" 16	3
" 17	3
" 18 (*b*)	2
" 19	3
" 21 (*a*)	2
" 21 (*b*)	1
" 22	1
" 23	3
" 24	2
French 3 (*a*)	3
" 3 (*b*)	3
" 3 (*c*)	3
" 4 (*a*)	3
" 4 (*b*)	3
" 4 (*c*)	3
" 4 (*d*)	3
Geography 1	3
Geology 1	3
" 2 (*a*)	1½
" 2 (*b*)	1½

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		Units
Geology	3	1½
"	4	1½
"	5	3
"	6	3
"	7	4
"	8	4
"	9	2
"	10	1½
"	12	1½
German	2 (*a*)	3
"	3	3
"	4 (*a*)	3
"	4 (*b*)	3
Greek	2	3
"	5	3
"	7	3
"	8	1
History	4	3
"	5	3
"	6	3
"	7	3
"	8	3
Latin	4	3
"	6	3
"	8	1
Mathematics	2	3
"	3	2
"	10	3
"	11	2
"	13	2
"	15	2
"	16	2
"	17	2
"	18	1

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	Units.
Philosophy 1	3
" 2	3
Philosophy 4	3
" 5	2
" 8	3
Physics 2	3
" 3	3
" 4	3
" 5	2
" 6	2
" 7	2
" 8	3
" 9	2
" 10	3 to 6
Sociology 1	3
Zoology 1	3
" 2	2
" 3	2
" 4	1
" 5	2
" 6	2
" 7	2
" 8	2

No credit will be given for a First Year Language taken in the Third Year unless it is continued in the Fourth Year.

HONOUR COURSES.

All the Departments in the Faculty of Arts and Science offer Honour Courses, either alone or in combination with certain other Departments.

General Regulations.

1. The Curriculum of the Third and Fourth Years in Arts and Science includes at least 30 units of work, of which students must take, in their Third Year, not less than 15 units or more than 18.

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2. In courses that involve laboratory work, one hour of lecture is regarded as the equivalent of two or three hours of attendance in the laboratory.

3. Honour Courses shall be begun at the close of the Second Year and continued until the end of the Fourth Year.

4. Students must obtain the consent of the departments concerned, and of the Dean, before they enter upon any Course in Honours; and, under normal conditions, consent will not be granted unless they present, at the end of the Second Year, a clear academic record, and unless they have obtained at least Second Class standing in the subject or subjects of specialization. Cards of application for admission to Honour Courses may be obtained at the Registrar's office.

5. A student electing Honours in one subject is required to take at least 18 units in that subject and at least 6 units outside it; a student electing a combination Honour Course is required to take at least 12 units in each subject. Credit for the graduating essay will be not less than 3 or more than 6 units.

6. All candidates for Honours may, at the option of the department or departments concerned, be required to present a graduating essay embodying the results of some investigation that they have made independently.

7. Candidates for Honours are required, at the end of their Fourth Year, to take a general examination, oral or written, or both, as the department or departments concerned shall decide. This examination is designed to test the student's knowledge of his chosen subject or subjects as a whole and is in addition to the ordinary class examinations of the Third and Fourth Years.

8. Honours are of two grades—First Class and Second Class. Students who, in the opinion of the department concerned, have not attained a sufficiently high ranking may be awarded a pass degree.

SPECIAL REGULATIONS.

The following special regulations control the Honour Courses mentioned:

Biology (Botany and Zoology).

Prerequisites:—Students are advised to take Chemistry 1 and 2; Biology 1; Botany 1, or Zoology 1.

Course:—To be chosen from the following, in accordance with the general regulations and on approval of the departments:—

	Units.
Biology 2	1
" 3	2
Botany 1	3
" 3	2
" 4	2
" 5 (*a*)	2
" 6 (*a*)	1
Zoology 1	3
" 2	2
" 3	2
" 4	1
" 5	2
" 6	2
" 7	2
" 8	2

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Chemistry.

Prerequisites:—Chemistry 1; Physics 1 or 2, and Mathematics 2.

Course:—Candidates are required to take the following classes: Chemistry 2, 3, 4, 5, 7 and 9, and are advised to take Physics 2, and Mathematics 10.

Geology.

Students intending to take Honour Geology are recommended to take Chemistry and Physics in the First Year, as some knowledge of these subjects is essential. Geology 1 should be taken in the Second Year, as it is a prerequisite for all Honour

Geology, and Geology 2, if possible, as it supplements Geology 1, and is a prerequisite for Geology 7, 8 and 9.

Geology 3, 4, 5, 6, 7, 8, 10 and 12 may be taken as Honour subjects.

Biology (Botany and Zoology) and Bacteriology.

Prerequisites:—Chemistry 1 and 2; Biology 1; Botany 1, or Zoology 1.

Course:—To be chosen in accordance with the general regulations and on the approval of the departments.

Biology (Botany and Zoology) and Geology.

Prerequisites:—Chemistry 1; Biology 1, and Geology 1.

Course:—To be chosen in accordance with general regulations and on approval of departments.

Chemistry and Biology (Botany and Zoology).

Prerequisites:—Chemistry 1 and 2; Physics 1 or 2, and Biology 1.

Course:—Candidates must complete the following courses: Chemistry 3, 4, 7 and 9; and Botany and Zoology as arranged with departments concerned.

Chemistry and Physics.

Prerequisites:—Chemistry 1; Physics 1 or 2, and Mathematics 2.

Course:—Candidates must complete Chemistry 2, 3, 4, 5 and 7, and Physics 3, 4, 7, or 9 and 8 or 10. They are advised to take Mathematics 10.

Chemistry and Geology.

Prerequisites:—Chemistry 1; Physics 1 or 2, and Geology 1.

Course:—Candidates must take Chemistry 2, 3, 4, 5 and 7, and at least 12 units in Geology.

Mathematics.

Prerequisites:—Mathematics 1 and 2; Physics 1 or 2.

Course:

Third Year:—Mathematics 10, 11 and either 12 and 14 or 13 and 15; Physics 3.

Fourth Year:—Mathematics, the remaining two of 12 to 15, and 16, 17, 18; Physics 4.

Physics.

Prerequisites:—Mathematics 1 and 2; Physics 1 or 2.

Required in Third and Fourth Years:—Mathematics 10, 11 and 16; Physics 3, 4, 7, 8, 9 and 10.

Mathematics and Physics.

Prerequisites:—Mathematics 1 and 2; Physics 1 or 2.

Course:

Third Year:—Mathematics 10, 11 and one of 12 to 15; Physics 3 and 4.

Fourth Year:—Mathematics 16 and two of 12, 13, 14, 15 and 17; Physics 5 or 6 and 8 or 10.

English Language and Literature.

Candidates for Honours in English Language and Literature are subject to the following special regulations:

1. They shall take Courses 20, 21(*a*), 21(*b*), 22, 24. Attendance upon the seminar is required during *both of the final years,* but credits which count for the B.A. degree will be given only for the work of the Fourth Year.

2. They shall pass examinations on the life, times, and complete works of some major English author (*see* English 19).

3. They shall take other courses covering at least 15 units of credit. One part of this work shall be a course in English

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History; or, lacking this, candidates must submit to an examination in that subject.

4. They shall submit to a final Honours Examination, written or oral, or both, on the History of English Literature.

In the award of Honours special importance will be attached to the Graduating Essay and to the final Honours Examination.

English and History.

Candidates for Honours must comply with the following regulations:

English:—1. They shall take Courses 20 and 24, and any three of the English Courses of the first division. Attendance upon the Seminar is required during both of the final years, but credits which count for the B.A. degree will be given only for the work of the Fourth Year.

2. They shall submit to a final Honours Examination, written or oral, or both, on the History of English Literature since 1400.

History:—Candidates must take at least 12 units in History during their Third and Fourth Years.

The graduating essay will count 3 units.

English and French.

English:—As in English and History.

French:—See details under Modern Languages.

English and Latin.

English:—As in English and History.

Latin:—Candidates must in their Third and Fourth Years take at least 12 units in Latin. They will be expected to show special knowledge of some one major Latin author, and to pass an examination upon their general knowledge of Latin Literature, History, Antiquities, etc.

English and Philosophy.

English:—As in English and History.

Philosophy, Prerequisite:—Philosophy 1.

Course:—Totalling 12 units, 6 of which must be taken in the Third Year.

Economics, Political Science and Sociology.

A student seeking Honours in the Department of Economics, Political Science and Sociology must:

(1) During the first two years have satisfactorily passed in Economics 1;

(2) Obtain a satisfactory standing in Economics 2;

(3) During his Third and Fourth Years obtain a satisfactory standing in at least five additional courses in the Department of Economics, counting not less than 14 units;

(4) Obtain a satisfactory standing in a final General Honours Examination, written or oral, or both, to be taken at the end of the Fourth Year;

(5) Submit before the end of the Fourth Year a Graduation Essay, embodying the result of independent work. This essay may count for 3 to 6 units, at the discretion of the Department of Economics. Tutorial instruction amounting to one hour per week will be arranged in connection with this work.

(6) Deliver an address on some subject relative to his course of study before a general audience, to be designated by the Head of the Department.

ADVICE: Those seeking Honours in this Department are advised to take, if possible, a course in Ethics, the foundational courses in History, and Mathematics 3.

Economics and French.

Economics:—As in Economics and History.

French:—See details under Modern Languages.

History and Economics.

History:—As in English and History.

Economics:—Three courses in this Department other than Courses 1 and 2. For further regulations *see* Economics, Political Science and Sociology.

History and Philosophy.

History:—As in English and History.

Philosophy:—As in English and Philosophy.

History and French.

History:—As in English and History.

French:—See details under Modern Languages.

History and Latin.

History:—As in English and History.

Latin:—As in English and Latin.

French and Latin.

French:—See details under Modern Languages.

Latin:—As in English and Latin.

French and Philosophy.

French:—See details under Modern Languages.

Philosophy:—As in English and Philosophy.

Economics and Philosophy.

Economics:—As in History and Economics.

Philosophy:—As in English and Philosophy.

Philosophy and Latin.

Philosophy:—As in English and Philosophy.

Latin:—As in English and Latin.

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EXAMINATIONS IN ARTS AND SCIENCE.

1. There are two examinations in each year — one at Christmas and the other at the end of the session. Successful students are arranged in three classes, as follows: First class, those who obtain 80 per cent. or more; Second class, 65 to 80 per cent.; Passed, 50 to 65 per cent.

In the First and Second Years, in order to pass, Candidates must obtain 50% on the examinations as a whole and not less than 40% on each subject. In the Third and Fourth Years, in order to pass, Candidates must obtain 50% on each subject of examination.

Term essays and examination papers will be refused a passing mark if they are noticeably deficient in English, and, in this event, students will be required to pass a special examination in English to be set by the Department of English.

Christmas examinations will be held in all subjects, and are obligatory for all students.

Applications for Special Consideration on account of illness in the matter of examinations must be in the hands of the Dean not later than two days after the close of the examination period.

Any student whose academic record, as determined by the tests and examinations of the first term, is found to be unsatisfactory, may, upon the recommendation of the Faculty, be required by the Senate to discontinue attendance at the University for the remainder of the session.

2. The following are the regulations for advancement to the Second, Third and Fourth Years of the undergraduate course:—

Advancement to the Second Year.—In order that a student may proceed to the Second Year of his course, he must have completed his Matriculation, and have passed in all, or all but one, of the subjects of the preceding year, *but may not continue in the Second Year in the subject in which he has failed to make good his standing, except in the cases of compulsory subjects for the Second Year.*

Advancement to the Third Year.—In order that a student may proceed to the Third Year, he must have completed his First Year and have passed in all, or all but one, of the subjects of his Second Year, *but he may not continue the subject in which he has failed to make good his standing.*

Advancement to the Fourth Year.—In order that a student may proceed to the Fourth Year he must have completed his First and Second Years and have passed in all, or all but one, of the subjects of the Third Year.

A student who fails a second time to make his year may, upon the recommendation of the Faculty, be required by the Senate to withdraw from the University.

3. *Repeating Year.*—By special permission of the Faculty, a student who is required to repeat his year may, *on application in writing,*—

(*a*) Be exempted from attending lectures and passing examinations in the subjects in which he has already passed, provided he has made therein a standing of 60 per cent. or over.

(*b*) And if so exempted, be permitted to take, in addition to the subjects in which he has failed, such subjects of the following year of his course as the Faculty may deem advisable.

SUPPLEMENTAL EXAMINATIONS.

4. Notice will be sent to all students to whom the Faculty has granted supplemental examinations.

5. Examinations supplemental to the sessional examinations will be held in September, simultaneously with the matriculation examinations. The time for each supplemental examination will be fixed by the Faculty; the examination will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $7.50.

6. *Applications for supplemental examinations,* accompanied by the necessary fees (*See* Schedule of Fees), must be in the hands of the Registrar at least two weeks before the date set for the examinations.

Department of Bacteriology.

Professor: R. H. Mullin.
Lecturer: R. E. Coleman.
Assistant: Freda L. Wilson.

1. *A Course of General Bacteriology,* consisting of lectures, demonstrations, and laboratory work.

Text-books: Percival, *Agricultural Bacteriology.* Park & Williams, *Pathogenic Bacteria.*

The history of bacteriology, the place of bacteria in nature, the classification of bacterial forms, methods of culture and isolation, and various bactericidal substances and conditions will be studied. The relationship of bacteria to agriculture, household science, and public health will be carefully considered.

Chemistry 1, and Biology 1, are prerequisites.

Seven hours a week. First Term. 2 units.

2. *A Course of Special Bacteriology,* consisting of lectures, demonstrations, and laboratory work.

Text-book: Park & Williams, *Pathogenic Bacteria.*

The more common pathogenic bacteria will be studied, together with the reaction of the animal body against invasion by these bacteria. The course will include studies in immunity and the various diagnostic methods in use in public health laboratories. Bacteriology 1 is a prerequisite.

Seven hours a week. Second Term. 2 units.

3. As in Dairying 3 (under Faculty of Agriculture). 2 units.

4. As in Dairying 7 (under Faculty of Agriculture). 1½ units.

5. *Immunity,* a reading course. Meets one hour a week throughout the year.

Text-book: Kolmer, *Infection, Immunity and Specific Therapy.*

Prerequisites: Bacteriology 1 and 2. 3 units.

Department of Botany.

Professor: A. H. Hutchinson.
Assistant Professor: John Davidson.
Special Lecturer in Plant Pathology: J. W. Eastham.
Assistant: L. Bolton.

Biology.

1. *Introductory Biology.*—The course is introductory to more advanced work in Botany or Zoology; also to courses closely related to Biological Science, such as Agriculture, Forestry, Medicine.

The fundamental principles of Biology; the interrelationships of plants and animals; life processes; the cell and division of labour; life-histories; relation to environment.

The course is prerequisite to all other courses in Biology.

Two lectures and two hours laboratory work per week, throughout the Session.

Text-book: W. M. Smallwood, *Text-book of Biology,* Lea & Febiger, 1920. 3 units.

2. *Principles of Heredity.*—The fundamentals of Genetics illustrated by the race histories of certain plants and animals; the physical basis of heredity; variations; mutations; acquired characters; Mendel's law with suggested applications.

Two lectures per week. First Term.

Text-book: W. E. Castle, *Genetics and Eugenics,* Harvard Press. 1 unit.

3. *General Physiology* of animal and plant life processes. Open to students of Third and Fourth Years having prerequisite Chemistry and Physics.

Two lectures and four hours laboratory work per week. Second Term.

Text-book: W. M. Bayliss, *Principles of General Physiology,* Longmans, Green & Co. 2 units.

Botany.

1. *General Botany.*—A course including a general survey of the several fields of Botany and introductory to more specialized courses in Botany.

Two lectures and two hours laboratory work per week, throughout the Session.

This course is prerequisite to all other courses in Botany, except the Evening Course. Partial credit for this course (2 units) may be obtained through the Evening Course.

Text-book: Coulter, Barnes & Cowles, *Text-book of Botany,* Vol. I., University of Chicago Press. 3 units.

2. *Morphology.*

General Morphology of plants. A comparative study of plant structures. The relationships of plant groups. Comparative life-histories. Emphasis is placed upon the increasing complexity of plant structures, from the lower to the higher forms, involving a progressive differentiation accompanied by an interdependence of parts.

Two lectures and four hours laboratory work per week. First Term.

Text-book: Coulter, Barnes & Cowles, *Text-book of Botany,* Vol. I., University of Chicago Press. 2 units.

3. *Plant Physiology.*

Two lectures and four hours laboratory work per week. First Term.

Text-book: V. I. Palladin, *Plant Physiology,* English Edition (Translation of 6th Russian Edition), 1918, P. Blakiston, Son & Co. 2 units.

4. *Histology.* A study of the structure and development of plants; methods of killing, fixing, embedding, sectioning, staining, mounting, drawing, reconstructing. Use of microscope, camera lucida; photo-micrographic apparatus.

Seven hours per week. Second Term.

Prerequisite: Botany 1.

Text-book: W. C. Stevens, *Plant Anatomy,* P. Blakiston, Son & Co. 2 units.

5. *Systematic Flora.*

5 (*a*). *Economic Flora.*—A course in Systematic Botany, illustrated by native and introduced plants of economic importance.

The classification of injurious and useful algae, fungi, mosses, ferns and flowering plants. The identification of weeds, native trees, poisonous, medicinal, and fodder plants.

The course, while designed particularly to meet the needs of students of Agriculture or Forestry, is open to students of the Third and Fourth Years in Arts.

Two hours lecture, and the equivalent of four hours practical work per week, including laboratory, excursions and the preparation of collections. Second Term.

Prerequisite: Botany 1.

Text-books: J. K. Henry, *Flora of Southern British Columbia,* W. J. Gage & Co.; R. G. Leavitt, *Outlines of Botany with Flora,* American Book Co. 2 units.

5 (*b*). *Dendrology.*—A study of the forest trees of Canada, the common shrubs of British Columbia, the important trees of the United States which are not native to Canada. Emphasis on the species of economic importance. Identification, distribution, relative importance, construction of keys.

One hour lecture and two or three hours laboratory or field work per week throughout the session.

Text-books: Morton & Lewis, *Native Trees of Canada,* Dominion Forestry Branch, Ottawa. Sudworth, *Forest Trees of the Pacific Slope,* Superintendent of Documents, Washington, D. C. 2 units.

6. *Plant Pathology.*

6 (*a*). *General Plant Pathology.*—Identification and life-histories of parasites causing plant-diseases; means of combating them.

One lecture and two hours laboratory work per week. Second Term.

Prerequisite: Botany 1.

Text-book: B. M. Duggar, *Fungus Diseases of Plants,* Ginn & Co. 1 unit.

6 (*b*). *Forest Pathology.*—Nature, identification and control of the more important tree-destroying fungi and other plant parasites of forests.

One lecture and two hours laboratory work per week during one-half of one term.

Text-book: Rankin, *Manual of Tree Diseases,* Macmillan. ½ unit.

7. *Plant Ecology.*

7 (*a*). *Forest Ecology and Geography.*—The inter-relations of forests and their environment; the biological characteristics of important forest trees; forest associations; types and regions; physiography.

One lecture per week. Field trips during year amounting to thirty hours.

Text-book: M. E. Hardy, *The Geography of Plants,* Oxford University Press. 1 unit.

Evening and Short Courses in Botany.

A Course in General Botany, comprising approximately fifty lectures, *is open to all interested in the study of plant life* of the Province. No entrance examination and no previous knowledge of the subject is required.

The course is designed to assist teachers, gardeners, foresters, and other lovers of outdoor life in the Province. As far as possible, illustrative material will be selected from the flora of British Columbia.

The classes meet every Tuesday evening during the University session (Sept.-May) from 7.30 to 9.30 p.m.; the first hour

is devoted to elementary work; the second hour to more advanced botany. Field or laboratory work, under direction, is regarded as a regular part of the course.

No examination is required except in the case of University students desiring credit (two units) for this course. Other students desiring to ascertain their standing in the class may apply for a written test.

A detailed statement of requirements, and work covered in this course, is issued as a separate circular. Copies may be had on request.

Department of Chemistry.

Professor: E. H. Archibald.
Professor of Organic Chemistry: R. H. Clark.
Associate Professor: W. F. Seyer.
Assistant Professor: M. J. Marshall.
Assistant: John Allardyce.
Assistant: A. E. Boss.
Assistant: J. A. Dauphinee.
Assistant: J. Allan Harris.
Assistant: S. R. MacDougall.
Assistant: W. O. Banfield.
Assistant: William Ure.
Assistant: Christian Sivertz.

1. *General Chemistry.*—This course is arranged to give a full exposition of the general principles involved in modern Chemistry and comprises a systematic study of the properties of the more important metallic and non-metallic elements and their compounds, and the application of Chemistry in technology.

Book recommended: Alexander Smith, *Inorganic Chemistry,* Century Co.

Three lectures and one laboratory period of three hours a week. 3 units.

2. *Qualitative and Quantitative Analysis.*

(*a*) *Qualitative Analysis.*—A course consisting of one hour of lecture or recitation and six hours of laboratory work each

week throughout the First Term. During the first six weeks of the term an additional lecture or recitation hour may be substituted for a part of the laboratory work.

(*b*) *Quantitative Analysis.*—A course consisting of one hour of lecture or recitation and six hours of laboratory work each week throughout the Second Term. The course embraces the more important methods of gravimetric and volumetric analysis.

Prerequisite: Chemistry 1.

Course (*b*) must be preceded by Course (*a*).

Books recommended: A. A. Noyes, *Qualitative Analysis,* Macmillan Co.; Cumming & Kay, *Quantitative Analysis,* Gurney & Jackson. 3 units.

3. *Organic Chemistry.*—This introduction to the study of the compounds of carbon will include the methods of preparation and a description of the more important groups of compounds in both the fatty and the aromatic series. Two lectures and one laboratory period of three hours weekly.

Chemistry 3 will only be given to those students taking Chemistry 2, or those who have had the equivalent of Chemistry 2.

Books recommended: Holleman-Walker, *Text-book of Organic Chemistry,* John Wiley & Sons; Gatterman, *The Practical Methods of Organic Chemistry,* Macmillan. 3 units.

4. *Theoretical Chemistry.*—An introductory course on the development of modern Chemistry, including osmotic phenomena, the ionization theory, the law of mass action, and the phase rule.

Prerequisite: Chemistry 2.

Two lectures and one laboratory period a week during the Second Term.

Text-book: James Walker, *Introduction to Physical Chemistry,* Macmillan. 1½ units.

5. *Advanced Qualitative and Quantitative Analysis.*

(*a*) *Qualitative Analysis.*—One lecture and six hours in the laboratory throughout the First Term. The work of this

course will include the detection and separation of the less common metals, particularly those that are important industrially, together with the analysis of somewhat complex substances occurring in nature.

(*b*) *Quantitative Analysis.*—One lecture and six hours laboratory work per week during the Second Term. The determinations made will include the more difficult estimations in the analysis of rocks, as well as certain constituents of steel and alloys. The principles on which analytical chemistry is based will receive a more minute consideration than was possible in the elementary course.

Prerequisite: Chemistry 2. 3 units.

6. *Industrial Chemistry.*—Two hours of lectures per week throughout the year. Those industries, which are dependent on the facts and principles of Chemistry, will be considered in as much detail as time will permit. The lectures will be supplemented by visits to manufacturing establishments in the neighbourhood, and it is hoped that some lectures will be given by specialists in their respective fields.

Prerequisites: Chemistry 2 and 3. 2 units.

7. *Physical Chemistry.*—The lectures, which are a continuation of those given in 4, include the kinetic theory of gases, thermo-chemistry, the application of the principles of thermodynamics to chemistry, osmotic phenomena, applications of the dissociation theory, colloidal solutions, and a study of the physical properties of gases, liquids, and solids and of their chemical constitutions.

Two lectures and one laboratory period of three hours weekly throughout the year.

Prerequisites: Chemistry 2, 3, and 4.

Text-books: Bigelow, *Physical Chemistry,* Century Co; Findlay, *Physico-Chemical Measurements,* Longmans Green.

For reference: Ramsay's Series of Books on Physical Chemistry, Longmans Green. 3 units.

8. *Applied Electro-Chemistry.*—Solutions are studied from the standpoint of the osmotic and the dissociation theories. The laws of electrolysis, electroplating, primary and secondary batteries, and the preparation of the elements and compounds by electrolytic methods and in the electric furnace are studied.

Three lectures and one laboratory period weekly during the First Term.

Prerequisite: Chemistry 4.

For reference: Le Blanc, *Elements of Electro-Chemistry,* Macmillan; Thompson, *Applied Electro-Chemistry,* Macmillan; and Stanfield, *The Electric Furnace.* 2 units.

9. *Advanced Organic Chemistry.*—Important Organic reactions will be discussed. The Carbohydrates, Proteins, Enzyme Action, Terpenes and Alkaloids will be studied in more or less detail. In the laboratory some complex compounds will be prepared and quantitative determinations of carbon, hydrogen, nitrogen, sulphur and the halogens made with the view of identifying organic compounds.

Two lectures and one laboratory period weekly throughout the year.

Prerequisites: Chemistry 2 and 3.

For reference: Cohen, *Organic Chemistry,* Arnold.

3 units.

10. *History of Chemistry.*—Particular attention will be paid to the development of chemical theory.

Two hours a week during the Second Term.

Prerequisites: Chemistry 2, 3, and 4.

For reference: Von Meyer-McGowan, *History of Chemistry,* Macmillan. 1 unit.

11. *Stereochemistry.*—Stereochemical theories will be discussed in greater detail than in Chemistry 9, and chemical and physico-chemical methods employed in determining the constitution of organic compounds will be studied.

The lectures may be taken without the laboratory work.

Prerequisites: Chemistry 7 and 9. 3 units.

Lectures: 2 units. Laboratory: 1 unit.

12. *Colloid Chemistry.*—The Chemistry of colloids and the application of colloidal chemistry to industry.

Two hours a week during the First Term.

Prerequisites: Chemistry 3 and 4.

For reference: Zsigmondy-Spear, *Chemistry of Colloids,* John Wiley & Sons; Reports on Colloid Chemistry by British Association for Advancement of Science. 1 unit.

14. *Agricultural Chemistry.*—The chemical composition of the soil. An introduction to the compounds of carbon will comprise the work of the First Term. During the Second Term fertilizers, fungicides and insecticides will be considered.

The laboratory work will be adapted to the needs of the individual student.

Two lectures and one laboratory period throughout the year.

Prerequisite: Chemistry 2. 3 units.

15. *Dairy Chemistry.*—The chemistry of the carbohydrates, fats, and proteins will be discussed in outline, and the chemical processes involved in enzyme action and fermentation will receive consideration.

One lecture and one laboratory period throughout the year.

Prerequisites: Chemistry 2 and 3.

Text-book: Chamberlain, *Agricultural Chemistry,* Macmillan. 2 units.

Department of Classics.

Professor: Lemuel F. Robertson.
Professor of Greek: O. J. Todd.
Associate Professor: H. T. Logan.
Assistant: A. N. St. John Mildmay.

Greek.

Beginner's Course.—White, *First Greek Book,* Chap. I.-XLVIII.; Copp, Clark Co.

Four hours a week. Mr. Logan. 3 units.

1. Lectures.—White, *First Greek Book,* Chap. XLIX.-LXXX. Xenophon, *Anabasis I. and IV.,* Goodwin and White, Ginn & Co.

History.—Shuckburgh, *History of Greece,* Chap. I.-V.; Unwin. Four hours a week. Mr. Todd. 3 units.

2. Lectures.—Plato, *Apology,* Adam, Elementary Classics, Cambridge University Press; Aeschylus, *Prometheus Bound,* Wecklein-Allen, Ginn & Co.

Composition.—North and Hillard, *Greek Prose Composition,* Rivingtons. Selected passages will occasionally be set for Unseen Translation.

History.—Shuckburgh, *History of Greece,* Chap. VI.-X., Unwin. Four hours a week. Mr. Logan, Mr. Todd. 3 units.

3. *Lectures.*—Thucydides, *History, Book VII.,* Marchant, Macmillan; Sophocles, *Antigone,* Jebb and Shuckburgh, Cambridge University Press; Euripides, *Heracles,* Byrde, Oxford University Press.

Literature.—Wright, *A Short History of Greek Literature,* American Book Company. Three hours a week. 3 units.

(Given in 1924-25 and alternate years.)

5. *Lectures.* — Demosthenes, *Third Olynthiac, First and Third Philippics,* Butcher, Oxford University Press (Vol. I.); Homer, *Iliad* (Selections), Monro, Iliad, 2 Vols., Clarendon Press.

Literature.—Wright, *A Short History of Greek Literature,* American Book Company.

Three hours a week. Mr. Todd, Mr. Robertson. 3 units.

(Given in 1923-24 and alternate years.)

6. *Lectures.*—Herodotus, *History,* Hude, Oxford University Press (the equivalent of one book will be read); Lysias, *Orations,* Hude, Oxford University Press; Aristophanes, *The Birds,* Hall and Geldart, Oxford University Press. (Open only to those who have taken or are taking Greek 3 or 5.)

Three hours a week. 3 units.

(Given in 1924-25 and alternate years.)

7. *Lectures.*—Aristotle, *Ars Poetica,* Bywater, Oxford University Press; Plato, *The Republic* (selections), Burnet, Oxford University Press. (Open only to those who have taken or are taking Greek 3 or 5.)

Three hours a week. Mr. Todd, Mr. Logan. 3 units.

(Given in 1923-24 and alternate years.)

8. *Composition.*—Obligatory for Honour Students.

One hour a week. Mr. Todd. 1 unit.

Latin.

1. *Lectures.*—Cicero, *Pro Lege Manilia,* Select Orations and Letters, Allen and Greenough, Ginn & Co. Ovid, *Elegiac Selections,* Smith, Bell's Illustrated Classics.

Composition.—Bradley, *Arnold's Latin Prose Composition,* Longmans, Green & Co., to exercise 19.

History.—Boak, *A History of Rome to 565 A.D.,* Macmillan, chapters 1 to 13.

Three hours a week. Mr. Robertson, Mr. Todd.

A fourth hour a week will be devoted to lectures on the Roman History prescribed.

Attendance at these lectures is voluntary and no formal credit is given. Mr. Logan. 3 units.

2. *Lectures.*—Cicero, *Pro Archia.* Select Orations and Letters, Allen & Greenough, Ginn & Co. Horace, *Selected Odes,* Wickham, Clarendon Press. Virgil, *Aeneid, Bk. VI.,* Page, Macmillan.

Composition.—Bradley, *Arnold's Latin Prose Composition,* Longmans, Green & Co., to exercise 40.

History.—Boak, *A History of Rome to 565 A.D.,* Macmillan, chapters 14 to 20.

Three hours a week. Mr. Robertson, Mr. Logan.

A fourth hour a week will be devoted to lectures on the Roman History prescribed. Attendance at these lectures is voluntary and no formal credit is given. Mr. Logan. 3 units.

3. *Lectures.*—Virgil.

Three hours a week. 3 units.

(Given in 1924-25 and alternate years.)

4. *Lectures.*—Horace, *Epistles,* Wilkins, Macmillan's Classical Series. Cicero, *Pro Sestio,* Holden, Macmillan's Classical Series. Cicero, *Selected Letters,* Prichard & Bernard, Clarendon Press.

Three hours a week. Mr. Robertson. 3 units.

(Given in 1923-24 and alternate years.)

5. *Lectures.*—Seneca, *Select Letters,* Summers, Macmillan. Juvenal, *Satires,* Duff, Pitt Press. (Open only to those who have taken, or are taking, Latin 3 or 4.)

Three hours a week. 3 units.

(Given in 1924-25 and alternate years.)

6. Lectures.—Tacitus, *Histories I., II.,* Godley, Macmillan's Classical Series. Garrod, *Oxford Book of Latin Verse* (selections), Oxford Press.

Three hours a week. Mr. Logan, Mr. Todd. 3 units.

(Given in 1923-24 and alternate years.)

7. Lectures.—Roman History from 133 B.C. to 180 A.D.

Three hours a week. Mr. Logan. 3 units.

(Given in 1924-25 and alternate years.)

8. Composition.—Obligatory for Honour Students.

One hour a week. Mr. Todd. 1 unit.

Department of Economics, Sociology and Political Science.

Professor: Theodore H. Boggs.
Associate Professor: H. F. Angus.
Assistant Professor: S. E. Beckett.
Assistant: L. T. Fournier.

Students who intend to specialize in Economics are advised to associate with it certain allied courses in other departments, such as History.

A reading knowledge of French and German will be found very helpful in the Third and Fourth Year courses. Hereafter, French at least will be required for Honour work.

Economics.

1. *Principles of Economics.*—An introductory study of general economic theory, including a survey of the principles of value, prices, money and banking, international trade, tariffs, monopoly, taxation, labour and wages, socialism, the control of railways and trusts, etc.

Ely, *Outlines of Economics,* Macmillan, 1922. Clay, *Economics for the General Reader,* Macmillan.

Economics 1 is the prerequisite for all other courses in the department, but may be taken concurrently with Economics 2, or Government 1. This rule may be waived in the case of students of the Department of Nursing who may find it impossible to take both Economics 1 and Sociology 1.

Three hours a week. 3 units.

2. *History of Economic Life and Economic Thought.*—A brief outline of Economic Thought, and of Economic and Social conditions in England previous to 1776. A survey of the more important phases of European Organization from the time of the Middle Ages, with special reference to the Industrial Revolution, the Progress of Agriculture, and resultant social conditions. The development of modern Economic Thought, with a study of the influence of Smith, Malthus, Ricardo, Mill and others, and the place of the Deductive and Historical Methods.

Toynbee, *The Industrial Revolution,* Longmans, Green & Co. Price, *Political Economy in England,* Methuen; and assigned readings.

Three hours a week. Mr. Beckett. 3 units.

3. *Labour Problems and Social Reform.*—A study of the rise of the factory system and capitalistic production, and of the more important phases of trade unionism in England, Canada, and the United States. A critical analysis of various solutions of the labour problem attempted and proposed; profit-sharing, co-operation, arbitration and conciliation, scientific management, labour legislation and socialism.

Hoxie, *Trade Unionism in the United States,* D. Appleton & Co. Cole, *Guild Socialism,* Stokes & Co. Simkhovitch, *Marxism versus Socialism,* Williams & Norgate. Spargo and Arner, *Elements of Socialism,* Macmillan; and assigned readings.

Three hours a week. Mr. Boggs. 3 units.

4. *Money and Banking.*—The origin and development of money. Banking principles and operations, laws of coinage, credit, price movements, foreign exchange. Banking policy in the leading countries, with particular reference to Canada.

Phillips, *Readings in Money and Banking,* Macmillan. White, *Money and Banking,* Ginn & Co., 1914. Patterson, *Domestic and Foreign Exchange,* Alexander Hamilton Institute; and assigned readings.

Three hours a week. Mr. Boggs. 3 units.

(Given in 1923-24 and alternate years.)

5. *Public Finance.*—This course deals with public revenues and expenditures, and the administration of public funds. Some of the topics discussed are: Theories of just taxation, progressive taxation, the internal revenue system, tariffs on imports, the general property tax, personal and business income tax, inheritance tax, the single tax, double taxation, the relation between provincial and local taxation, the shifting and incidence of taxation. Particular attention is devoted to the taxation systems (federal, provincial, and local) of Canada.

Seligman, *Essays in Taxation,* Macmillan, 1921. Plehn, *Introduction to Public Finance,* Macmillan, 1920; and assigned readings.

Three hours a week. Mr. Beckett. 3 units.

(Given in 1924-25 and alternate years.)

6. *International Trade and Tariff Policy.*—A survey of the theory of international trade and the foreign exchanges; and a study of the commercial policy of the leading countries, with considerable attention to the British Dominions.

Bastable, *The Theory of International Trade,* Macmillan, 1903. Taussig, *Selected Readings in International Trade and Tariff Problems,* Ginn & Co.; and assigned readings.

Three hours a week. Mr. Boggs. 3 units.

(Given in 1924-25 and alternate years.)

7. *Corporation Economics.*—Historical development of the different forms of industrial organization, including the partnership, joint-stock company, and the corporation, and the later developments, such as the pool, trust, combination, and holding company. Methods of promotion and financing, over-capitaliza-

tion, stock market activities, the public policy toward corporations, etc.

Haney, *Business Organization and Combination,* Macmillan. Walker, *Corporation Finance,* Alexander Hamilton Institute; and assigned readings.

Three hours a week. Mr. Angus. 2 units.

(Given in 1923-24 and alternate years.)

Agricultural Economics.

1. (*a*) *Farmer Movements.*—A study of the Grange; the Patrons of Industry; the Farmers' Alliance; the American Society of Equity; the Non-partisan League; the Farm Bureau Federation; the United Farmers, and other farmer organizations.

(*b*) *Rural Life.*—The country life movement; the rural school; the country church; rural surveys, and a study of special topics, such as recreation in country life; the farmer's standard of living; the functions of a small town; rural migrations.

Lectures and assigned readings. Mr. Clement. 3 units.

2. (*a*) *Agricultural Economics.*—An application of the principles of Economics to the field of Agriculture.

Taylor, *Agricultural Economics,* Macmillan. Assigned readings.

(*b*) *The Marketing of Farm Products.*—An analysis of the marketing problem as it applies to Agriculture.

Macklin, *Efficient Marketing for Agriculture,* Macmillan. Assigned readings. Mr. Clement. 3 units.

Government.

1. *Constitutional Government.*—This course deals with the nature, origin, and aims of the State; and with the organization of government in the British Empire, the United States of America, France, and Germany.

Readings to be assigned.

Three hours a week. Mr. Angus. 3 units.

2. *Introduction to the Study of Law.*—(*a*) A rapid survey of Legal History. (*b*) Outlines of Jurisprudence.

Jenks, *A Short History of English Law,* Methuen, 1912. Salmond, *Jurisprudence, or Theory of the Law,* Sweet & Maxwell, 1919. Vinogradoff, *Common Sense in Law,* Home University Library; and assigned readings.

Three hours a week. Mr. Angus. 3 units.

3. A course on problems of government within the British Empire, to be given in alternate years with Economics 7.

Readings to be assigned.

Government 1 is a prerequisite of this course, but may be taken concurrently with it.

Two hours a week. Mr. Angus. 2 units.

(Given in 1924-25 and alternate years.)

Sociology.

1. *Principles of Sociology.*—An introductory study of early man and his relation to his environment; of races of men and their distribution; of the early forms and development of industrial organization, marriage and the family, arts and sciences, religious systems, government, classes, rights, etc. A review also of certain of the social problems of modern society growing out of destitution, crime, overcrowding, etc. A critical survey of schemes for betterment.

Blackmar & Gillin, *Outlines of Sociology,* Macmillan. Fairchild, *Applied Sociology,* Macmillan; and assigned readings.

Three hours a week. Mr. Beckett. 3 units.

(Given in 1923-24 and alternate years.)

Department of English.

Professor: G. G. Sedgewick.
Associate Professor: W. L. MacDonald.
Assistant Professor: F. G. C. Wood.
Assistant Professor: Thorleif Larsen.
Assistant Professor: F. C. Walker.
Assistant Professor: M. L. Bollert.
Assistant: Stella McGuire.
Assistant: Katherine McKay.
Assistant: Isobel Harvey.

FIRST YEAR.

1. (*a*) *Literature.*—Elementary study of a number of literary forms to be chosen from the short story, the play, the novel, the essay, the simpler sorts of poetry.

Texts for 1923-4: Canby, *A Study of the Short Story,* Holt. Euripides, *Electra,* in Gilbert Murray's paraphrase. Shakespeare, *Julius Caesar.* Sheridan, *The School for Scandal,* Everyman. Ibsen, *The Doll's House,* Everyman. A book of contemporary verse.

Two hours a week.

(*b*) *Composition.*—Elementary forms and principles of composition; expository themes; study of models.

Two hours a week. 3 units.

SECOND YEAR.

2. (*a*) *Literature.*—Studies in the history of English Literature.

Pass Course: Lectures and texts illustrative of the chief authors and movements from Tottel's Miscellany to Shelley. Halleck, *History of English Literature,* American Book Company, 1918. *Century Readings in English,* ed. Cunliffe, Century Publishing Co.

Two hours a week.

(*b*) *Composition.*—Narrative and Descriptive Themes; the writing of reports.

One hour a week. 3 units.

(*c*) *Literature.*—Readings from Nineteenth Century poetry since 1830.

For this course, which is intended for prospective Honour Students in English and for others especially interested in the study of Literature, no formal credit is given.

One hour a week.

THIRD AND FOURTH YEARS.

The curriculum in English for students of the Third and Fourth Years is arranged in three divisions. The first includes a central body of general courses which will be offered, as far as possible, every year, and to each of which are assigned 3 units of credit. In the second division are listed courses carrying 2 units of credit and usually given in alternate years. And the third consists of courses designed especially for honour and graduate students, and open to others only by special permission.

DIVISION I.

9. *Shakespeare.*—This course may be taken for credit in two successive years. In 1923-24, 9 (*a*) will be given as follows:

i. A detailed study of the text of *Henry IV., Part I.; Much Ado About Nothing; King Lear; The Tempest.*

ii. Lectures on Shakespeare's development, on his use of sources, and on his relation to the stage and the dramatic practice of his time.

Students will provide themselves with annotated editions of the four plays named above, and with *The Facts about Shakespeare,* by Neilson and Thorndyke, Macmillan. They are advised to get the *Cambridge Shakespeare,* ed. Neilson, or the *Oxford Shakespeare,* ed. Craig.

Three hours a week. Mr. Sedgewick. 3 units.

9 (*b*). (Given in 1924-25 and alternate years.)

10. *The Drama to* 1642.—The rise, the development, and the decline of the Elizabethan drama. The course begins with a

short study of one or two of the plays of Sophocles and an outline of Aristotle's dramatic criticism, but treats mainly the rise of the English drama in the Miracle and Morality Plays; the Interludes; the influence of the Roman stage; Shakespeare's predecessors—Lyly, Kyd, Greene, Peele, and Marlowe; its full development in Shakespeare, and, briefly, its decline.

Texts: Lewis Campbell, *Sophocles in English Verse. Everyman with other Interludes,* Everyman Library. *Chief Elizabethan Dramatists,* ed. Neilson. *Oxford Shakespeare,* ed. Craig; or *Cambridge Edition,* ed. Neilson.

Three hours a week. Mr. Larsen. 3 units.

13. *The English Novel from Richardson to the Present Time.*—The development of English fiction will be traced from Richardson, Fielding, Smollett, and Sterne through Goldsmith, Mrs. Radcliffe, Jane Austen, Scott, C. Brontë, Dickens, Thackeray, and George Eliot to Trollope, Meredith, Stevenson, and a few representative novelists now living.

A fair knowledge of the works of Jane Austen, Scott, Dickens, Thackeray, and George Eliot is a prerequisite for those taking this course.

Three hours a week. Mr. Wood. 3 units.

14. *From Milton to Burns.*—After a preliminary survey of the work of Milton and Bunyan, the course will follow the development of English literature during the 18th century. Various special forms, such as the "Restoration" and "Sentimental" Drama, the Periodical Essay, etc., will be considered. Emphasis will be laid on the work of Dryden, Butler, Addison, Steele, Defoe, Pope, Swift, Thomson, Gray, Collins, Johnson, Goldsmith, Cowper, and Burns.

Three hours a week. Mr. Macdonald. 3 units.

16. *Romantic Poetry,* 1780 *to* 1830.—Studies in the beginnings and progress of Romanticism, based chiefly on the work of Wordsworth, Coleridge, Byron, Keats, Shelley, Scott.

Texts: The Oxford editions of the first five poets named.

For reference: Elton, *A Survey of English Literature,* 1780-1830.

Three hours a week. Mr. Walker. 3 units.

17. *Victorian Poetry.*—This course is concerned chiefly with the work of Tennyson, Browning, and Arnold. A few weeks at the close of the term will be devoted to a survey of the development of later poetry down to the work of Hardy.

Texts: Browning, *Complete Poetical Works,* Cambridge Edition. Arnold, *Poems,* Oxford Edition. Tennyson, *Poems,* Globe Edition.

For reference: Elton, *A Survey of English Literature,* 1830-1880.

Three hours a week. 3 units.

19. *Private Reading.*—Students of the Senior Year may pursue, with the consent and under the direction of the Department of English, a course of private reading to which, if successfully completed, will be assigned 3 units of credit. In such courses examinations will be set, but no class instruction will be given. 3 units.

23. *Method in the Teaching of English.*—This course is given to help students who are intending to teach English Literature and Composition, particularly in the secondary schools of this province.

Three hours a week. Mr. Sedgewick. 3 units.

DIVISION II.

5. *The Elements of Poetics.*—Studies in the criticism and appreciation of poetry; the poetic frame of mind; the emotional element in poetry; poetic content and the nature of poetic truth; poetic form and its varieties; metrics; contemporary developments in poetry; literary criticism, its nature and function; and

an outline of aesthetic theory from Aristotle to Croce. Exercises in criticism and metrical composition.

Winchester, *Principles of Literary Criticism.*

Two hours a week. Mr. Larsen. 2 units.

(Given in 1923-24 and alternate years.)

6. *Narrative Writing.*—A study of narrative composition: (*a*) critical reading of a considerable number of modern short stories and of two or three modern novels; (*b*) frequent critical and narrative themes.

Only a limited number of students will be admitted to this course.

Two hours a week. Mr. Sedgewick. 2 units.

(Given in 1924-25 and alternate years.)

7. *Technique of the Drama.*—A practical study of dramatic form and structure based on the analysis of modern plays, with special reference to the one-act play as an art form. *Playmaking,* by Wm. Archer, and *Representative One-act Plays by British and Irish Authors,* Little, Brown & Co., are the texts used in this course.

Two hours a week. Mr. Wood. 2 units.

(Given in 1923-24 and alternate years.)

8. *Elizabethan Poetry, exclusive of the Drama.*—(1) The Renaissance; (2) the social background of Elizabethan England; (3) John Skelton and the poets of the transition; (4) the Lyric from Tottel's Miscellany to the Caroline poets; (5) Spenser and the Spenserians; (6) the Sonneteers; (7) Verse Translation; (8) Verse Narrative.

Texts: T. H. Ward, *The English Poets,* Vol. I. *Spenser,* ed. Smith and de Sélincourt, Oxford.

Two hours a week. Mr. Larsen. 2 units.

(Given in 1924-25 and alternate years.)

11. *English Drama since* 1600.—A survey of English drama from the time of Ben Jonson to the present. Later Elizabethan drama, representative plays of the Restoration, the works of Goldsmith, Sheridan, and of early Nineteenth Century writers will be considered. This will be followed by a study of some dramatists of recent years, including Wilde, Shaw, Galsworthy, Pinero, Jones, Stephen Phillips, Barrie, and the Irish School.

Two hours a week. Mr. Wood. 2 units.

(Given in 1924-25 and alternate years.)

12. *Romance and Ballad.*—As far as possible the course will be continuous, an attempt being made to show the relation as well as the difference between the two forms. There will be discussion of such topics as origins, types, relations with other literatures, etc.; the Arthurian Cycle; the Matter of England, France, the Orient; Metrical Romances 1200-1500; Malory's Morte d'Arthur; English and Scottish Popular Ballads, Political Ballads, American Ballads.

Modernised versions of a considerable body of Middle English Metrical Romances are to be found in *Chief Middle English Poets* by J. Weston.

Two hours a week. Mr. Macdonald. 2 units.

(Given in 1923-24 and alternate years.)

15. *Prose of the Sixteenth and Seventeenth Centuries.*—The development of English prose from 1500 to 1700, considered with reference to such topics as (1) the English Bible; (2) Literary Criticism; (3) the Character; (4) the Essay; (5) Pamphlets; (6) Prose Fiction; (7) Milton, Bunyan, Browne, Dryden.

Two hours a week. Mr. Macdonald. 2 units.

(Given in 1924-25 and alternate years.)

18. *Nineteenth Century Prose,* studied in two divisions in alternate years:—

(*a*) Critical and Literary Prose of the early part of the century: Coleridge, Wordsworth, Lamb, Hazlitt, De Quincey, Jeffrey, Landor.

(Not given in 1923-24.)

(*b*) Social, literary, and religious movements of the Victorian period: Carlyle, Ruskin, Macaulay, Newman, Mill, Arnold, Pater, Stevenson.

Two hours a week. 2 units.

(Given in 1923-24.)

DIVISION III.

20. *Chaucer and Middle English.*—(*a*) Middle English grammar with the reading of representative texts. (*b*) The Canterbury Tales.

Texts: A Middle English reader and the Oxford Chaucer, ed. Skeat.

Three hours a week. Mr. Sedgewick. 3 units.

(Given in 1924-25 and alternate years.)

21a. *Anglo-Saxon.*—Bright, *Anglo-Saxon Reader.*

Two hours a week. Mr. Walker. 2 units.

21b.—*Anglo-Saxon.*—Beowulf.

One hour a week. Mr. Walker. 1 unit.

22. *Studies in Linguistic History.*—Origins, growth, and development of the English language. A brief introduction to Germanic philology; the Indo-European language group; Grimm's Law; the Anglo-Saxon period; Norman, French, and Latin influences; study of the gradual evolution of forms, sounds, and meanings.

One hour a week. Mr. Walker. 1 unit.

24. *Seminar.*—In this class advanced students will get practice in some of the simpler methods of criticism and investigation. The subject for 1923-24 will probably be the work of Milton.

Two hours a week. Mr. MacDonald. 2 units.

Department of Geology and Geography.

Professor: R. W. Brock.
Professor of Physical and Structural Geology: S. J. Schofield.
Professor of Mineralogy and Petrography: W. L. Uglow.
Professor of Palaeontology and Stratigraphy: M. Y. Williams.

Geology.

1. *General Geology.*—This course serves as an introduction to the science of Geology. The following subjects are treated in the lectures:

(*a*) *Physical Geology,* which includes the study of the following topics: Weathering, work of the wind, the work of ground water, the work of streams, the work of glaciers, the ocean and its work, the structure of the earth, earthquakes, volcanoes and igneous intrusions, metamorphism, mountains and plateaus, and ore-deposits.

Two lectures and one laboratory period of two hours per week. First Term. Mr. Schofield.

(*b*) *Historical Geology,* which includes a study of the following: The earth before the Cambrian, the Palaeozoic, the Mesozoic, the Cenozoic, and Quaternary eras.

Two lectures and one laboratory period of two hours per week. Second Term. Mr. Williams.

The Laboratory Exercises in Physical Geology include the study and identification of the commonest minerals and rocks, the interpretation of topographical and geological maps, and the study of structures by the use of models.

Field Work will replace laboratory occasionally, and will take the form of excursions to localities in the immediate neighborhood of Vancouver which illustrate the subject-matter of the lectures.

The Laboratory Exercises in Historical Geology consist of the general study of fossils, their characteristics and associations, their evolution and migration as illustrated by their occurrence

in the strata. The principles of Palaeogeography will be taken up and illustrated by the study of the palaeogeography of North America.

Text-book: Cleland, *Geology, Physical and Historical,* American Book Co.

Reference Books: Pirsson and Schuchert, *Text-book of Geology,* Wiley. Geikie, *Text-book of Geology,* Macmillan. Merrill, *Rocks, Rock-weathering and Soils,* Macmillan. Coleman and Parks, *Elementary Geology,* Dent & Sons. *National Geographic Magazine.* Shimer, *Introduction to the Study of Fossils,* Macmillan. Davis, *Geographical Essays,* Ginn & Co. Hugh Miller's works. 3 units.

2. (*a*) *General Mineralogy.*—This course is designed to give students a general survey of the field of mineralogy.

Lectures consist of a description of the crystallographical and physical properties of minerals in general, combined with a detailed study of about 50 of the common mineral species.

Laboratory Work consists of the practical study of these minerals, a demonstration of their chemical properties, and practise in the methods of their determination.

Text-book: Dana, *Manual of Mineralogy,* revised by Ford (new edition), Wiley.

Two lectures and one laboratory period of two hours per week. First Term. Mr. Uglow. 1½ units.

2. (*b*) *Descriptive and Determinative Mineralogy.*—This course supplements 2 (*a*), and consists of a critical study of about 50 of the less common mineral species, special emphasis being given to their crystallography, origin, association, and alteration.

Text-book: Dana, *Text-book of Mineralogy,* revised by Ford, Wiley.

Reference Books: Williams, *Elements of Crystallography,* Holt. Brush and Penfield, *Determinative Mineralogy and Blowpipe Analysis,* Wiley. J. Volney Lewis, *Manual of Determinative Mineralogy,* Wiley.

Two lectures and one laboratory period of two hours per week. Second Term. Mr. Uglow. 1½ units.

3. *Historical Geology.*—Continental evolution and development of life with special reference to North America.

Three hours per week. First Term.

Text-book: Schuchert, *Historical Geology,* Wiley.

Prerequisite: Geology 1.

Mr. Williams. 1½ units.

4. *Structural and Physiographical Geology.*—The following subjects are treated in the lectures: Fractures, faults, flowage, structures common to both fracture and flow, mountains, major units of structure, forces of deformation, the origin and development of land forms with special reference to the physiography of British Columbia.

Text-book: Leith, *Structural Geology,* Holt.

Three hours per week. Second Term.

Prerequisite: Geology 1.

Mr. Schofield. 1½ units.

5. (*a*) *History of Geology.*—A brief history of the study of the earth and the development of the geological sciences. Mr. Brock.

(*b*) *Geology of Canada.*—The salient features of the geology and economic minerals of Canada. Mr. Williams, Mr. Schofield, Mr. Brock.

(*c*) *Regional Geology.*—The main geological features of the continents and oceanic segments of the earth's crust, and their influences upon life. Mr. Brock.

Prerequisite: Geology 1.

Three lectures and one laboratory period per week. 3 units.

6. *Palaeontology.*—A study of invertebrate and vertebrate fossils, their classification, identification and distribution both geological and geographical.

Two lectures and one laboratory period per week.

Mr. Williams. 3 units.

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7. *Petrology—Lectures:* These consist of a discussion of the origin, occurrence, alteration, decomposition, and removal of rocks; a study of their chemical, mineralogical and physical characteristics; their mode of classification; and a presentation of the method of application of the polarizing microscope to the determination of rock types.

Laboratory Work.—The collections of the department are used by the students for practice in the application of the above principles to rock study, determination and classification. Field methods of determination are stressed; and the polarizing microscope is used to study the texture, structure and composition of the common rock types.

Text-books: Pirsson, *Rocks and Rock Minerals,* Wiley. Luquer, *Minerals in Rock Sections,* Van Nostrand.

Prerequisites: Geology 1 and 2.

Two lectures and two laboratory periods of two hours per week. Mr. Uglow. 4 units.

8. *Economic Geology.*—A study of the occurrence, genesis, and structure of the principal metallic and non-metallic mineral deposits with type illustrations; and a description of the ore-deposits of the British Empire, special stress being placed on those in Canada.

Text-book: Ries, *Economic Geology,* Wiley, 4th ed.

Reference Book: Lindgren, *Mineral Deposits,* McGraw-Hill, 2nd ed.

Prerequisite: Geology 7 must precede or accompany this course; Geology 1 must have been taken.

Three hours of lectures and one of laboratory work per week. Mr. Brock and Mr. Williams. 4 units.

9. *Mineralography.*—A study of opaque minerals by means of the reflecting microscope.

Two hours per week. Mr. Uglow. 2 units.

(Given in 1923-24 and alternate years.)

10. *Field Geology.*—The methods taught are the fundamental ones used by professional geologists and by the officers of the Geological Survey of Canada. The course is essentially practical, and is designed to teach methods of observing, recording and correlating geological facts in the field. The students construct geological maps of selected areas in the vicinity of Vancouver which require the use of the various methods and instruments employed in field geology.

Reference Books: Lahee, *Field Geology,* McGraw-Hill. Hayes, *Handbook for Field Geologists,* Wiley. Spurr, *Geology Applied to Mining,* Hill Pub. Co.

Three hours per week.

Prerequisite: Geology 1. Geology 4, if not already taken, must be taken concurrently.

Mr. Schofield. 1½ units.

12. *Meteorology and Climatology.*—Two lectures and one laboratory period of two hours per week. Second Term.

Mr. Schofield. 1½ units.

Geography.

1. *Principles of Geography.*—A general course dealing especially with the effects of the physical features of the earth upon life, and the ways in which various forms of life respond to their physical environment. The following topics are studied: earth relations; earth features; climate and climatic factors; oceans; materials of the land and their uses; changes of the earth's surface; coasts, plains, plateaus, mountains, inland waters, and their relations to life; distribution and development of industries; distribution of population.

Text-book: Salisbury, Barrows and Tower, *Elements of Geography,* Holt.

Three lectures per week.

Mr. Brock and Mr. Schofield. 3 units.

Department of History.

Professor: Mack Eastman.
Associate Professor: W. N. Sage.
Instructor: F. H. Soward.

Students who intend to specialize in History are advised to associate with it from the first some allied subject, such as Economics. Economics 1, 2, 3, Government 1 and Sociology 1 will be found especially helpful.

A reading knowledge of French and German will be found extremely valuable in Third and Fourth Year courses, while in certain classes of more advanced work Latin is indispensable.

Hereafter, French at least will be required for Honour work.

FIRST AND SECOND YEARS.

1. *Modern European History.*—A general view of the development of modern Europe from the eve of the French Revolution to the present day. This course is designed for First Year students who wish to complete the survey of European and world history begun in the high schools.

Text-book: Robinson and Beard, *History of Europe, Our Own Times,* Ginn & Co., 1921. This is the sequel to the Breasted and Robinson *History of Europe, Ancient and Mediaeval,* used for Junior Matriculation.

Additional reading will be assigned during the year, including articles in the *Encyclopaedia Britannica* and chapters in the *Cambridge Modern History;* Carlton Hayes, *Political and Social History of Modern Europe;* Hazen, *Europe Since 1815;* Belloc, *French Revolution;* Fisher, *Napoleon;* Bourgeois, *Modern France, 1815-1913;* Hearnshaw, *Main Currents of European History in the Nineteenth Century;* Grant Robertson, *Bismarck;* Dawson, *Evolution of Modern Germany;* Stilman, *Union of Italy (1815-1895);* Marriott, *The Eastern Question;* Trevelyan, *British History in the Nineteenth Century;* Egerton, *British Foreign Policy in the Nineteenth Century;* Cunningham, *Growth of English Industry and Commerce, Vol. 3;* A. F. Pollard, *A Short History of the Great War,* etc., etc.

Suggested for outside reading: H. G. Wells, *An Outline of History.*

Three hours a week. Mr. Soward. 3 units.

(This course may not be offered after 1923-24.)

2. *Canadian History.*—This course opens with a brief analysis of the reasons for European colonization of America and a sketch of the colonial effort of Spain, France and Great Britain. In the French régime, exploration, the development of government, the conflict of church and state, and the struggle with Great Britain for the West are studied. In the British period, the relations of the French and English and the evolution of Canadian self-government are given special attention.

Books especially recommended, which can be purchased at the University book-store: Charles G. D. Roberts, *History of Canada.* Sir Charles Lucas, *History of Canada, Vol. 1, New France.* W. P. M. Kennedy, *Documents of the Canadian Constitution, 1759-1915.* Francis Parkman, *Pioneers of France in the New World; The Jesuits in North America; Count Frontenac and New France; La Salle and the Discovery of the Great West; The Old Régime in Canada; A Half-century of Conflict; Montcalm and Wolfe.*

Other reference books: *Makers of Canada Series. Chronicles of Canada.* Ramsay Muir, *Expansion of Europe.* R. Thwaites, *The Colonies, 1492-1760.* W. B. Munro, *Crusaders of New France.* G. M. Wrong, *Conquest of New France.* Mack Eastman, *Church and State in Early Canada.* A. G. Bradley, *Fight With France for North America; The Making of Canada.* Egerton, *Canada Under British Rule.* Morison, *British Supremacy and Canadian Self-government, 1839-1854. Lord Durham's Report.* Sir Robert Borden, *Canadian Constitutional Studies.* Shortt and Doughty, *Documents of Canadian Constitutional History, 1759-1791.* Doughty and McArthur, *Documents of Canadian Constitutional History, 1791-1818.* O. D. Skelton, *Life and Times of A. J. Galt; Life and Letters of Sir Wilfrid Laurier.*

A preliminary essay counting 10 per cent. of the year's work must be handed in by October 15th. Subject: "The Work

of La Salle and the Verendryes in Exploration—A Comparison and Contrast." Books recommended: Parkman, *La Salle and the Great West.* Munro, *Crusaders of New France.* Burpee, *The Pathfinders of the Western Plains.* Wrong, *Conquest of New France.*

Three hours a week. Mr. Soward. 3 units.

3. *English History.* — The history of England from the Norman Conquest to the Revolution of 1688. This course is intended primarily for Second Year students who mean to specialize in history. It aims at interpreting the constitutional, political, economic, and religious development of England and Wales during the period prescribed. Attention will also be paid to the history of Scotland and Ireland and the origin of Overseas Britain. The sequel to this course is History 8.

Text-book: R. Muir, *A Short History of the British Commonwealth,* Vol. I., G. Philip & Son, 1920.

Books of reference: J. R. Green, *A Short History of the English People.* Mowat, *A New History of Great Britain.* Stubbs, *Constitutional History of England.* Medley, *Constitutional History of England.* H. W. C. Davis, *England Under the Normans and Angevins.* Vickers, *England in the Later Middle Ages.* A. D. Innes, *England Under the Tudors.* G. M. Trevelyan, *England Under the Stuarts.* Poole and Hunt (editors), *The Political History of England,* Vols. II.-VIII. (inclusive). A. D. Innes, *A History of the British Nation; History of England and the British Empire,* Vols. I. and II. Traill (editor), *Social England,* Vols. I. and II. Lipson, *The Economic History of England.* Hunt and Stephens (editors), *The Church of England,* Vols. II.-VI. (inclusive). Ward, Prothero and Leathes (editors), *The Cambridge Modern History,* Vols. I.-V. (inclusive), the chapters dealing with British history; and also standard biographies in the *Twelve English Statesmen Series,* etc.

A preliminary essay counting 10 per cent. of the year's work must be handed in as soon as possible after the opening of the autumn term. Subject: "The Effects of the Norman Conquest on Subsequent English History." References, in

addition to those already cited: Haskins, *The Normans in European History.* Freeman, *The Norman Conquest.* Thierry, *The Norman Conquest.*

Three hours a week. Mr. Sage. 3 units.

THIRD AND FOURTH YEARS.

History 4, 5 and 6 are intended especially for Third Year students. History 4 (or 5) must be taken by all candidates for Honours. In European History the proper sequence of courses is History 4, 5, 6, 7.

Honour students are required to attend a weekly seminar during their Third or Fourth Year. The seminar and the graduating essay together will count 3 units.

4. *Mediaeval History.*—A sketch of Mediaeval History from the Council of Nicaea to the Fall of Constantinople, 325-1453 A.D. The following subjects will be treated: the triumph of Christianity; the breakdown of the Western Roman Empire; the Barbarian Invasions; the earlier monastic movements; Mohammed and Islam; the rise of the Papacy; the Franks and Charlemagne; the struggle between Empire and Papacy; the Normans in Europe; the Crusades; the Mediaeval Towns; the later monastic movements; the rise of the universities; Frederick II.; the later Mediaeval Empire; the National Kingdoms in France, Spain, England and Scotland; the Turks and the collapse of the Byzantine Empire.

Text-book: Thorndike, *A History of Mediaeval Europe,* Houghton, Mifflin Co.

Additional text-books for Honour students: Oman, *The Dark Ages.* Tout, *Empire and Papacy.* R. Lodge, *The Close of the Middle Ages.* Bryce, *The Holy Roman Empire.*

The above text-books may be purchased from the University book-store.

Books of reference: Gibbon, *Decline and Fall of the Roman Empire* (Bury's or Milman's edition). Gwatkin and Whitney (editors), *The Cambridge Mediaeval History.* Lavisse and Rambaud (editors), *Histoire Générale.* Lavisse (editor), *Histoire*

de France. H. A. L. Fisher, *The Mediaeval Empire.* H. W. C. Davis, *Mediaeval Europe.* Hodgkin, *Italy and Her Invaders.* Milman, *History of Christianity; History of Latin Christianity.* Orton, *Outline of Mediaeval History.* D. C. Munro, *The Middle Ages.* Emerton, *Mediaeval Europe.* Giesebrecht, *Geschichte der Deutschen Kaiserzeit.* Archer and Kingsford, *The Crusades.* Krey, *The First Crusade.* Archer, *The Crusade of Richard I.* Duncalf and Krey, *Parallel Source Book for the Middle Ages.* Henderson, *Historical Documents of the Middle Ages.* Etc.

A preliminary essay, counting 10 per cent. of the year's work, must be handed in as soon as possible after the opening of the autumn term. Subject: "A Comparison of the Roman Empire Under Constantine and Justinian." For materials for this essay consult works by Gibbon, Milman, Hodgkin, Oman, and the *Cambridge Mediaeval History,* listed above, also articles in the *Encyclopaedia Britannica* on *Constantine, Justinian* and the *Roman Empire.*

Three hours a week. Mr. Sage. 3 units.

5. *Renaissance and Reformation.*—Mediaeval civilization in the time of Dante; the forerunners of the Renaissance; the Renaissance in Italy (illustrated with slides); the Protestant Reformation and the Catholic Reaction; in conclusion, a short account of the subsequent history of religious thought down to our own times, with especial reference to the English Deists, the French Philosophers, Evangelicalism and Rationalism, the Higher Criticism and Catholic Modernism.

An introductory essay, counting 10 per cent. of the year's work, must be handed in early in the autumn term. Subject: "The Significance of Dante." Reading recommended: Translations by Cary, Norton, etc. Christopher Hare, *Dante the Wayfarer.* Boynton, *The World's Leading Poets.* Mackail, *Lectures on Poetry.* Santayana, *Three Philosophical Poets.* Snell, *Handbook to the Works of Dante.* Caird, *Essays on Literature and Philosophy,* Vol. IV. Brooks, *Dante: How to Know Him.* Federn, *Dante and His Time.* Rossetti, *Dante at Verona.* James Russell Lowell, *Prose Works,* Vol. IV. Flamini, *History of Italian Literature.* Pollock, *History of the Science of*

Politics. Charles Maurras, *Le Conseil de Dante. La Grande Encyclopedie.* Also, *The Contemporary Review, Atlantic Monthly,* etc., for 1921.

Text-books (in University book-store): Sichel, *The Renaissance.* Fisher, *The Reformation,* Scribners. Further reading: Symonds, *A Short History of the Renaissance in Italy.* Burckhardt, *The Renaissance in Italy.* Symonds, *The Renaissance in Italy.* André Michel, *Histoire de l'Art* (III., IV.). Christopher Hare, *Life and Letters in the Italian Renaissance.* Allen, *The Age of Erasmus.* Emerton, *Erasmus.* Lindsay, *A History of the Reformation.* Vedder, *Reformation in Germany.* Smith, *Martin Luther.* McGiffert, *Martin Luther, the Man and His Work.* Articles in *Encyclopaedia Britannica* on *Renaissance* by Symonds, and on *Reformation* by Robinson. McGiffert, *The Rise of Modern Religious Ideas.* Sabatier, *Modernism.* Houtin, *Le Modernisme Catholique.* Also several works on the Higher Criticism.

Three hours a week. Mr. Eastman. 3 units.

6. *The Age of Louis XIV., the Pre-Revolution, the Revolution and Napoleon.*

An introductory essay, counting 10 per cent. of the year's work, must be handed in early in the autumn term. Subject: "Discipline as the Central Principle of the Reign of Louis XIV." Books recommended for reading and reference: Wakeman, *The Ascendancy of France.* Grant, *The French Monarchy,* Vol. II. Hassall, *France, Mediaeval and Modern. Cambridge Modern History,* Vol. V. Lavisse, *Histoire de France.* Lavisse et Rambaud, *Histoire Générale. La Grande Encyclopédie,* article on Louis XIV., etc.

Text-books (in University book-store): Johnston, *A Short History of the French Revolution; Napoleon,* Henry Holt.

Further reading: Lowell, *The Eve of the French Revolution,* Houghton Mifflin. De Tocqueville, *The State of Society in France Before the Revolution.* Taine, *L'Ancien Régime* (abridged), Heath & Co., or Taine, *The Ancient Régime.* Arthur Young, *Travels in France.* Tallentyre, *The Friends of Voltaire.* John

Morley, *Voltaire; Diderot and the Encyclopedists; Rousseau,* Macmillan. Wadia, *The Philosophers and the French Revolution.* Say, *Turgot.* Aulard, *The French Revolution.* Madelin, *The French Revolution.* J. Holland Rose, *The Revolutionary and Napoleonic Era.* Morse Stephens, *A History of the French Revolution.* Barthou, *Mirabeau.* Belloc, *Danton.* Belloc, *Marie Antoinette.* Lintilhac, *Vergniaud.* Stephens, *Women in the French Revolution.* Bournand, *La Terreur à Paris.* Gooch, *Germany and the French Revolution.* Mahan, *The Influence of Sea Power Upon the French Revolution.* Sorel, *L'Europe et la Révolution Française.* Legg, *Select Documents of the French Revolution.* Bourne, *Revolutionary Europe (1763-1815).* Fisher, *Napoleon; Bonapartism.* R. M. Johnston, *The Corsican (Napoleon's Diary).* Lacour-Goyet, *Napoléon.* J. Holland Rose, *Napoleon.* Richardson, *A Dictionary of Napoleon.* Vandal, *L'Avènement de Bonaparte.* Frédéric Masson, *Napoléon et son Fils.* McCabe, *Talleyrand.*

Three hours a week. Mr. Eastman. 3 units.

7. *Europe, 1815-1923.* The political, social and religious history of the chief countries of continental Europe, with especial attention to international relations. Intended for Fourth Year students.

An introductory essay, counting 10 per cent. of the year's work, must be handed in early in the autumn term. Subject: "The Changes, Permanent and Ephemeral, Wrought in European Society by the French Revolution." For reading, consult History 6.

Text-books (in University book-store): Hazen, *Europe Since 1815,* Henry Holt. Shapiro, *Modern and Contemporary European History,* Houghton Mifflin. Fueter, *World History, 1815-1920.*

Further reading: Allison Philipps, *The Confederation of Europe.* Carlton Hayes, *A Political and Social History of Modern Europe,* Macmillan. Holland Rose, *The Development of the European Nations (1870-1914).* Ramsay Muir, *The Expansion of Europe.* Hearnshaw, *Main Currents of European*

History (1815-1915). Mowat, *A History of European Diplomacy (1815-1914)*. Bowman, *The New World, Problems in Political Geography*. Rambaud, *Histoire de la Civilisation Française. Un Demi-Siècle de Civilisation Française*. Deschanel, *Gambetta*. Poincaré, *Thiers*. Bourgeois, *Modern France*. Sait, *Government and Politics of France*. Stuart, *French Foreign Policy*. Tardieu, *The Truth About the Treaty*. Von Bülow, *Imperial Germany*. Grant Robertson, *Bismarck*. Fife, *The German Empire Between Two Wars*. Dawson, *The Evolution of Modern Germany*. Marriott, *The Evolution of Prussia*. Veblen, *Imperial Germany and the Industrial Revolution*. King, *Mazzini*. Stillman, *The Union of Italy (1815-1895)*. Thayer, *Cavour*, or Pietro Orsi, *Cavour*. Feiling, *Italian Policy Since 1870*. Pingaud, *L'Italie Depuis 1870*. Beazley, *Russia*. Rambaud, *Histoire de la Russie*. Marriott, *The Eastern Question*. Schevill, *The Balkans*. Certain books and articles on the origins of the World War, the Peace Conference, the League of Nations and the present state of Europe.

Works of reference: *Cambridge Modern History*. Lavisse, *Histoire de France Contemporaine*. Lavisse et Rambaud, *Histoire Générale*. Hanotaux, *Histoire de la Nation Française*.

Three hours a week. Mr. Eastman. 3 units.

8. *Great Britain Since 1688*.—This course aims at an interpretation of the constitutional, political, economic and religious development of the British Isles since the Revolution of 1688. Attention will also be paid to the growth of the British Empire during the eighteenth, nineteenth and twentieth centuries. This course is the sequel to History 3.

The following subjects will be treated: The Revolution of 1688; the rise of political parties during the reigns of William III. and Anne; the Scottish Union; Walpole and the Whig ascendancy under George I. and George II.; British and French colonial rivalry; Chatham; Lord North and the King's friends; the American War of Independence; the Industrial Revolution; the Younger Pitt; the French Revolutionary and Napoleonic Wars; the Irish Union; Catholic Emancipation; the three Reform Bills; the Victorian Age; Free Trade; the

Development of the British Empire; "Little Englanders" vs. "Imperialists"; Disraeli vs. Gladstone; Home Rule for Ireland; the Diamond Jubilee, the Boer War and the turn of the century; Edward VII. and the Diplomatic Revolution; the New Liberalism, Lloyd George and Social Reform; the World War and Britain's part in it; British problems of the peace.

Text-book: R. Muir, *Short History of the British Commonwealth,* Vols. I. and II., G. Philip & Son.

Books of reference: Mowat, *A New History of Great Britain.* Innes, *A History of England and the British Empire,* Vols. III. and IV. G. M. Trevelyan, *England Under the Stuarts.* Grant Robertson, *England Under the Hanoverians.* Marriott, *England Since Waterloo.* Poole and Hunt (editors), *The Political History of England,* Vols. VIII.-XII. (inclusive). Ward, Prothero and Leather (editors), *The Cambridge Modern History,* Vols. V.-XII. (inclusive), the chapters dealing with British History. G. M. Trevelyan, *British History in the Nineteenth Century.* Toynbee, *The Industrial Revolution.* Cunningham, *The Growth of English Industry and Commerce.* Usher, *An Introduction to the Industrial History of England.* Townsend Warner, *Landmarks in English Industrial History.* Egerton, *A Short History of British Colonial Policy.* Lecky, *England in the Eighteenth Century; Ireland in the Eighteenth Century; Leaders of Public Opinion in Ireland.* Hume Brown, *History of Scotland.* A. Lang, *History of Scotland.* Morley, *Walpole; Burke.* Basil Williams, *Life of Chatham.* J. Holland Rose, *William Pitt and the National Revival; William Pitt and the Great War.* Rosebery, *Pitt.* Donnan, *History of the British Empire in the Nineteenth Century.* G. M. Trevelyan, *Lord Grey and the Reform Bill.* Thursfield, *Peel.* Moneypenny and Buckle, *Life of Disraeli.* Morley, *Life of Gladstone; Life of Cobden.* G. M. Trevelyan, *Life of John Bright.* O'Brien, *Life of Parnell.* Lord Newton, *Life of Lord Lyons.* Queen Victoria, *Letters 1837-1861.* Sir Edward Cook, *Delane of "The Times."* Herbert Paul, *History of Modern England.* Gretton, *A Modern History of the English People.* Farrar, *England Under Edward VII.* Barker, *Ireland*

in the Last Fifty Years. Howard Robinson, *The Development of the British Empire.*

A preliminary essay, counting 10 per cent. of the year's work, must be handed in as soon as possible after the opening of the autumn term. Subject: "The Revolution of 1688." Books of reference, in addition to those listed above, which deal with the subject, Burnet, *History of My Own Times.* Macaulay, *History of England.* Locke, *Second Treatise on Civil Government.*

Three hours a week. Mr. Sage. 3 units.

9. *American History.*—This course begins with a sketch of the American colonies at the outbreak of the Revolution and traces the history of the United States from the commencement of the War of Independence to the close of the World War.

The following topics receive special attention: The War of Independence, the formation of the Federal Union, the rise of the political parties, the War of 1812, the expansion westward, the slavery question, the American Civil War, the period of reconstruction, the age of big business and the Roosevelt régime, the administration of Wilson, and the United States in the World War.

Books recommended for reading and reference: *The Chronicles of America. Cambridge Modern History,* Vol. VII. Adams, *History of the United States, 1800-1815.* Rhodes, *History of the United States, 1850-1908. The Riverside History of the United States. Epochs in American History.* McMaster, *The History of the People of the United States.* Farrand, *The Development of the United States.* Channing, *Student's History of the United States.* Beer, *The British Colonial Policy, 1754-1765.* Hertz, *The Old Colonial System.* Fiske, *American Revolution.* Fiske, *Struggle for American Independence.* Lecky, *American Revolution.* Van Tyne, *Causes of the War of Independence.* Greene, *Foundations of American Nationality.* Thayer, *Life of Washington; Life of Roosevelt.* Charnwood, *Life of Lincoln.* F. G. Oliver, *Alexander Hamilton.* Paxson, *American Civil War.* Lingley, *Since the Civil War.* Andrews,

The Last Quarter Century in the United States. Dunning, *The British Empire and the United States.* Foster, *A Century of American Diplomacy.* Turner, *The Frontier in American History.*

Text-book: Muzzey, *American History,* Ginn & Co.

An essay, counting 10 per cent. of the year's work, must be handed in by October 15th. Subject: "The Loyalist Position in the American Revolution." Books recommended: Wallace, *The U. E. Loyalists* (*Chronicles of Canada Series*). Van Tyne, *The Loyalists in the American Revolution.* Tyler, *The Literary History of the American Revolution.* Lecky, *The American Revolution.*

Three hours a week. Mr. Soward. 3 units.

(Given in 1924-25.)

Department of Mathematics.

Professor: Daniel Buchanan.
Associate Professor: G. E. Robinson.
Assistant Professor: E. E. Jordan.
Assistant Professor: L. Richardson.
Lecturer: B. S. Hartley.
Assistant: John Henry.
Assistant: May L. Barclay.
Assistant: M. Home.

Course 1 is required of all regular students in First Year Arts. Courses 2, 3, and 4 are open to students who have completed Course 1. Course 2 is required of those intending to proceed to Honours in Mathematics.

Courses 3, 13, 15 and 4, 12, 14 are given in alternate years, as indicated below.

A selection will be made from graduate courses at the beginning of each session to meet the needs and qualifications of students proceeding to the degree of M.A.

PASS COURSES.

1. (*a*) *Algebra.*—An elementary course, including ratio, proportion, variation, solutions of equations, simple series, permutations, combinations, and the binomial theorem.

Hall and Knight, *Elementary Algebra.*

Three hours a week. First Term.

(*b*) *Geometry.*—This course covers the work in Hall and Steven's *School Geometry,* Parts V. and VI.

Two hours a week. Second Term.

(*c*) *Trigonometry.*—An elementary course involving the use of logarithms.

Playne and Fawdry, *Practical Trigonometry.*

Wentworth and Hill, *Logarithmic Tables.*

Six-Place Tables (McGraw-Hill)—For those intending to proceed to Applied Science.

One hour a week, First Term, and two hours a week, Second Term. 3 units.

2. (*a*) *Analytical Geometry.*—An introductory course with special emphasis upon the straight line and circle.

Fawdry, *Co-ordinate Geometry.*

Two hours a week. First Term. Mr. Buchanan.

(*b*) *Algebra.*—A continuation of the previous course in algebra involving exponential, logarithmic and other series, undetermined coefficients, partial and continued fractions.

Hall and Knight, *Higher Algebra.*

Two hours a week. Second Term. Mr. Robinson.

(*c*) *Calculus.*—An introductory course in differential and integral calculus, with various applications.

Woods and Bailey, *Elementary Calculus.*

One hour a week. Mr. Buchanan. 3 units.

3. *The Mathematical Theory of Investments.*—This course deals with the theory of interest, annuities, debentures, valuation

of bonds, sinking funds, depreciation, probability and its application to life insurance.

Rietz, Crathorne and Rietz, *Mathematics of Finance.*

Two hours a week. Mr. Robinson. 2 units.

(Given in 1923-24 and alternate years.)

4. *Descriptive Astronomy.*—The object of this course is to acquaint the student with the various heavenly bodies and their motions. It is intended primarily for Pass students, and only a knowledge of elementary mathematics is essential. The subject-matter treated includes: The shape and motions of the earth, systems of coordinates, the constellations, planetary motion, gravitation, tides, time, the stars and nebulae, theories of evolution of the solar system.

Moulton, *Introduction to Astronomy.*

Two hours a week. Mr. Buchanan. 2 units.

(Given in 1924-25 and alternate years.)

HONOUR COURSES.

10. *Calculus.*—The elementary theory and applications of the subject.

Three hours a week. Mr. Buchanan. 3 units.

11. *Plane and Spherical Trigonometry.*—The work in plane trigonometry will deal with the following: Identities and trigonometrical equations, the solution of triangles with various applications, circumscribed, inscribed and escribed circles, De Moivre's theorem, expansions of sin $n\theta$, etc., hyperbolic and inverse functions. The work in spherical trigonometry will cover the solution of triangles with various applications to astronomy and geodesy.

Loney, *Plane Trigonometry,* Parts I. and II.

Dupuis and Matheson, *Spherical Trigonometry and Astronomy.*

Two hours a week. Mr. Hartley. 2 units.

12. *Synthetic Plane and Solid Geometry.*—The course in plane geometry is intended to cover such topics as the principle

of duality, cross ratio geometry, etc. In solid geometry the principal properties of solid figures are studied, as well as the theory of projection in space, with various applications to the conic sections.

Two hours a week. 2 units.

(Given in 1924-25 and alternate years.)

13. *Analytical Geometry.*—A general study of the conics and systems of conics, and elementary work in three dimensions.

Loney, *Coordinate Geometry.* Tanner and Allen, *Brief Course in Analytical Geometry.*

Two hours a week. Mr. Jordan. 2 units.

(Given in 1923-24 and alternate years.)

14. *Theory of Equations and Determinants.* — A course covering the main theory and use of these subjects.

Burnside and Panton, *Theory of Equations,* Vol. I. Weld, *Theory of Determinants.*

Two hours a week. 2 units.

(Given in 1924-25 and alternate years.)

15. *Higher Algebra.*—Selected topics in higher algebra, including infinite series, continued fractions, the theory of numbers, probability.

Hall and Knight, *Higher Algebra.* Chrystal, *Text-book of Algebra,* Part II.

Two hours a week. Mr. Robinson. 2 units.

(Given in 1923-24 and alternate years.)

16. *Calculus and Differential Equations.*—A continuation of the previous course in calculus, treating partial differentiation, expansions of functions of many variables, singular points, reduction formulae, successive integration, elliptic integrals, and Fourier series.

Ordinary and partial differential equations, with various applications to geometry, mechanics and physics.

Granville, *Differential and Integral Calculus.* Murray, *Differential Equations.*

Two hours a week. Mr. Buchanan. 2 units.

17. *Applied Mathematics.*—A course dealing with the applications of mathematics to dynamics of a particle and of a rigid body, and to the two body problem in celestial mechanics.

Reference Books: Webster, *Dynamics of Particles and of Rigid, Fluid and Elastic Bodies.* Smith and Langley, *Theoretical Mechanics.*

Two hours a week. Mr. Richardson. 2 units.

18. *History of Mathematics.*—A reading course covering the historical development of the elementary branches of mathematics from the earliest times to the present.

Ball, *History of Mathematics.* Cajori, *History of Elementary Mathematics.* Mr. Buchanan. 1 unit.

GRADUATE COURSES.

20. *Analytical Solid Geometry.*—Snyder and Sisam, *Analytical Geometry of Space.*

21. *Theory of Functions of a Real Variable.* — Goursat-Hedrick, *Mathematical Analysis,* Vol. I.

22. *Theory of Functions of a Complex Variable.*—Pierpont, *Functions of a Complex Variable.*

23. *Differential Geometry.* Eisenhart, *Differential Geometry.*

24. *Projective Geometry.*—Veblen and Young, *Projective Geometry,* Vol. I.

25. *Celestial Mechanics.*—Moulton, *An Introduction to Celestial Mechanics.*

26. *Advanced Differential Equations.* — Moulton, *Periodic Orbits.*

Department of Modern Languages.

Professor: H. Ashton.
Associate Professor: A. F. B. Clark.
Assistant Professor: Isabel MacInnes.
Assistant Professor: G. Grojean.
Instructor: Margaret Ross.
Instructor: Janet T. Greig.
Assistant: Kathleen Peck.
Assistant: Hazel McConnell.
Tutor: E. E. Delavault.
Tutor: G. Barry.

French.

1. (*a*) Molière, *Le Bourgeois Gentilhomme,* Ginn. Bazin, *Une tache d'encre,* Ginn. Chouville and Savory, *Three Weeks in France,* Clarendon Press. Weil, *Leçons de Français,* Delagrave, Paris.

Revision of the essentials of French grammar and syntax applied to the correct writing of French.

Oral work from Weil, *Leçons de Français.*

There will be an oral examination based on this book.

3 units.

1. (*b*) A course of Lectures on France, French Life and Institutions. Open to all students without obligation to take the examination. Students intending to take French throughout their course are advised to attend these lectures. Future Honours students in French should take the course and the examination. No formal credit is given for this course.

One hour a week.

2. (*a*) La Fontaine, *One Hundred Fables* (Super), Ginn. Augier et Sandeau, *Le Gendre de Monsieur Poirier* (Roedder), American Book Company. Anatole France, *Le Crime de Sylvestre Bonnard* (Wright), Holt.

Conversation in French on the above. Written résumés.

Composition from Wilson and Jaccard, *A First French Prose Composition,* Bell, London; or from Jules Lazare, *Elementary French Composition,* Hachette, London.

Students intending to take Second Year French will be required to read *Quelques Contes des Romanciers Naturalistes,* Heath, during the summer vacation of 1923, and an examination (to be written in French) will be held during the first week of the autumn term to test their knowledge of this text. 3 units.

2. (*b*) The Life and Works of eight French authors, Mme. de La Fayette, Mme. de Sévigné, Mme. de Staël, George Sand, Balzac, Flaubert, Musset, Rostand.

For students who intend to continue French in the Third and Fourth Years. No formal credit is given for this course.

One hour a week.

3. (*a*) *The Literature of the Age of Louis XIV.* Lectures on the history and social conditions of the period, and on the development of the literature. Careful reading and discussion of the following texts: Racine, *Phèdre,* Hachette, Paris. Molière, *Les Femmes Savantes,* Didier; *Le Tartuffe,* Hachette, Paris. Schinz and King, *Seventeenth Century French Readings,* Holt.

Conversation and written résumés based on the above.

Weekley's *French Prose Composition* will be used for translation from English into French.

This course is obligatory for all students taking Third Year French. 3 units.

Students intending to take Third Year French will be required to read 500 pages of French during the summer vacation of 1923. This reading may consist of one or more novels, plays, short stories, critical or historical articles, poetry, etc., at the choice of the student, but the texts selected must be approved by the Department. This reading will be tested by an essay in French (summing up or criticizing the texts read and not exceeding 5,000 words), to be handed in during the first week of the autumn term.

Before registering in Third Year classes the student should talk over the work with the Professor concerned.

3. (*b*) *The Literature of the Eighteenth Century.* Lectures on the history and social conditions of the period, with special emphasis on the "philosophe" movement, and the beginnings of

romanticism. The inter-relations of French and English thought and literature will be touched upon. Careful reading and discussion of the following texts: Voltaire, *Contes,* Oxford University Press. Diderot, *Extraits* (Fallex), Delagrave. Rousseau, *Morceaux Choisis,* 4th ed. (Mornet), Didier. Beaumarchais, *Le Barbier de Séville,* Macmillan.

This course is intended for students who are already taking French 3 (a), and who wish three extra units in French (whether for the purpose of taking Honours in French or not). 3 units.

3. (*c*) French Composition and translation from English into French. Weekley, *French Prose Composition,* Clive, London.

Obligatory for Honours students. 3 units.

4. (*a*) Stewart and Tilley, *The Romantic Movement in French Literature,* Cambridge Press. Rostand, *Cyrano de Bergerac,* Fasquelle, Paris.

Reading: Taine on Byron, in *Histoire de la Littérature Anglaise.* Chateaubriand, *René.* Mme. de Staël, *De l'Allemagne,* Oxford Press. De Stendhal, *Racine et Shakespeare,* Oxford Press. 3 units.

4. (*b*) Modern French Poetry—Romantics to Present Day. Auzas, *Les poëtes français du XIX^e siècle,* Oxford Press. Gauthier-Ferrières, *Anthologie des écrivains français contemporains* (Poésie), Larousse, Paris. 3 units.

4. (*c*) Composition and Oral French.

Book required: Ritchie and Moore, *A Manual of French Composition,* Cambridge Press.

For Honours students. 3 units.

4. (*d*) Methods of Modern Language Teaching.

For Honours students and all who intend to teach French. 3 units.

N.B.—Courses 3 (*a*), (*b*), (*c*), and 4 (*a*), (*b*), (*c*), (*d*), call for much work out of class. They should be chosen only by students able and willing to work alone.

While the Library provides copies of standard dictionaries for occasional reference, every student of the Second, Third, and Fourth Years should possess a small dictionary for use when preparing class work. Suitable dictionaries can be obtained at the Bookstore.

German.

Beginner's Course. Composition, Grammar, Conversation. — Texts: (*a*) Zinnecker, *Deutsch fur Anfänger,* Heath. (*b*) Haertel, *German Reader for Beginners* (Ginn & Co.).

3 units.

Beginner's Course, Scientific.—As Beginner's Course above, substituting for Text (*b*) Gore, *German Science Reader,* Heath.

3 units.

1. *Language.*—Completion and Revision of Zinnecker. Composition and conversation based on texts read. Hillern, *Hoher als die Kirche,* Scribner. Moser, *Der Bibliothekar,* Ginn. F. Bruns, *Book of German Lyrics,* Heath.

Four hours a week.

One hour a week alternate reading for Science students may be arranged. 3 units.

2. (*a*) *Language.*—Whitney and Stroebe, *Advanced German Composition,* Holt. Composition and conversation based on texts read.

Storm, *Pole Poppenspäler,* Scribner. Freytag, *Die Journalisten,* Ginn. Bruns, *Book of German Lyrics,* Heath.

Three hours a week. 3 units.

2. (*b*) A general survey of German literature.

For students who intend to take German in the Third and Fourth Years.

One hour a week. No formal credit is given for this course.

3. Lessing, *Minna von Barnhelm,* Macmillan. Goethe, *Egmont,* Ginn. Schiller, *Die Jungfrau von Orleans,* Holt.

Composition based on above texts and Whitney and Stroebe, *Advanced German Composition,* Holt.

Study of the classical period in German Literature. 3 units.

4. (*a*) Nineteenth Century Drama. 3 units.

4. (*b*) Nineteenth Century Fiction. 3 units.

These courses, which include reading of a number of standard works, will be given alternately.

Department of Philosophy.

Professor: H. T. J. Coleman.
Associate Professor: James Henderson.

1. (*a*) *A Course in Elementary Psychology.*

Text-book: Pillsbury, *The Essentials of Psychology,* Macmillan.

References: Stout, *A Manual of Psychology.* Titchener, *A Text-book in Psychology; A Beginner's Psychology.* James, *Psychology* (Briefer Course).

Two hours a week throughout the year.

(*b*) *A Course in Elementary Logic, Deductive and Inductive.*

Text-book: Mellone, *Introductory Text-book of Logic,* Blackwood (latest edition).

One hour a week throughout the year.

(*c*) A fourth hour per week will be devoted to lectures introductory to the main problems of Philosophy, and a special study of Descartes' *Discourse on Method* and Berkeley's *Treatise Concerning the Principles of Human Knowledge.* Attendance at this hour is voluntary and no formal credit is given. Students contemplating honors are, however, advised to take this course. 3 units.

2. *A general course in Ethics.*

Text-book: Everett, *Moral Values,* Holt.

A special study will be made of selected portions of Aristotle's *Ethics,* Mill's *Utilitarianism,* and Kant's *Metaphysic of Morals.*

Three hours a week. 3 units.

3. *History of Greek Philosophy from Thales to Plato* (inclusive).

Text-book: Burnet, *Greek Philosophy* (Part I.), Macmillan. In connection with the course a special study will be made of Plato's Republic, Phaedo, and Philebus.

Three hours a week. 3 units.

(Given in 1924-25 and alternate years.)

4. *The History of Philosophy from the Renaissance to the Present time.*

Text-book: A. B. D. Alexander, *A Short History of Philosophy,* Macmillan.

Works of reference: Rand, *Modern Classical Philosophers,* and the various Histories of Philosophy.

Three hours a week. 3 units.

(Given in 1923-24 and alternate years.)

5. *The Philosophy of Kant,* with special study of the Critique of Pure Reason.

Two hours a week. 2 units.

(Given in 1923-24 and alternate years.)

6. *Philosophic Movements since the time of Kant.* Post-Kantian Idealism, Pragmatism, the New Realism, Bergson and others.

Two hours a week. 2 units.

(Given in 1924-25 and alternate years.)

7. *Introduction to Education.* A course of lectures and discussions dealing with educational movements since the beginning of the 19th century, and with the theories of life and of mind which are implicit in these movements.

Texts: Spencer, *Education,* Everyman Edition. Dewey, *Democracy and Education,* Macmillan.

References: Butler, *The Meaning of Education.* Moore, *What is Education?* Adams (ed.), *The New Teaching.* Holmes, *What is and What might be.* Articles in Cyclopedia of Education, Macmillan.

Philosophy 1 is recommended as preparatory to this course.

Three hours a week. 3 units.

(Given in 1924-25 and alternate years.)

8. (*a*) *Social Psychology.*—First Term. A study of those particular phases of mental life and development which are fundamental in social organization and activity.

Text: McDougall, *Social Psychology,* Methuen, London. Collateral reading will be prescribed from the following: Cooley, *Human Nature and the Social Order.* Wallas, *Human Nature in Politics; The Great Society.* Ross, *Social Psychology.*

(*b*) *Educational Psychology.*—Second Term. A study of the psychological basis of teaching, with particular attention to newer methods of class organization and instruction, and the problem of the measurement of mental traits.

Text: Colvin, *The Learning Process,* Macmillan.

References: Thorndike, *Educational Psychology.* Judd, *Psychology of High School Subjects.* Terman, *The Measurement of Intelligence.* Starch, *Educational Psychology.*

Philosophy 1 is recommended as preparatory to this course.

Three hours a week. 3 units.

(Given in 1923-24 and alternate years.)

Students will note that Courses 3 and 4, Courses 5 and 6, and Courses 7 and 8 are given in alternate years. This arrangement is designed to meet the needs of students who desire to pursue the study of philosophy beyond the elementary stage.

Department of Physics.

Professor: T. C. Hebb.
Associate Professor: A. E. Hennings.
Associate Professor: J. G. Davidson.
Assistant: Cyril Jones.

1. *A General Study* of the principles of mechanics, properties of matter, heat, light, sound, and electricity, both in the lecture-room and in the laboratory. The course has two objects: (1) To give the minimum acquaintance with physical science requisite for a liberal education to those whose studies will be mainly literary; (2) to be introductory to the courses in Agriculture, Chemistry, Engineering, and Advanced Physics. Students must reach the required standard in both theoretical and practical work.

Three hours of lectures and one period of two hours of laboratory work per week.

Note: Separate lectures and laboratory periods will be provided for those students who have matriculated in Physics.

3 units.

2. *General Physics.*—Lectures and demonstrations. Especial attention is given to modern points of view.

Three lectures per week for the pass course and one extra lecture hour, or one laboratory period of two hours per week, for distinction students.

Students who intend to proceed to a Medical Course should take the laboratory work.

Prerequisite: Course 1, or its equivalent.

Text-book: Kimball, *College Physics.* 3 units.

3. *Mechanics, Molecular Physics and Heat.*—A study of the statics and dynamics of both a particle and a rigid body, the laws of gases and vapors, temperature, hygrometry, capillarity, expansion, and calorimetry.

Two hours of lectures and three hours of laboratory per week.

Prerequisite: Course 1, or its equivalent.

Text-book: Millikan, *Mechanics, Molecular Physics and Heat.* 3 units.

4. *Electricity, Sound, and Light.*—A study of the fundamentals of magnetism, electricity, sound, and light.

Two hours of lectures and three hours of laboratory per week.

Prerequisite: Course 1, or its equivalent.

Text-book: Millikan and Mills, *Electricity, Sound and Light.* 3 units.

5. *Dynamics of a Particle and of a Rigid Body.*—A rigorous mathematical study of this subject.

Two hours of lectures per week.

Prerequisites: Course 3, and Differential and Integral Calculus. 2 units.

6. *Advanced Electricity and Magnetism.*—In this course, especial attention is given to the theoretical phases of Electricity and Magnetism.

Two hours of lectures per week.

Prerequisites: Courses 3 and 4, and Differential and Integral Calculus.

Text-book: Starling, *Electricity and Magnetism.* 2 units.

7. *Kinetic Theory of Gases and Introduction to Thermodynamics.*—A course of lectures elucidating the fundamentals of these subjects.

Two hours of lectures per week.

Prerequisites: Course 3, and Differential and Integral Calculus.

Books for reference: Poynting and Thomson, *Heat.* Boynton, *Kinetic Theory of Gases.* Preston, *Heat,* and Meyer, *Kinetic Theory of Gases.* 2 units.

8. *Theoretical and Experimental Optics.*—A course of lectures accompanied by laboratory work consisting of accurate

measurements in diffraction, dispersion, interference, and polarization.

Two hours of lectures and three hours of laboratory per week.

Prerequisites: Courses 3 and 4, and Differential and Integral Calculus.

Books for reference: Houstoun, *Treatise on Light.* Mann, *Advanced Optics.* Wood, *Physical Optics.* Preston, *Theory of Light.* Drude, *Theory of Optics,* and Edser, *Light for Students.* 3 units.

9. *Recent Advances in Physics.*—A course of lectures dealing with the electrical properties of gases, the electron theory, and radioactivity.

Two hours of lectures per week.

Prerequisites: Courses 3 and 4, and Differential and Integral Calculus.

Books for reference: Thomson, *Conduction of Electricity through Gases.* Rutherford, *Radio-active Substances and Their Radiations.* Millikan, *Electron.* Thomson, *Positive Rays.* Hughes, *Photo-electricity,* and Kaye, *X-Rays.* 2 units.

10. *Advanced Experimental Physics.*—In this course the candidate for honours is expected to perform one or more classical experiments and to do some special work.

Carefully prepared reports, abstracts, and bibliographies will constitute an essential part of the course.

Six hours of laboratory work per week. 3 to 6 units.

Department of Zoology.

Professor: C. McLean Fraser.
Instructor: H. A. Dunlop.
Assistant: C. P. Leckie.
Assistant: Kenneth F. Auden.

Note: Biology 1 is prerequisite to all courses in Zoology.

1. *General Morphology.*—General morphology of animals. Comparative anatomy. The relationships of animal groups. Comparative life-histories.

This course is prerequisite to other courses in zoology.

Pass Course: Two hours lecture and two hours laboratory work per week throughout the year. 3 units.

Text-books: T. J. Parker and W. A. Haswell, *Manual of Zoology,* Macmillan & Co. (American Edition, 1916).

2. *Comparative Anatomy of Vertebrates.*—A detailed comparative study of a member of each of the classes of Vertebrates.

Two lectures and four laboratory hours per week. First Term. 2 units.

3. *Comparative Anatomy of Invertebrates.*—A detailed comparative study of a member of each of the main classes of Invertebrates.

Two lectures and four laboratory hours per week. Second Term. 2 units.

4. *Morphology of Insects.* General Entomology: A collection is required.

One lecture and two hours laboratory work per week. One Term. 1 unit.

5. *Histology.*—Study of the structure and development of animal tissues. Methods in histology.

Seven hours per week. Second Term. 2 units.

6. *Embryology.* A general survey of the principles of vertebrate embryology. Preparation and examination of embryological sections.

Seven hours per week. First Term. 2 units.

7. *Economic Entomology.*—A study of the insect pests of animals and plants; means of combating them.

Lecture and laboratory work, six hours per week. Second Term. 2 units.

8. *Private Reading.*—A course of reading on Biological theories. In this course examinations will be set but no class instruction will be given. 2 units.

FACULTY OF APPLIED SCIENCE

INFORMATION FOR STUDENTS IN APPLIED SCIENCE

Admission.

The general regulations as to admission to the University are to be found on page 41 and following.

Students entering the Faculty of Applied Science are required to have completed one year in Arts. A Senior Matriculation certificate may be accepted provided at least 50 per cent. has been obtained on the aggregate and 40 per cent. on each paper, or in the case of students entering the Department of Nursing, a Junior Matriculation certificate may be accepted.

In First Year Arts or Senior Matriculation, Mathematics and Physics must both be taken. French is advisable for students intending to enter Geological Engineering.

English, Mathematics and Physics are prerequisite subjects, and students must have passed the examinations in them to be admitted to First Year Applied Science.

For returned soldiers the requirements for entrance to the Faculty of Applied Science are those of the Applied Science Matriculation of 1915. (See page 62.)

COURSES LEADING TO THE DEGREE OF B.A.Sc.

The degree of B.A.Sc. is granted on the satisfactory completion of four sessions of class-room work in the Applied Science Faculty.

A double course leading to the degree of B.A. and B.A.Sc. is also offered.

The curriculum as laid down in the following pages may be changed from time to time as deemed advisable by the Faculty.

Courses leading to the degree of B.A.Sc. are offered in the following:

I. Chemical Engineering.
II. Chemistry.
III. Civil Engineering.
IV. Electrical Engineering.
V. Forest Engineering.
VI. Geological Engineering.
VII. Mechanical Engineering.
VIII. Metallurgical Engineering.
IX. Mining Engineering.
X. Nursing
XI. Public Health.

GENERAL OUTLINE OF COURSES

Except in the Department of Nursing, which is treated separately (pages 176, 215), the work of the first two years is largely in Mathematics and pure science, giving a foundation for specialization in the various branches of Engineering in the Third and Fourth Years of a B.A.Sc. Course.

Vacation Work

Students are expected to spend their summer vacations in some employment that will furnish practical experience helpful in their professional studies, or in their future professional work. It is of prime importance for the mastery of the professional subjects that the theoretical work of the classroom and the practical work of the laboratory should be supplemented by experience in field or industrial work.

Before applying for a degree, a candidate is required to furnish certificates of having had at least four months' employment of a nature that, in the opinion of the Department concerned, shall have afforded suitable experience in the practice of his profession.

Students engaged in summer work that, in the opinion of the Head of the Department and the Dean, affords necessary practical experience in connection with their academic courses, such as Geological students on geological survey field parties, and who cannot, by reason of such work, enter college at the specified time, may be allowed to register and enter classes, without penalty, after the time specified in the calendar, on presentation of statements from their employers that circumstances rendered it impossible for them to report at college earlier.

Summer work and sessional work are required.

The summer work in Mechanical Engineering 2, required of all students entering First Year Applied Science except Nursing, will begin on Monday, September 10th.

Field work will begin at the close of the sessional examination.

Practical work, such as Shop-work, Freehand Drawing, Mechanical Drawing, Surveying, etc., done outside the University, may be accepted in lieu of laboratory or field work (but not in lieu of lectures) in these subjects, on the recommendation of the Head of the Department and approval of the Dean.

Students seeking exemption as above must make written application accompanied by certificate indicating the character of the work done and the time devoted to it.

The work of the First and Second Years is the same in all courses in Applied Science except Nursing.

FIRST YEAR.

Summer Work.

All undergraduates entering the First Year of Applied Science (except in Nursing) are required to register on or before, and to be in attendance at the University, on Monday, September 10th, when the classes in Mechanical Engineering 2 will commence.

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Mathematics 1	200	2	..	..	..
Mathematics 2	200	..	..	2	..
Mathematics 3	200	3	..	3	..
Mathematics 4	201	2	..	2	..
Civil Engineering 1	184	2	3	2	3
Mechanical Drawing 1	202	..	6	..	6
Physics 1	214	4	3	..	..
Physics 2	214	..	..	4	3
Chemistry 1*	183	3	3	3	3
Mechanical Engineering 2	202	1	3	1	3
Biology 1*	183	1	2	1	2

*If Chemistry or Biology has been taken in Arts it will be accepted in lieu of the Science Course.

Field Work.

(See page 185.)

All undergraduates completing the First Year—except those taking Nursing Courses—are required to take Civil Engineering 2 immediately after the spring examination.

SECOND YEAR.

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Mathematics 6	201	3	..	3	..
Mathematics 7	201	2	..	2	..
Chemistry 2	184	1	6	1	6
Civil Engineering 3	186	1	..	1	..
Civil Engineering 4	186	..	..	..	3
Mechanical Engineering 3	203	1	..	1	..
Physics 3	214	2	3	2	3
Physics 4	214	2	..	2	..
Civil Engineering 5	186	..	3	..	3
Civil Engineering 6	187	2	..	2	..
Geology 1	199	2	2	2	2

Field Work.

Civil Engineering 7 (see page 187) will commence immediately after the spring examination for students in Civil, Forest, Geological, Metallurgical, and Mining Engineering.

THIRD AND FOURTH YEARS.

Information regarding Third and Fourth Year work will be found under the various courses on succeeding pages. For the session 1924-25 and succeeding sessions the Third and Fourth Years will be altered in conformity with the changes made in the First and Second Years in this Calendar.

Third and Fourth Year Essays.

Essays are required of all students entering the Third and Fourth Years, and must conform to the following:—

1. The essay shall consist of not less than 2,000 words.
2. It must be a technical description of the engineering aspects of the work on which the student was engaged during the summer, or of any scientific or engineering work with which he is familiar. In the preparation of the essay, advantage may be taken of any source of information, but due acknowledgment must be made of all authorities consulted. It should be suitably illustrated by drawings, sketches, photographs or specimens.
3. It must be typewritten, or clearly written on paper of substantial quality, standard letter size (8½x11 inches), on one side of the paper only, leaving a clear margin on top and left-hand side. Students are recommended to examine sample reports to be found in the library.
4. *All essays must be handed in to the Dean not later than November 15th.*

All essays, when handed in, will become the property of the Department concerned, and will be filed for reference. Students may submit duplicate copies of their essays in competition for the students' prizes of the Engineering Institute of Canada, or the Canadian Institute of Mining and Metallurgy.

The value of an essay will be judged, not only by its substance, but also by the precision and quality of its English. A maximum of 100 marks is allowed for an essay, 50 being required for a pass. Essays will be considered as final Christmas examinations, and subject to the same regulations and fees as apply to supplemental examinations.

I. Chemical Engineering.

This course is arranged to prepare the student for the duties of managing engineer in a chemical manufactory. As such he must be not only conversant with the chemical processes involved, but he must be prepared to design and to oversee the construction of new buildings and to direct the installation and use of machinery. Accordingly, the course of study combines a considerable amount of engineering with the maximum of chemical training allowed by the time at his disposal.

FIRST AND SECOND YEARS.

As in other Engineering courses. (See pages 157 to 159.)

THIRD YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Economics 1	195	2	..	2	..
Metallurgy 1	211	2	..	2	..
Mechanical Engineering 6	204	2	3	2	3
Geology 2 (a)	199	2	2	..	..
Chemistry 3	184	2	3	2	3
Chemistry 4	184	..	..	2	3
Chemistry 5	184	1	9	1	6
Civil Engineering 10	189	2	..	2	..
Civil Engineering 9	188	..	..	1	3
Electrical Engineering 1	207	2	2	2	2
Physics 5	215	1	..	1	..

FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Geology 1 (a)	199	2	2	..	..
Civil Engineering 19	192	1	..	1	..
Civil Engineering 12	189	1	..	1	3
Chemistry 6	184	2	..	2	..
Chemistry 7	184	3	3	..	..
Chemistry 8	184	2	3	2	3
Chemistry 16	184	..	..	2	..
Metallurgy 2	211	2	..	2	..
Thesis	...	..	6	..	15

II. Chemistry.

The aim of this course is to train the students in the practice of Chemistry, and to give a thorough knowledge in the fundamental principles of this subject, that they may be prepared to assist in the solution of problems of value to the industrial and agricultural life of the Province. The course is arranged to give in the first two years a knowledge of the fundamental principles of Chemistry and Physics, with sufficient mathematics to enable the theoretical parts of the subject to be understood.

In the Third Year, analytical, organic, and physical chemistry are studied from the scientific side and in relation to technology; while in the Fourth Year a considerable amount of time is devoted to a short piece of original work.

FIRST AND SECOND YEARS.

As in other Engineering courses. (See pages 157 to 159.)

THIRD YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Economics 1	195	2	..	2	..
Geology 1	199	2	2	2	2
Chemistry 3	184	2	3	2	3
Chemistry 4	184	..	..	2	3
Chemistry 5	184	1	9	1	9
Metallurgy 1	211	2	..	2	..
Geology 2 (a)	199	2	2	..	..
Bacteriology 1 (Arts)	99	..	..	..	7
Metallurgy 5	212	1	5	..	..
German (Arts) 1	147	3	..	3	..
Physics 5	215	1	..	1	..

FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Physics 9	215	2	..	2	..
Chemistry 6	184	2	..	2	..
Chemistry 7	184	2	3	2	3
Chemistry 8	184	3	3	..	..
Chemistry 9	184	2	3	2	3
Metallurgy 2	211	2	..	2	..
Thesis	...	..	15	..	18

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III. Civil Engineering.

The aim of this course is to give the student a sound training in the fundamental scientific principles on which the practice of the profession is based, and in the various branches of general engineering which are most called for in the practice of the profession in this Province. Experience shows that graduates do not usually follow any narrow differentiation that they may make in their course, but are governed by many other factors which affect them after leaving college. In practice in British Columbia, in particular, the engineer is called upon to undertake work in various branches of the profession. The course is therefore adapted to the needs of the engineer who expects to enter the profession in this Province in general practice, or the student who wishes to take up a special branch of engineering in a post-graduate course. The instruction is given by means of lectures and practical work in the field, the draughting-room, and the laboratory, and by visits to works in regularly conducted class excursions.

During the earlier years of the course the training is along engineering lines in Mathematics, Physics, Mechanics, and allied subjects which are essential to the proper education of the engineer who in practice is applying the principles of these sciences.

In the Third and Fourth Years, while the student's attention is devoted especially to the study of the courses in Civil Engineering, his outlook is broadened by courses in General Economics, General Geology, Engineering Law and Economics, as well as a brief introduction to the business side of the profession.

The subjects covered in each year follow in tabulated form:

FIRST AND SECOND YEARS.

As in other Engineering courses. (See pages 157 to 159.)

THIRD YEAR.

Summer Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Civil Engineering 8	188	1	3	..	..
Civil Engineering 9	188	..	..	1	3
Civil Engineering 10	189	2	..	2	3
Civil Engineering 11	189	2	..	2	..
Civil Engineering 12	189	1	..	1	3
Mechanical Engineering 6..	204	2	3	2	3
Electrical Engineering 1 ..	207	2	2	2	2
Economics 1	195	2	..	2	..
Civil Engineering 13	190	..	6	..	4
Civil Engineering 14	190	2	..	2	..
Civil Engineering 15	191	1	3	..	..

Field Work.

Civil Engineering 16 (see page 191) will commence immediately after the spring examination.

FOURTH YEAR.

Summer Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Civil Engineering 17	191	2	6	2	6
Civil Engineering 18	192	2	..	2	..
Civil Engineering 19	192	1	..	1	..
Civil Engineering 20	193	1	..	1	..
Civil Engineering 21	193	2	..	1	..
Civil Engineering 22	193	2	3	2	..
Civil Engineering 23	194	..	..	2	..
Civil Engineering 24	195	2	..	1	3
Civil Engineering 25	195	1	3	2	6
Civil Engineering 26	195	Sat. mornings 20 weeks			

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IV. Electrical Engineering.

This course is designed for those students who desire a general training in the theory and practice of electrical engineering in addition to the basic principles of mechanical engineering. The Third Year of the course is devoted mainly to mechanical engineering, together with work which involves the broad principles which underlie all engineering work. The Fourth Year is devoted to electrical engineering, the fundamental principles of industrial economics, works organization, management, and financing. No attempt is made to give the student that intimate knowledge of the details of Electrical Engineering practice which practical experience alone can supply.

Vancouver and the surrounding country afford excellent facilities for the study of engineering works under commercial conditions. The managing officials of these works are pleased to permit students, in charge of a member of the Faculty, to inspect and conduct tests at pre-arranged times. Organized visits to industrial plants constitute a regular part of the advanced work.

FIRST AND SECOND YEARS.

As in other Engineering courses. (See pages 157, 158.)

THIRD YEAR.*

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Mechanical Engineering 4..	204	2	..	2	..
Mechanical Engineering 5..	204	1	3	1	3
Mechanical Engineering 6..	204	2	3	2	3
Mechanical Engineering 7..	205	1	3	1	3
Civil Engineering 9	188	..	..	1	3
Civil Engineering 10	189	2	..	2	..
Electrical Engineering 1 ..	207	2	2	2	2
Electrical Engineering 2 ..	207	1	..	1	3
Civil Engineering 12	189	1	..	1	3
Mechanical Engineering 200	203	..	4	..	2

* Given as Third Year in Mechanical Engineering

FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Electrical Engineering 4 ..	208	3	9	3	9
Electrical Engineering 5 ..	208	1	..	1	..
Electrical Engineering 6 ..	208	1	..	1	..
Electrical Engineering 7 ..	208	1	3	1	3
Electrical Engineering 8 ..	209	1	..	1	..
Mechanical Engineering 8..	205	2	3	2	3
Mechanical Engineering 10.	206	2	3	2	3
Mechanical Engineering 12.	206	1	..	1	..
Civil Engineering 18	192	2	..	2	..
Civil Engineering 19	192	1	..	1	..

V. Forest Engineering.

This course is intended primarily for students who wish to enter the lumbering industry in British Columbia. The course, therefore, is designed to give a thorough training in branches of engineering that are applied in the industry. At the same time a sufficient training is afforded in the sciences fundamental to forestry to enable a student to enter professional forestry, especially in this Province, where a knowledge of the special problems connected with the industry greatly increases the usefulness of the forester.

Vancouver contains large saw-mills, wood-working plants, and plants for seasoning and preserving wood—more, in fact, than any other place in the Province. Pulp mills, logging operations, and extensive forests are within easy reach. The advantages of location are therefore exceptional.

As in the other engineering courses, students are expected to obtain practical experience in their work during the summer

vacations, this being an essential supplement to the theoretical and practical work of the Session. (See pages 156, 157.)

The requirements for admission to this course are those set forth for admission to Applied Science. (See page 155.)

Students intending to enter this course are advised to take Economics I in their first year Arts.

FIRST AND SECOND YEARS.

As in other Engineering courses. (See pages 157 to 159.)

THIRD YEAR.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Forestry 1	196	1	..	1	..
Forestry 2	197	1	4	1	4
Forestry 3	197	..	..	1	..
Forestry 4	197	..	..	2	..
Botany 1	183	2	2	2	2
Botany 5 (b)	197	1	3	1	3
Electrical Engineering 1	207	2	2	2	2
Civil Engineering 8	188	1	3	..	..
Civil Engineering 9	188	..	..	1	3
Civil Engineering 10	189	2	..	2	3
Civil Engineering 11	189	2	..	2	..
Civil Engineering 13	190	..	3	..	..
Civil Engineering 14	190	2	..	..	..
Civil Engineering 19	192	1	..	1	..

Field Work.

Civil Engineering 16 (see page 191) will commence immediately after the spring examination.

FOURTH YEAR.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Forestry 5	197	1	3	2	3
Forestry 6	198	1	..	1	..
Forestry 7	198	1	..	1	..
Forestry 8	198	2	..	2	3
Forestry 9	199	2	4	2	4
Forestry 10	199	2	..	2	..
Botany 6 (b) / Zoology 4 (Special)	183	..	..	1	2
Botany 7 (a)	183	1	..	1	..
Mechanical Engineering 6	204	2	3	2	3
Civil Engineering 12	189	1	..	1	2
Civil Engineering 17	191	2	6	..	..
Civil Engineering 18	192	2	..	2	..

DEPARTMENT OF THE INTERIOR, CANADA

FOREST PRODUCTS LABORATORIES OF CANADA. VANCOUVER LABORATORY.

The above Laboratory was established in 1918 by the Forestry Branch of the Department of the Interior, as a permanent branch of the Forest Products Laboratories of Canada.

The purpose of the laboratory is primarily to test the woods grown in Western Canada to determine their mechanical and physical properties and to show by results of standardized tests their relative strengths as compared with woods grown elsewhere and tested in other laboratories under the same standards; to investigate the conditions produced in timbers by natural and induced defects; to assist the wood-using industries in the choice and treatment of woods for various services; to advise in operations related to pulp and paper manufacture,

the preservation and identification of woods, and timber construction.

A scheme of co-operation exists between the Laboratory and University by which students of the University have access to the Laboratory to watch the work being carried on, and by which students may use the apparatus at times in testing the strength of materials.

The main apparatus consists of two Olsen Universal Testing Machines of 200,000-lb. and 30,000-lb. capacity respectively; one Hatt-Turner Impact Machine, having three test weights of 50, 100, and 250 pounds, with a maximum drop of 6 feet; and the necessary equipment of drying ovens, extensometers, micrometers, etc., for research into the strength and characteristics of wood and wooden articles. Wood-working machinery, consisting of saw-table, buzz planer, thickness planer, borer, etc., is also installed in connection with the laboratory for the preparation of test specimens.

VI. Geological Engineering.

This course is designed to meet the requirements of students who intend to enter Geology as a profession.

It gives a broad training not only in Geology, but also in the sciences of Biology, Chemistry, Physics, and Mathematics, which are extensively applied in the solution of geological problems. The engineering subjects are useful not only to the mining and consulting geologist and the geological surveyor, but to the geologist engaged in original research in any branch of the science.

The course therefore furnishes a foundation for the professions of mineralogist, geological surveyor, mining geologist, consulting geologist, palaeontologist, geographer, etc., and is useful for those who will be in any way connected with the discovery or development of the natural resources of the country.

As a supplement to the work in the classroom, laboratory and field during the session, the student is expected to obtain practical experience during the summer vacations.

FIRST YEAR.

As in other Engineering courses. (See pages 157 and 158.)

SECOND YEAR.

Sessional Work.

As in other engineering courses.

Field Work.

Civil Engineering 7 (see page 187) will commence immediately after the spring examination.

THIRD YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Geology 2	199	2	2	2	2
Geology 3	200	3	..	..	..
Geology 4	200	..	..	3	..
Geology 5	200	3	1	3	1
Chemistry 4	184	..	..	2	..
Chemistry 5	184	1	6	1	6
Economics 1	195	2	..	2	..
Mining 1	209	1	..	2	..
Mining 5	210	..	..	1	..
Metallurgy 5	212	1	5	..	..
Metallurgy 1	211	2	..	2	..
Ore Dressing 1	212	2	..	2	..
Zoology 3	218	2	2	..	..
Civil Engineering 13	190	..	..	..	3

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FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Geology 6	200	2	2	2	2
Geology 7	200	2	4	2	4
Geology 8	200	3	1	3	1
Civil Engineering 18	192	2	..	2	..
Geology 10	200	..	3	..	3
Mining 2	209	2	..	2	..
Mining 3	210	2	..	2	..
Metallurgy 2	211	2	..	2	..
Ore Dressing 2	213	..	9	..	3
Civil Engineering 8	188	1	3	..	..
Geological Essay	...	..	..	..	5

VII. Mechanical Engineering.

As this branch of Engineering forms an outstanding feature in all industrial development, the course of training is general and basic in its character. Because of its general character it is not possible in the time available to give the student an intimate knowledge of the details of practice in any special line of work. The course is designed more particularly for those who are likely to take up the manufacture of machinery, power plant work (including design and construction of steam, gas, oil, or hydraulic plants), heating and ventilation of buildings, refrigeration, or industrial management.

Students in this course are given a systematic course in the fundamentals of Electrical Engineering.

Governed by the fact that values and costs are controlling factors in the practice of Engineering, the subjects of the final years are treated with a view of developing a business sense, an understanding of men, and the ability to report clearly on industrial problems. This demands the study of Economics, the

use of good English, and the participation in outside industrial work during the vacation.

The courses of the First and Second Years are the same as in other branches of Engineering. (See pages 157 to 159.)

THIRD YEAR.

As in Electrical Engineering. (See page 165.)

FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Mechanical Engineering 8..	205	2	3	2	3
Mechanical Engineering 9..	206	1	6	..	6
Mechanical Engineering 10.	206	2	5	2	5
Mechanical Engineering 11.	206	1	..	1	..
Mechanical Engineering 12.	206	1	..	1	..
Mechanical Engineering 13.	207	1	..	1	3
Mechanical Engineering 14.	207	1	..	1	..
Electrical Engineering 3...	208	2	3	2	3
Civil Engineering 18	192	2	..	2	..
Civil Engineering 19	192	1	..	1	..
Economics 1*	195	2	..	2	..

*Not required 1923-24.

VIII.-IX. Metallurgical and Mining Engineering.

These courses are intended to give a broad foundation in Mining or Metallurgical Engineering that will form a suitable introduction to any branch of the work that aptitude or circumstances may lead the student to enter after graduation.

Special attention is therefore given to the fundamental sciences upon which the practice of the profession is based. As the usual avenues toward professional work are through

draughting, surveying, and assaying, special attention will be given to training in these branches of the work.

Specialization does not begin until the Third Year, when courses in Mining, Metallurgy, Ore-dressing, Assaying, and Mine Surveying are commenced, but the chief work of the Third Year is still in such fundamental subjects as Applied Mechanics, Mechanical Engineering, Chemistry, Geology, and Mineralogy.

Instruction is given by means of lectures and practical work in the field, draughting-room, and laboratory, and by visits to mines and works. Students are recommended to spend their vacations at practical works in connection with Mining or Metallurgy, and are required to do so between the Third and Fourth Years.

Vancouver is conveniently located in proximity to coal and metal mining districts, large coal and metal mining operations being carried on within a few hours' journey of the city, while a number of mining companies have offices in the city itself. Students have little difficulty in obtaining positions in mines or in smelters during vacations, as several of the larger companies have established the practice of accepting student employees in reasonable numbers during the vacation months.

Special attention is paid to British Columbia conditions, fitting students to practise their profession to special advantage in this Province after graduation either in Mining or Metallurgy.

Students are advised to become members of the Canadian Institute of Mining and Metallurgy.

VIII. Metallurgical Engineering.

FIRST AND SECOND YEAR.

As in other Engineering courses. (See pages 157 to 159.)

THIRD YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Economics 1	195	2	..	2	..
Civil Engineering 9	188	2	..	2	..
Civil Engineering 10	189	..	3	..	..
Civil Engineering 13	190	..	..	1	3
Mechanical Engineering 6	204	2	3	2	3
Geology 1	199	2	2	2	2
Geology 2	199	2	2	2	2
Chemistry 5m	184	1	3	1	3
Mining 1	209	1	..	2	..
Mining 5	210	..	..	1	..
Metallurgy 1	211	1	5	..	..
Metallurgy 5	212	2	..	2	..
Ore Dressing 1	212	2	..	2	..
Civil Engineering 12	189	1	..	1	3

FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Geology 8	200	3	1	3	1
Electrical Engineering 1	207	2	2	2	2
Ore Dressing 2	192	..	9	..	9
Civil Engineering 18	192	2	..	2	..
Mining 3	210	2	..	2	..
Metallurgy 2	211	2	..	2	..
Metallurgy 3	212	2	..	2	..
Metallurgy 4	212	..	9	..	9
Chemistry 8	184	3	..	..	..

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IX. Mining Engineering.

FIRST AND SECOND YEARS.

As in other Engineering courses. (See pages 157 to 159.)

THIRD YEAR.

As in Metallurgical Engineering. (See pages 173 and 174.)

FOURTH YEAR.

Summer Work.

Essay. (See page 159.)

Sessional Work.

Subject.	For Details See Page:	First Term.		Second Term.	
		Lectures per Week.	Laboratory Hours per Week.	Lectures per Week.	Laboratory Hours per Week.
Geology 7	200	2	4	2	4
Geology 8	200	3	1	3	1
Electrical Engineering 1	207	2	2	2	2
Mining 6	211	..	3	..	3
Ore Dressing 2	213	..	9	..	9
Civil Engineering 18	192	2	..	2	..
Mining 2	209	2	..	2	..
Mining 3	210	2	..	2	..
Mining 4	210	1	..	1	..
Metallurgy 2	211	2	..	2	..

Short Courses in Mining.

The regular Short Courses in Mining for the Session of 1923-24 will commence the second Monday in January, 1924, and will continue for eight weeks. These courses include Mining, Smelting, Ore Concentration, Geology and Ore-deposits, Mineralogy and Rock Study, Fire Assaying, Chemistry, and Surveying.

The courses are thoroughly practical in nature. They are not primarily intended for those who have had a technical training, but rather for those who have had practical experience in mining and prospecting, or are connected with the business of

mining in any way. The courses are designed to give practical and technical knowledge, helpful in practical mining work and mining business. While they are short they are complete in themselves, and require no other preparation than a common-school education or ability to read and write.

Experience has shown that they fill a real need in a practical way and they have proved very successful in the past.

As they do not form part of the regular University course, a special bulletin is issued, in which details of the courses and requirements for admission are given. Copies of this may be obtained on application to the Registrar of the University.

These courses will not be given unless at least ten students register for them.

X. Nursing.

FIRST YEAR.

1. English 1 (a) and (b).
2. Mathematics 1 *or* Latin 1 *or* French 1 *or* History 1, 2, or 3.
3. Physics 1.
4. Chemistry 1.
5. Biology 1.

If she has not already done so, the student must enter an approved Training School for Nurses in May at the close of the First Year, and take the ordinary four months' Preparatory Course for Probationers. During this period the student will undergo (*a*) rigid physical examination, (*b*) examination as to fitness in temperament and character for nursing.

SECOND YEAR.

1. English 2 (a) and (b).
2. Zoology 1.
3. Philosophy 1.
4. Sociology 1.
5. Bacteriology 1 and 2.

1923-24

THIRD AND FOURTH YEAR.

The Third and Fourth Years will be spent in practical training in an approved Hospital, but students must register with the University.

During this portion of the course the pupil, though registered at the University, resides at the Hospital, and while there is subject to the authority and is under the direction of the Officers of the Training School. She receives full maintenance and such allowances as the Hospital authorities may designate. For information regarding the Hospital portion of the course, see page 216.

FIFTH YEAR.

In the Fifth Year the student will attend the Session of the University. Two major subjects are offered, of which the student, with the consent of her advisers, may elect either (*a*) Teaching and Administration in Schools of Nursing, or (*b*) Public Health Nursing.

Course A.—*Teaching and Administration in Schools of Nursing.*

Academic Work.—A course of lectures in each of the following:—

(*a*) Introduction to Education.
(*b*) Teaching of Nursing principles and methods.
(*c*) History of Nursing and contemporary problems.
(*d*) Nutrition.
(*e*) Sanitation and Hygiene.
(*f*) Economics and Social Legislation.
(*g*) Mental Hygiene.

Field Work.—Students electing this option will be required to do practice teaching under supervision, and will be afforded an opportunity of studying training school administration.

Course B.—*Public Health Nursing.*

Academic Work.—A course of lectures in each of the following:—

(*a*) Motor mechanics. (*b*) Nutrition. (*c*) Communicable diseases. (*d*) Sanitation and Hygiene. (*e*) Tuberculosis. (*f*) Child Welfare. (*g*) Public Health Nursing. (*h*) School Nursing. (*i*) Social Service. (*j*) History of Nursing. (*k*) Psychology and Teaching Principles. (*l*) Economics and Social Legislation. (*m*) Mental Hygiene. (*n*) Health Legislation. (*o*) Teaching of Nursing Principles and Methods.

Students electing Public Health Nursing as their major subject will have suitable field work arranged for them in conjunction with the Department of Public Health, and in selected cases, with the consent of the Department, may specialize in some one branch of Public Health Nursing.

Students taking the Combined Course in Nursing are required to serve twenty-four months (including the Probationary period of four months) in an approved hospital. Full maintenance and such allowances as the hospital authorities may designate are accorded them during this period, and an annual vacation of three weeks is granted them at the convenience of the Director of the Training School.

Students are afforded actual nursing experience in the following departments.

Medical.	Operating Rooms.
Surgical.	Eye, Ear, Nose and Throat.
Gynecological.	Obstetrical.
Pediatric and Orthopaedic.	Infectious.
Observation and Neurological.	Tuberculosis.
Infants.	Diet Kitchen.

Instruction in the following nursing subjects is given by members of the medical staff of the hospital and by qualified nurse instructors. This schedule is subject to change at any time.

Introductory History and Ethics of Nursing.
Nursing Procedure (primary and advanced).
Introductory Nutrition and Cookery.
Drugs and Solutions.
Materia Medica.
Surgical Nursing.

Medical Nursing.
Charting.
Obstetrical Nursing.
Nursing in Communicable Disease (including tuberculosis).
Gynecological Nursing.
Pediatric and Orthopaedic Nursing.
Diet in Disease.
Nursing of Diseases of the Eye, Ear, Nose and Throat.
Physiotherapy and X-Ray.
Anaesthesia.
Urinalysis.

During the Fifth Year the student is required to serve for a period of six weeks in the Social Service and Out-patient Department of the Hospital. She receives neither maintenance nor allowances during this time.

Students wishing to enter the Combined Course are advised to get into touch with the Director of the Department of Nursing in the University before registering for the course, in order that they may clearly understand its nature and requirements from a nursing point of view.

For short course for Graduate Nurses, see "Summer Session," page 280.

XI. Public Health.

The regular course leading to the degree of B.A.Sc. is the same as in Nursing Course X, excepting that in the fifth year Course B, Public Health Nursing, must be taken.

The course for Graduate Nurses is outlined on pages 177 and 178.

Double Course for the Degrees of B.A. and B.A.Sc.

The requirements are as follows:

FIRST AND SECOND YEARS.

As set forth in the Calendar for the First and Second Years of Arts, except as follows:

Physics 1, Chemistry 1, and Mathematics 2 must be taken.

French should be selected by students intending to enter Geological Engineering.

A course in German is recommended for students intending to enter Chemical, Forest, Geological or Metallurgical Engineering.

The summer school in Mechanical Engineering 1 of the First Year of Applied Science must be taken before entering upon the Third Year of the Double Course.

THIRD YEAR.

1. Three units in one of the following:
   A language;
   History;
   Economics;
   Philosophy;
2. Biology 1, Applied Science.
3. Mathematics 1, 2, 3, Applied Science.
4. Physics 1 and 2, Applied Science.
5. Mechanical Drawing 1, Mechanical Engineering 2, and Civil Engineering 1.

Civil Engineering 2 (Field Work) will be taken immediately after the spring examinations.

FOURTH YEAR.

As for Second Year Applied Science.

FIFTH YEAR.

As for Third Year Applied Science. The degree of B.A. to be conferred on completing the Fifth Year of this course.

SIXTH YEAR.

As for Fourth Year Applied Science.

Courses Leading to the Degree of M.A.Sc.

(See page 241.)

1923-24

EXAMINATIONS IN APPLIED SCIENCE.

1. There are two examinations in each year—one at Christmas and the other at the end of the session. Successful students are arranged in three classes, as follows: First class, those who obtain 80 per cent. or more; Second class, 65 to 80 per cent.; Passed, 50 to 65 per cent. In the First and Second Years of the course in Nursing, the requirements for passing are the same as those for the First and Second Years in Arts, namely, 50 per cent. of the examination as a whole, and not less than 40 per cent. in each subject.

Christmas examinations will be held in all subjects of the First and Second Years, and are obligatory for all students of these years. Christmas examinations in subjects of the Third and Fourth Years, excepting those subjects that are completed before Christmas, shall be optional with the Departments concerned.

Applications for Special Consideration in the matter of examinations on account of illness must be in the hands of the Dean not later than two days after the close of the examination period.

Any student whose academic record, as determined by the tests and examinations of the first term, is found to be unsatisfactory, may, upon the recommendation of the Faculty, be required by the Senate to discontinue attendance at the University for the remainder of the session.

A student who fails to pass in the final examinations of his year, may, upon the recommendation of the Faculty, be required by the Senate either to repeat his year, or to withdraw from the Faculty.

For Classes of Students, see page 66.

2. Except in special cases as provided below, no undergraduate or conditioned undergraduate shall be permitted to take any second-year subjects until he has passed or secured exemption in all Matriculation and First Year Arts requirements;

and, similarly, no third-year work may be undertaken until all first-year subjects shall have been passed or exemption granted. No fourth-year work may be undertaken until all second-year subjects shall have been passed or exemption granted.

3. No student proceeding to a degree will be allowed to take any subject unless he has previously passed, or secured exemption, in all prerequisite subjects. If any subject has another which is concurrent with it, both must be taken in the same session.

SUPPLEMENTAL EXAMINATIONS.

4. Notice will be sent to all students to whom Faculty has granted supplemental examinations.

5. Examinations supplemental to the sessional examinations will be held in September, simultaneously with the matriculation examinations. The time for each supplemental examination will be fixed by the Faculty; the examination will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $7.50.

6. *Applications for supplemental examinations,* accompanied by the necessary fees (see page 68), must be in the hands of the Registrar at least two weeks before the date set for the examinations.

7. *Repeating Year.*—By special permission of the Faculty, a student who is required to repeat his year may, *on application in writing,*—

(*a*) Be exempted from attending lectures and passing examinations in the subjects in which he has already passed, provided he has made therein a standing of 60 per cent. or over.

(*b*) And if so exempted, be permitted to take, in addition to the subjects in which he has failed, such subjects of the following year of his course as the Faculty may deem expedient.

COURSES OF INSTRUCTION, APPLIED SCIENCE.

N.B.—The following courses are subject to such modifications during the year as the Faculty may deem advisable.

Department of Botany.

Professor: A. H. Hutchinson.
Assistant Professor: John Davidson.
Special Lecturer in Plant Pathology: J. W. Eastham.
Assistant: L. Bolton.

Biology.

Biology 1.—*General Biology.*—As in Arts, but only one lecture per week.
" 2.—*Principles of Heredity.*—As in Arts.
" 3.—*General Physiology.*—As in Arts.

Botany.

Botany 1. —*General Botany.*—As in Arts.
" 2. —*Morphology.*—As in Arts.
" 3. —*Physiology.*—As in Arts.
" 4. —*Histology.*—As in Arts.
" 5(*a*).—*Economic Flora.*—As in Arts.
" 5(*b*).—*Dendrology.*—As in Arts.
" 6(*b*).—*Forest Pathology.*—As in Arts.
" 6(*b*).—*Forest Pathology.*—As in Arts.
" 7(*a*).—*Forest Ecology.*—As in Arts.

Department of Chemistry.

Professor: E. H. Archibald.
Professor of Organic Chemistry: R. H. Clark.
Associate Professor: W. F. Seyer.
Assistant Professor: M. J. Marshall.
Assistant: J. Allardyce.
Assistant: A. E. Boss.
Assistant: J. A. Dauphinee.
Assistant: J. Allan Harris.
Assistant: S. R. MacDougall.
Assistant: W. O. Banfield.
Assistant: William Ure.
Assistant: Christian Sivertz.

1. *General Chemistry.*—As in Arts.

2. *Qualitative and Quantitative Analysis.*—As in Arts.

3. *Organic Chemistry.*—As in Arts.

4. *Theoretical Chemistry.*—As in Arts.

5. *Advanced Qualitative and Quantitative Analysis.*—As in Arts.

5 *m.*—For mining students, one hour lecture and three hours' laboratory.

6. *Industrial Chemistry.*—As in Arts.

7. *Physical Chemistry.*—As in Arts.

8. *Applied Electro-Chemistry.*—As in Arts.

9. *Advanced Organic Chemistry.*—As in Arts.

16. *Chemical Engineering.*—Theory and design of fractionating columns, condensers, multiple effect evaporators; chamber, tunnel, drum, rotary and spray driers. Theory and practice of technical filtration; calculation of capacity of box filters, filter presses, centrifugals, etc. Principles of counter current extraction.

Two lectures per week during second term of Fourth Year.

Reference books: Liddell, *Handbook of Chemical Engineering,* McGraw-Hill. Robinson, *Elements of Practical Distillation,* McGraw-Hill.

Department of Civil Engineering and Surveying.

Professor: W. E. Duckering.
Associate Professor: E. G. Matheson.
Lecturer: W. H. Powell.
Instructor: A. Lighthall.
Instructor: G. M. Irwin.
Lecturer: F. A. Wilkin.
Assistant: W. O. C. Scott.

CIVIL ENGINEERING 1.

Descriptive Geometry.—Geometrical drawing; orthographic, isometric, and axometric projections; shades and shadows.

Two lectures and three hours' laboratory per week.

Text-book: Armstrong, *Descriptive Geometry,* Wiley.

CIVIL ENGINEERING 2.

Field Work.—

(1) *Telemeter and Compass.*—A closed circuit following Marine Drive and the road boundary of The University site at Point Grey.
Closing Error, 1 in 100. Time, 1 day.

(2) *Chain and Compass.*—Traverse of the newly cleared portion of The University site. Calculation of Area. Established Stations to be occupied by each party. Latitudes and Departures to be calculated when work is being done.
Closing Error, 1 in 500. Time, 2 days.

(3) *Chain and Transit.*—Traverse of the cultivated portion of The University site (except the area occupied by the Horticultural Department). All Buildings, Roads, Fences, etc., to be noted for mapping purposes. Angles to be measured, using both Deflection and Plate Azimuth methods. The lines to be calculated and run directly across the farm from West to East. Obstacles to be passed by right-angled offsets.
Closing Error, 1 in 5000. Time, 8 days.

(4) *Establishment of Bench Marks* at beach by comparison with tide tables. Connection of same with Bench Marks established by the Geodetic Survey (one on the Dairy Barn, one on Monument P). Profile of Main Roadway. Marine Drive to Dairy Barn. Macadam Road. Dairy Barn to Marine Drive. Contour carefully a given section of the Farm, using different methods of location. Hand level practice.
Time, 5 days.

(5) *Detail Survey.*—Oak Street to Heather, Tenth Avenue to Twelfth. This will form the basis for one of the maps to be plotted during the College year, and accurate notes must be taken by each and every student.
Time, 3 days.

Extra days may be utilized for special problems.

All calculations to be made as the field work progresses. Sufficient notes to be copied that there shall be no confusion in the draughting room.

For all undergraduates completing the First Year—except those taking the Chemistry Course 2 and Nursing.

CIVIL ENGINEERING 3.

Materials of Engineering.—Manufacture and properties of iron and steel; principal alloys; considerations governing selection of materials; manufacture and properties of cements; study of concrete; stone and brick masonry; principal kinds of commercial timber; preservation of timber; discussion of standard specifications for engineering work.

One hour per week.

Text-book: Moore, *Materials of Engineering,* McGraw-Hill.

Reference Books: Mills, *Materials of Engineering.* Johnson, *Materials of Construction.* Upton, *Materials of Engineering.*

CIVIL ENGINEERING 4.

Graphical Statics.—Composition of forces; general methods involving the use of funicular and force polygons; determination of reactions, centres of gravity, bending moments and moments of resistance; stresses in cranes, braced towers, roof-trusses, and bridge-trusses. The stresses shall be found also by the Algebraic method.

Laboratory period of three hours during the Second Term.

Required of all Engineering students.

Text-book: Johnson, Bryan and Turneaure, *Modern Framed Structures,* Vol. 1 to end of Section III, page 156, Wiley.

Prerequisites: Mathematics 1, Mechanics 1 and 2.

CIVIL ENGINEERING 5.

Mapping 1.—Draughting from notes obtained in Field Work 1.

1. *Telemeter Survey.*—Angles to be plotted by protractor method. Scale, 1 inch=200 feet.

2. *Compass Survey.*—To be plotted by Latitudes and Departure method. Scale, 1 inch=3 chains.

3. *Transit Survey.*—Angles to be plotted by Tangents and Chords. Scale, 1 inch=200 feet.

4. *Contours.*

5. *Detail Survey.*—Scale, 1 inch = 50 feet. This map may be tinted in water colors.

6. Mine plan from notes furnished.

7. Land plan from notes furnished.

All undergraduates in Second Year except those taking Chemistry Courses.

Three hours per week.

CIVIL ENGINEERING 6.

Surveying I.—Lectures. Chain and angular surveying. The construction, adjustment and use of the transit, level, compass, stadia, and minor field instruments; topography; levelling; contour surveying; stadia surveying; railway circular curves; vertical curves; transition curves; planimeter; pantograph.

Second Year students. Two hours per week.

Text-book: Breed and Hosmer, *Elementary Surveying,* Vol. I., Wiley.

Reference Books: Gillespie, *Surveying,* Vol. I. Nugent, *Plane Surveying.* Baker, *Engineers' Surveying Instruments.* Allen, *Curves and Earthwork.* Sullivan, *Spiral Tables,* McGraw-Hill.

CIVIL ENGINEERING 7.

Field Work 2.—(*a*) Railway surveys, including reconnaissance, preliminary and location surveys, illustrating the methods of taking topography; of cross-sectioning; of estimating quantities of earth, and of running in easement and vertical curves, etc. The notes secured will be used in class work during term for mapping and for estimating quantities and costs.

(*b*) *Hydrographic Surveys.*—This will include the topography of the bed of a section of a river by sounding and fixing positions by transits and by sextants, illustrating the three-point problem; the gauging the stream-flow by surface and deep floats and by the current meter.

(*c*) *Mine Surveys.*—Carrying lines down shafts and producing the same.

(*d*) Astronomical observations with sextant and transit to determine Latitude and Azimuths.

(*e*) The use of the transit, plane table, sextant, barometer, current meter, etc.

CIVIL ENGINEERING 8.

Foundations and Masonry.—Borings; bearing power of soils; pile and other foundations; coffer-dams; caissons; open dredging; pneumatic and freezing processes; estimates of quantities and costs.

One hour lecture and three hours' laboratory during First Term.

Text-book: Howe, *Foundations,* Wiley.

Reference Books: Baker, *Treatise on Masonry Construction,* Wiley. Jacoby and Davis, *Foundations of Bridges and Buildings,* McGraw-Hill, New York.

CIVIL ENGINEERING 9.

Building Design.—Problems in draughting, illustrating designs in structural engineering; estimates of quantities and costs; preparation of plans.

One hour lecture and three hours' laboratory during Second Term.

Text-book: Conklin, *Structural Draughting and Elementary Design,* Wiley.

Prerequisites: Structural Engineering 1; General Engineering 2. First Term.

CIVIL ENGINEERING 10.

Strength of Materials.—Lectures dealing with the fundamental principles of the strength of materials. The subject includes stress, strain, resilience; bending moment and shearing force diagrams; simple, continuous, and cantilever beams; strength of shafting; spiral springs; elementary consideration of compound stresses and shearing in different sections.

Strength of Materials in Laboratory.—Testing of concrete, timber, steel, and other materials to illustrate the theories and factors considered in the lectures.

Text-book: Boyd, *Strength of Materials,* McGraw-Hill.

Third Year students. Two hours a week, with one laboratory period per week offered during the Second Term.

Prerequisite: Mathematics and Mechanics of the First and Second Years.

CIVIL ENGINEERING 11.

Railway Engineering 1.—The inception of railway projects; reconnaissance, preliminary and location; grade problems, grades, curvature and distance, and their effects on operating costs; assistant engines; adjustment of grades for unbalanced traffic; construction; railway economics, traffic, revenue, branch lines.

Two lectures per week.

Text-books: Allen, *Railroads, Curves and Earthwork,* McGraw-Hill. Williams, *Design of Railway Location,* Wiley.

CIVIL ENGINEERING 12.

Hydraulic Engineering and Laboratory.—

Hydrostatics.—Design of Standpipes, Reservoirs and Dams

Hydrodynamics.—Fundamental principles and application of same to problems on the discharge of orifices, notches and weirs; flow in pipes and in open channels, such as ditches and flumes; practical field measurements of above. Examination of hydraulic developments.

Third Year students in Civil, Electrical, Mechanical, Mining and Metallurgical Engineering.

Fourth Year students in Chemical and Forest Engineering.

One hour per week First Term; four hours per week Second Term.

Text-book: Russell, *Hydraulics,* Holt.

Prerequisites: Mechanics and Mathematics of First and Second Years.

CIVIL ENGINEERING 13.

Mapping 2 and Map Projections.—

Draughting from notes obtained on Field Work of railway location and hydrographic survey.

Theory of, and practical work in Map Projections.

Development of a topographical map showing elevations, from photographic plates.

Third Year students Metallurgical and Mining Engineering. Three hours per week. First Term.

Third Year students Civil Engineering. Six hours per week First Term, four hours per week Second Term.

CIVIL ENGINEERING 14.

Surveying 2.—A continuation of Surveying 1.

Theory and use of instruments, Aneroid, Sextant, Plane Table Surveying, Mine Surveying, Hydrographic Surveying, Phototopographic Surveying, Dominion and Provincial Surveys, Field Astronomy.

Third Year students in Civil Engineering.

Two hours per week.

Text-book: Breed and Hosmer, *Surveying,* Vol. II., Wiley.

Reference Books: Johnson and Smith, *Theory and Practice of Surveying.* Wilson, *Topographic, Trigonometric and Geodetic Surveying. Green's Practical and Spherical Astronomy. Manual of Surveys of Dominion Lands. Instructions for B. C. Land Surveyors.*

CIVIL ENGINEERING 15.

Perspective Drawing.—Mathematical perspective; perspective of shadows.

One lecture and three hours' laboratory. First Term.

Text-book: Crosskey, *Elementary Perspective,* Blackie & Son, London.

CIVIL ENGINEERING 16.

Field Work 3.—The following work shall be performed by each student or group of students:—

1. Determination of latitude—
   (*a*) By transit and sextant observations of polaris.
   (*b*) Noon observations with transit and sextant.
2. Determination of azimuth—
   (*a*) By equal altitude observations of the sun.
   (*b*) By observation of elongation of polaris.
   (*c*) By observation of circumpolar star and also of polaris.
   (*d*) By means of solar attachments and solar compass.
3. Determination of time—
   (*a*) By equal altitude observations of the sun with the sextant and transit.
   (*b*) By observation of meridian passage of stars with transit.
4. Baseline measurements.
5. Precision levelling.
6. Measurements of angles by geodetic methods.
7. Plane table surveys.

CIVIL ENGINEERING 17.

Bridge Design.—In this subject the factors governing the selection of the most suitable type of bridge will be considered; the loads to which structures may be subjected will be discussed; the stresses in the several members calculated; the cross-sectional

forms and areas chosen; the connections designed and complete drawings made.

Two lectures and six hours' laboratory.

Text-book: Johnson, Bryan & Turneaure, *Modern Framed Structures,* Vol. III., Wiley.

CIVIL ENGINEERING 18.

Engineering Economics.—Students must understand simple and compound interest and all the elements of the latter as a prerequisite.

The subject shall include the consideration of: Sinking funds; first-cost; cost analysis; salvage and scrap values; yearly cost of service; collecting data; estimating; economic selection.

General management; banking; partnerships and corporations; stocks; bonds; operating and fixed charges; business finance and organization; capital; interpretation of financial statements.

Text-books: Fish, *Engineering Economics,* McGraw-Hill. Waddell and Wait, *Specifications and Contracts,* McGraw-Hill. Anger, *Digest of Canadian Mercantile Law,* chapters on banking; contracts; partnerships; joint stock companies.

Two hours per week.

CIVIL ENGINEERING 19.

Engineering Law.—

The engineer's status; fees; salary; as a witness; responsibility for negligence; engineering contracts generally; tenders; quantities; specifications; plans; drawings; designs; extras and alterations; time; payments and certificates; penalty bonus or liquidated damages clauses; maintenance and defect clauses; subcontractors; engineer's assistant or agent; arbitration and awards; specifications and contract writing.

Students must read: Anger, *Digest of Canadian Mercantile Law of Canada;* chapters on Banks and Banking; Chattel Mortgages; Mortgages; Contracts; Joint Stock Companies; Landlord and Tenant; Master and Servant; Mechanics' Lien Act; Negotiable Paper; Partnership; Principal and Agent;

Statute of Limitations; also notes on Law of Contracts in *Specifications and Contracts,* by Waddell and Wait; also the *Law Affecting Engineers,* by Ball. All are in Library.

One hour per week.

CIVIL ENGINEERING 20.

Geodesy.—

The lectures in this subject shall cover the determinations of azimuth, longitude, latitude, time, the figure of the earth, measurements of base lines, triangulation systems, adjustments and reductions of observations, and precision levelling.

One hour per week.

CIVIL ENGINEERING 21.

Hydraulic Machines.—

The design of turbines and centrifugal pumps shall be determined by the application of the principles of hydraulics. The leading dimensions of different machines will be ascertained. The several forms of machines and the methods of their control or operation will be carefully considered, as well as the transmission of hydraulic power.

Two hours per week First Term, one hour per week Second Term.

CIVIL ENGINEERING 22.

Municipal Engineering.—

1. *Water Supply.*—Rainfall; evaporation; run-off; quantity, quality and pressure required; pumping machinery; storage; aqueducts, pipe lines and distribution systems; valves; hydrants; purification systems; fire service; construction methods; materials, estimates and designs; costs.

Text-book: Turneaure, *Public Water Supply,* Wiley.

2. *Sewerage—*

(*a*) General methods and economic considerations; quantity of sewage; storm water run-off; design of sewers; manholes; flush tanks; catch basins, overflows, outlets, siphons, etc.; con-

struction methods, materials, costs; estimates, design, maintenance and management.

(*b*) Sewage disposal; physical, chemical, biological and economical aspects of sewage treatment; dilution; screening; sedimentation; filtration; disinfection; maintenance and management costs.

Text-book: Metcalf & Eddy, *Sewerage and Sewerage Disposal,* Wiley.

3. *Roads, Streets and Pavements*—

(*a*) Highway economics, surveys and locations; grades; cross-sections; paving materials—bituminous, stone, brick, wood, concrete, etc.; construction methods; street cleaning and repairs; designing and estimating.

(*b*) Disposal of waste, etc.: Composition and quantity of city wastes, ashes, garbage, rubbish, etc.; collection, disposal, dumping, land treatment; incineration; reduction; feeding to swine; costs and returns.

(*c*) Town planning: Covering the economical and artistic development of a city.

Reference book: Lewis, *City Planning,* Wiley.

Two hours' lectures per week throughout the year.

Three hours' laboratory period per week, First Term.

CIVIL ENGINEERING 23.

Railway Engineering 2.—

Organization and rules of maintenance-of-way; roadway; ballast; ties; lumber preservation; rails and appurtenances; turnouts, tracks, accessories; structures and their design; stresses in track; track tools; track work; work train service; maintenance-of-way records and accounts; expenditures; betterments; improvement of old lines, yards and terminals; maximum capacity of single track.

Two hours' lectures per week, Second Term.

CIVIL ENGINEERING 24.

Mechanics of Materials.—

The bending and deflection of beams loaded in any manner; continuous beams over several supports; distribution of shear; deflection due to shear; principle of work applied to deflection of beams; trussed beams; bending of unsymmetrical sections; elastic strains; strength of thick shells; earthwork theories, retaining walls, reinforced concrete and other; design of floor and column systems for reinforced concrete buildings; study of standard specifications.

Two hours' lectures per week First Term, and one hour Second Term. Three hours' laboratory per week Second Term.

CIVIL ENGINEERING 25.

Theory of Structures.—

The analysis of statically determinate framed structures under dead and live loads; distortion of framed structures; swing spans; braced arches; hinged arched ribs; hingeless reinforced concrete arches.

One lecture and three hours' laboratory per week, First Term. Two lectures and six hours' laboratory per week, Second Term.

CIVIL ENGINEERING 26.

Class Excursions.—

The class, under the guidance of a professor, will visit such factories, industrial developments, public works, docks, shipyards, etc., as are calculated to best assist the student to grasp fully the application and scope of the studies he has pursued in his college career.

Department of Economics.

Professor: T. H. Boggs.
Associate Professor: H. F. Angus.
Assistant Professor: S. E. Beckett.
Assistant: L. T. Fournier.

1. *Principles of Economics.*—An introductory study of general Economic theory, including a survey of the principles of

value, prices, money and banking, international trade, tariffs, monopoly, taxation, labour and wages, socialism, the control of railways and trusts, etc.

Text-books: Clay, *Economics for the General Reader,* Macmillan. Ely, *Outlines of Economics,* Macmillan, 1915.

Two lectures per week. 2 units.

Department of Forestry.

Associate Professor of Forestry: H. R. Christie.
Professor of Botany: A. H. Hutchinson.
Assistant Professor of Botany: John Davidson.
Lecturer in Forestry: F. Malcolm Knapp.

Biology 1.—Introductory Biology .....
Botany 1.—General Botany .....
Botany 5 (*b*).—Dendrology or Forest Botany .....
Botany 6 (*b*).—Forest Pathology .....
Botany 7 (*a*).—Forest Ecology and Geography .....

} See courses in Applied Science, under Department of Botany.

Zoology 4.—Forest Entomology. (See courses in Arts under Department of Zoology. This is a special part of the regular course.)

FORESTRY 1.

General Forestry.—A general survey of the subject.

One lecture per week.

Text-book: Fernow, *Economics of Forestry,* Toronto University Press.

References: Whitford and Craig, *Forests of British Columbia,* Commission of Conservation, Ottawa. Pinchot, *Primer of Forestry,* Superintendent of Documents, Washington. Moon and Brown, *Elements of Forestry,* Wiley. Allen, *Practical Forestry in the Pacific Northwest,* Western Forestry and Conservation Association. Schlich, *Forest Policy in the British Empire,* Bradbury, Agnew & Co., London. Various government publications.

FORESTRY 2.

Forest Mensuration.—Log scaling, timber cruising, volume tables, growth studies, yield tables.

One lecture and four hours' field or laboratory work per week.

Text-book: Chapman, *Forest Mensuration,* Wiley.

Reference books: Winkenwerder and Clark, *Problems in Forest Mensuration,* Wiley. Graves, *Woodsman's Handbook,* Superintendent of Documents, Washington, D.C. Graves, *Forest Mensuration,* Wiley. Carey, *Manual for Northern Woodsmen,* Harvard University Press.

FORESTRY 3.

Forest Protection.—The fire problem, legislation, organizations, prevention and control.

One lecture per week, second term.

Text-books: *Western Fire Fighters' Manual,* Western Forestry and Conservation Association, Portland, Ore. Millar, *Methods of Communication Adapted to Forest Protection,* Dominion Forestry Branch, Ottawa.

FORESTRY 4.

Forest Finance.—A study of the financial aspects of forestry, compound interest, methods of determining costs and values, appraisal of damage, taxation, etc.

Two lectures per week. Second Term.

Text-book: Roth, *Forest Valuation,* University of Michigan.

Reference books: Chapman, *Forest Valuation,* Wiley. Woodward, *Valuation of North American Timber Lands,* Wiley.

FORESTRY 5.

Timber Physics and Wood Technology.—The structure of wood; the identification of different woods and their qualities and uses; wood seasoning; wood preservation; emphasis on the Canadian woods of commercial importance.

One lecture per week one term, two the other; three hours' laboratory work per week.

Text-books: Record, *Economic Woods of the United States,* Wiley. Record, *Mechanical Properties of Wood,* Wiley.

Reference books: Weiss, *Preservation of Structural Timber,* McGraw-Hill. Snow, *Wood and Other Organic Structural Materials,* McGraw-Hill. Roth, *Timber,* U. S. F. S. Bul. 10, Superintendent of Documents, Washington. Tiemann, *The Kiln Drying of Lumber,* Lippincott.

FORESTRY 6.

Forest Organization.—The principles and methods of organizing forest areas for business management. Normal forest, increment, rotation, felling budget, working plans.

One lecture per week.

Text-book: Woolsey, *American Forest Regulation,* Woolsey.

Reference books: Roth, *American Forest Regulation,* Roth. Recknagel and Bentley, *Forest Management,* Wiley. Recknagel, *Forest Working Plans,* Wiley. Schlich, *Forest Management,* Bradbury, Agnew & Co., London.

FORESTRY 7.

History of Forestry and Forest Administration.—The development of Forestry in different parts of the world, with particular emphasis on Canada. Forestry policy, legislation, and education.

One lecture per week.

Text-book: Fernow, *History of Forestry,* University Press, Toronto.

Reference books: Schlich, *Forest Policy in the British Empire,* Bradbury, Agnew & Co., London. Boerker, *Our National Forests,* Macmillan. Ise, *The United States Forest Policy,* Yale. Various government publications.

FORESTRY 8.

Silviculture.—Principles and methods of caring for forests and growing timber crops.

Two lectures per week during the year, and three hours' field or laboratory work during the second term.

Text-book: Hawley, *Practice of Silviculture,* Wiley.

Reference books: Graves, *Principles of Handling Woodlands,* Wiley. Toumey, *Planting and Seeding,* Wiley. Woolsey, *Studies in French Forestry,* Wiley. Schlich, *Silviculture,* Bradbury, Agnew & Co., London.

FORESTRY 9.

Logging.—A study of the principles and practice of logging.

Two lectures per week. Four hours' laboratory or field work per week, alternating with Forestry 10.

Reference books: Bryant, *Logging,* Wiley. Gibbons, *Logging in the Douglas Fir Region,* U. S. D. A. Bul. 711, Superintendent of Documents, Washington. Berry, *Lumbering in the Sugar and Yellow Pine Region of California,* U. S. D. A. Bul. 440, Superintendent of Documents, Washington.

FORESTRY 10.

Lumber, Pulp and Forest Products.—Production, manufacture, distribution.

Two lectures per week. Four hours' laboratory or field work, alternating with Forestry 9.

Text-book: Bryant, *Lumber,* Wiley.

Reference books: Oakleaf, *Lumber Manufacture in the Douglas Fir Region,* Commercial Press. Brown, *Forest Products, Their Manufacture and Use,* Wiley. Berry, *Lumbering in the Sugar and Yellow Pine Region of California,* U. S. D. A. Bul. 440, Superintendent of Documents, Washington. Seerey, *Small Sawmills,* U. S. D. A. Bul. 718, Superintendent of Documents, Washington. Whitham, *Modern Pulp and Paper Making,* Chemical Catalogue Co.

Department of Geology and Mineralogy.

Professor: R. W. Brock.
Professor of Physical and Structural Geology: S. J. Schofield.
Professor of Mineralogy and Petrography: W. L. Uglow.
Professor of Palaeontology and Stratigraphy: M. Y. Williams.

Geology 1. *General.*—As in Arts.
" 2. *Mineralogy.*—As in Arts.

Geology 3. *Historical.*—As in Arts.
" 4. *Structural.*—As in Arts.
" 5. *Regional.*—As in Arts.
" 6. *Palaeontology.*—As in Arts.
" 7. *Petrography.*—As in Arts.
" 8. *Economic.*—As in Arts.
" 10. *Field.*—As in Arts.

Department of Mathematics.

Professor: Daniel Buchanan.
Associate Professor: G. E. Robinson.
Assistant Professor: E. E. Jordan.
Assistant Professor: L. Richardson.
Instructor: B. S. Hartley.
Instructor: John Henry.
Assistant: Maurice Home.

MATHEMATICS 1.

Plane Trigonometry.—An elementary course, including the solution of triangles and the use of logarithms, inverse and hyperbolic functions.

Text-books: Playne and Fawdry, *Practical Trigonometry,* Copp, Clark. *Six-Place Tables,* McGraw-Hill.

Two lectures per week. First Term.

MATHEMATICS 2.

Solid Geometry.—A study of the three-faced corner, the various polyhedra and solid figures, and the theorems of Pappus.

Text-book: Hall and Stevens, *A School Geometry,* Macmillan.

Two lectures per week. Second Term.

MATHEMATICS 3.

Algebra.—A review of simple series, permutations, combinations and the binomial theorem, and a study of exponential and other series, undetermined coefficients, partial and continued fractions, graphical algebra.

Text-book: Rietz and Crathorne, *College Algebra,* Holt.

Three lectures per week.

MATHEMATICS 4.

(*a*) *Analytical Geometry.*—The straight line and circle will be studied in detail, and some of the simple properties of the other conics will be discussed.

Text-book: Fawdry, *Co-ordinate Geometry,* Bell.

One lecture per week.

(*b*) *Calculus.*—An introductory study of the differential and integral calculus will be made, and some of the simpler applications considered.

Text-book: Woods and Bailey, *Elementary Calculus,* Ginn.

One lecture per week.

MATHEMATICS 6.

Calculus.—Differential and integral calculus with various applications.

Three lectures per week.

MATHEMATICS 7.

(*a*) *Analytical Geometry.*—A continuation of Course 4, including a study of the curves occurring in engineering practice, and elementary work in three dimensions.

Text-book: Fawdry, *Co-ordinate Geometry,* Bell.

One lecture per week First Term, two lectures per week Second Term.

(*b*) *Spherical Trigonometry.*—Numerical work in spherical trigonometry covering the solution of triangles and various applications to geodesy and astronomy. The method of least squares.

Text-book: Dupuis and Matheson, *Spherical Trigonometry and Astronomy,* Uglow.

One lecture per week, First Term.

1923-24

Department of Mechanical and Electrical Engineering.

Professor:
Associate Professor: C. C. Ryan.
Instructor in Mechanical Drawing and Shopwork: H. P. Archibald.
Instructor: E. M. Coles.
Lecturer: Henry Ogilvie.
Special Lecturer: George Walkem.
Instructor in Thermo Laboratory: E. G. Parsons.
Instructor in Machine Shop: H. Taylor.
Assistant in Steam Laboratory: H. Elliott.
Assistant in Workshop, Mechanical Engineering: C. H. Barker.
Assistant (Moulder): J. Crowley.
Assistant (Woodworker): S. Northrop.
Assistant in Mechanical Engineering (Blacksmith): John Hogarth.

MECHANICAL DRAWING 1.

Practice in freehand lettering in accordance with common practice. Geometrical Drawing, to give facility in the use of drawing instruments. Freehand sketching of machine parts and structures from which drawings are made to scale. Drawing to scale of simple machine parts. Making of assembly drawings from detail drawings, and detail drawing from assembly drawings. Tracing and blueprinting.

Six hours per week. 2 units.

MECHANICAL ENGINEERING 2.

This work is intended to supplement the manual training given in the high schools, and also to give the student some knowledge of the more common machine shop methods and processes as employed commercially. The object is to provide some basis for the intelligent design of machine and structural parts.

Machine Shop Practice.—Summer School.

Practice in Smith-work.—Forging, welding, annealing, tempering, use and repairing of smith's tools.

Six hours per day during one week of summer course.

Practice in Foundry Work.—Bench and floor moulding, core making, casting in iron and brass.

Six hours per day during one week of summer course.

Lectures.—Physical properties of the materials used in machine construction. Modern methods of handling and finishing wood. Forging and hammering of metals. Annealing and tempering. Making of patterns and cores. Cupola practice.

Soldering and brazing, tinning, electroplating. Drilling and tapping, turning and boring, calipering and fitting, milling and milling cutters, reaming and reamers, screw cutting. Grinding and abrasive wheels. Lapping. Punching and shearing. Drop forging and die-casting. Metal spinning. Torch and electric welding. Cold sawing and torch cutting. Tool-making and dressing. Use of jigs. Machine shop standards, including wire and sheet metal gauges, threads, etc.

One lecture per week.

Text-book: Colvin & Stanley, *American Machinists' Handbook,* McGraw-Hill.

Practice in Metal-working.—Bench work, including marking off, chipping, filing, scraping, tapping, and fitting; lathe work, including turning and boring, screw-cutting and finishing; lathe adjustments; shaping; milling; gear-cutting; tool-dressing.

Three hours per week. (One term.)

Practice in Woodworking.—The use of the various hand tools and woodworking machines, making of various joints and small structures with finished surfaces, turning and boring.

Three hours per week. (One term.) 3 units.

MECHANICAL ENGINEERING 200.

Machine Shop Practice.—A continuation of Mechanical Engineering 2.

Three hours laboratory (average) per week. 1 unit.

MECHANICAL ENGINEERING 3.

Kinematics of Machines.—Displacement, velocity and acceleration. Relative motions. Harmonic motions. Gear trains. Cams, ratchets, and escapements. Classification of mechanisms. Study of mechanisms in common use. Transmission of motion by belting. Design of outlines of gear teeth.

One lecture per week. 1 unit.

Text-book: Durley, *Kinematics of Machines,* John Wiley & Sons.

MECHANICAL ENGINEERING 4.

Dynamics of Machines.—Friction and lubrication. Transmission of power by belts, ropes, gears and friction clutches. Function and dynamics of speed governors. Dynamics of the screw. Forces involved in linear and angular acceleration of moving parts, with special reference to engines, turbines, and pumps. Stresses due to centrifugal force. Balancing of moving parts. Dynamics of the gyroscope.

Two lectures per week. 2 units.

Reference Books: Ewing, *The Steam Engine and Other Heat Engines.* Dent & Harper, *Kinematics and Kinetics of Machinery,* John Wiley & Sons.

MECHANICAL ENGINEERING 5.

Machine Design.—Strength of materials used in machine construction. Factors of safety and allowable stresses under various conditions of load. Design of: Valve mechanisms for steam engines; governors; thin cylinders and tanks; rivetted joints; fastenings, such as bolts, screws and cotters; levers and winch handles.

One lecture and three laboratory hours per week. 2 units.

Reference Books: Ewing, *Steam Engines and Other Heat Engines.* Spooner, *Machine Design, Construction and Drawing.* Halsley, *Handbook for Machine Designers,* McGraw-Hill. Furman, *Valves and Valve Gears,* John Wiley & Sons.

MECHANICAL ENGINEERING 6.

Elementary Thermodynamics.—Fuels and combustion. General principles underlying the construction and operation of steam boilers. Elementary theory of the steam engine. Measurement of power. Performance of various types of steam engines. Elementary theory of internal combustion engines. Design and operation of isolated power plants to give the best economic results. Theory of air compressors, transmission and use of com-

pressed air. Elementary theory and practical operation of producer gas plants.

Laboratory. Testing of boilers, steam engines and internal combustion engines. Analysis and calorimetry of fuels.

Two lectures and three laboratory hours per week. 3 units.

Text-book: Potter & Calderwood, *Elements of Steam and Gas Power Engineering,* McGraw-Hill.

Reference Books: Simmons, *Compressed Air.* Marks and Davis, *Steam Tables and Diagrams.* Gebhardt, *Steam Power Plant Engineering.* Kent, *Mechanical Engineer's Pocket Book.* Fernald & Orrock, *Engineering and Power Plants,* McGraw-Hill.

MECHANICAL ENGINEERING 7.

Thermodynamics.—Extension of Mechanical Engineering 6. A more rigorous treatment of the performance and construction of various types of boilers, including furnaces and superheaters. Theoretical efficiency of different types of reciprocating engines working under various conditions. Influence on efficiency of engines, of size, speed and ratio of expansion. Variation of efficiency with load. Compound and triple expansion engines. Use of superheated steam. Flow of gases and vapours through orifices and nozzles.

One lecture and three laboratory hours per week. 3 units.

Reference Book: Lucke, *Thermodynamics.*

MECHANICAL ENGINEERING 8.

Thermodynamics.—Continuation of Mechanical Engineering 6 and 7. Advanced theory relative to the transformation of heat into mechanical energy. Laws governing the flow of heat through various substances. More precise study of the theory and performance of all types of prime movers, including all types of reciprocating and rotary steam engines, steam turbines, and internal combustion engines.

Two lectures and three laboratory hours per week. 3 units.

Text-books: Emswiler, *Thermodynamics,* McGraw-Hill. Marks & Davis, *Steam Tables and Diagrams,* Longmans, Green & Co.

MECHANICAL ENGINEERING 9.

Thermodynamics.—An extension of Mechanical Engineering 8, for Mechanical Engineering students only.

One lecture and six laboratory hours per week. 3 units.

Reference Book: Lucke, *Thermodynamics.* Current Engineering Publications.

MECHANICAL ENGINEERING 10.

Machine Design.—The design of machine and structural parts, including parts of engines of all types; design of appliances for the transmission of power, including belts, rope, cable, friction and toothed gearing. The student is required to work out the complete design of some machine or appliance, and make the drawings and tracings requisite for its construction.

Two lectures and five laboratory hours per week. 2 units.

Text-books: Kent, *Mechanical Engineer's Pocket Book,* John Wiley & Sons. Halsley, *Handbook for Machine Designers,* McGraw-Hill.

MECHANICAL ENGINEERING 11.

Heating, Ventilation, and Refrigeration.—Design of steam, hot water, and hot air systems of heating. Heaters for steam and water systems. Use of exhaust steam for heating. Central heating plants. Loss of heat from buildings. Refrigerating systems.

One lecture per week. 1 unit.

Reference Book: Harding & Willard, *Mechanical Equipment of Buildings* (Vols. I and II), John Wiley & Sons.

MECHANICAL ENGINEERING 12.

Plant Design.—A study of the function, construction, and performance of the various machines and appliances which enter into the design of industrial plants. Special attention is given to the economic results to be expected from various combinations.

One lecture per week throughout the session. 2 units.

Reference Books: Harding & Willard, *Mechanical Equipment of Buildings* (Vols. I and II). Fernald & Orrock, *Engineering of Power Plants,* McGraw-Hill.

MECHANICAL ENGINEERING 13.

Physical Treatment of Metals.—A study of the various metals used in commercial work, with special reference to the treatment applied to get the physical properties and qualities required for specific purposes.

One lecture per week, First Term. One lecture and three laboratory hours per week, Second Term. ½ unit.

Text-book: Colvin & Juthe, *The Working of Steel,* McGraw-Hill.

MECHANICAL ENGINEERING 14.

Industrial Management.—Present-day tendencies in industry. Principles of organization, including cost-keeping, purchasing and storing of materials, and inspection. Problems of employment and systems of compensation for labor. Location and arrangement of industrial plants for maximum production.

One lecture per week throughout session. 1 unit.

Text-book: Kimball, *Principles of Industrial Organization,* McGraw-Hill.

ELECTRICAL ENGINEERING 1.

Fundamentals of Electrical Engineering.—General theory relating to the flow of continuous and alternating currents. Measurement of power. Elementary theory of alternating and direct current generators and motors. Commercial systems of transmission, transformation, and distribution of power.

Two lectures and two laboratory hours per week. 3 units.

Text-book: Gray, *Principles and Practice of Electrical Engineering,* McGraw-Hill.

ELECTRICAL ENGINEERING 2.

Fundamentals of Electrical Engineering.—An extension of the work taken up under Electrical Engineering 1. More precise study of the laws governing the flow of alternating current. Meters and their applications. Transient phenomena. Use of charts and tables.

One lecture per week, First Term. One lecture and three laboratory hours, Second Term. 1½ unit.

ELECTRICAL ENGINEERING 3.

Electrical Engineering Practice.—For students in Mechanical Engineering only. A special course covering standard practice in generation, transmission, and application of electric power.

Two lectures and three laboratory hours per week. 3 units.

ELECTRICAL ENGINEERING 4.

Electrical Machinery.—Complete theory of direct and alternating current machines and appliances. Transmission lines and distribution systems. Use of hyperbolic functions in solution of problems.

Three lectures and six laboratory hours per week. 6 units.

Text-book: Notice to be given.

ELECTRICAL ENGINEERING 5.

Electric Traction.—Advantages and disadvantages of electric traction. Characteristics of traction motors. Power requirements and motor ratings. Methods of braking. Comparison of steam and electric locomotives. Urban, interurban, and main line systems. Selection of equipment and methods of construction.

One lecture hour per week. 1 unit.

ELECTRICAL ENGINEERING 6.

Electric Power Plants and Transmission Lines.—Selection of site and equipment. Switching and controlling devices. Metering of power. Location and design of transmission lines and substations.

One lecture hour per week. 1 unit.

Text-book: Notice to be given.

ELECTRICAL ENGINEERING 7.

Electrical Design.—Calculation of performance of standard types of transformers, generators, and motors. Design of simple apparatus and standard types of motors and generators.

One lecture and three laboratory hours per week. 2 units.

Text-book: Gray, *Electrical Machine Design.*

ELECTRICAL ENGINEERING 8.

Electric Cells.—Theory and applications of storage batteries. Electrolytic cells. Electro-plating.

One lecture per week. First Term.

Electric Illumination. — Photometry. Types of electric lamps. Systems for interior and street lighting.

One lecture per week. Second Term. 1 unit.

Department of Mining and Metallurgy.

Professor of Mining: J. M. Turnbull.
Professor of Metallurgy: H. N. Thomson.
Associate Professor of Mining: Geo. A. Gillies.

MINING 1.

A general course in prospecting and metal mining covering the following subjects:

Ores and economic minerals; *Ordinary Prospecting*—Economic considerations; finding mineral deposits; float; deductions from outcrops and other indications; core and churn drilling; mineral belts; mineral fashions; conditions in British Columbia; legal considerations.

Preliminary development; timbering and framing; tunnelling; shaft sinking; ordinary mining methods; transportation and haulage; drainage; ventilation.

One hour per week in the First Term, and two hours per week in the Second Term.

MINING 2.

A general course in coal and placer mining, covering the following subjects:

Coal Mining.—Classification of coals; mining methods; ventilation; transportation and haulage; tipples; Western Canadian coal fields.

Placer and Hydraulic Mining.—Prospecting; examination and testing of deposits; hydraulics; flumes; ditches; mining methods.

Two hours per week.

MINING 3.

An advanced course in Mining Engineering covering the following subjects:

Scientific prospecting; mine development; special mining methods; blasting and explosives; sampling and estimation of ore; examination of mines and prospects; accounting and costs; mining laws; administration; welfare and safety work; economics; ethics; mine valuation.

Two hours per week.

Prerequisite: Mining 1.

MINING 4.

A special course covering the structural and mechanical features of Mining Engineering, as follows:

Mine structures; mining plant and machinery; core and churn drills; tramways, etc.

One hour per week throughout the Fourth Year for Mining Engineering students.

No text-book is required.

Prerequisites: Mining 1; Mechanical Engineering 3, 6; Civil Engineering 3 and 10.

MINING 5.

This course covers the application to mining problems of the general principles of surveying, under the following heads:

Instruments and accessory appliances used, their selection, care, and methods of use underground. Practical details of underground survey work and special difficulties. Surveying in shafts. Setting and lining-in of timbers. Stope surveys. General underground surveys. Co-operation with sampling and geological work. Different systems of taking notes and sketches. Mapping methods. Scale of maps. Uses of maps for various purposes. Records, and methods of keeping them. Estimating tonnages and volumes. Functions of the Mine Survey Department.

One lecture per week. Second Term.

Prerequisite: Civil Engineering 2 and 6.

MINING 6.

A laboratory course covering the special requirements of Mining students in regard to design of the layout and details of mining plant, structures, and mine survey plans.

Three hours per week throughout the Fourth Year.

METALLURGY 1.

This course covers the fundamental principles underlying metallurgical operations in general, and is introductory to subsequent more specialized study.

The lectures follow in general the subject as taken up in *Principles of Metallurgy,* by Chas. H. Fulton, including the following main subjects:

Physical mixtures and thermal analysis. Physical properties of metals. Alloys. Measurement of high temperatures. Typical metallurgical operations. Roasting and fusing. Electro-metallurgy. Slags. Matte. Bullion. Refractory materials. Fuels. Combustion. Furnaces.

Two lectures per week.

Text-book: Fulton, *Principles of Metallurgy,* McGraw-Hill.

Reference Books: Hofman, *General Metallurgy,* McGraw-Hill. Current Mining and Metallurgical Journals. Trade Catalogues.

Prerequisites: Chemistry 1 and Physics 1 and 2.

METALLURGY 2.

A general course covering principles and practice of Pyro-metallurgy and Hydrometallurgy as applied to gold, silver, copper, iron, lead and zinc.

Two hours per week.

Prerequisite: Metallurgy 1.

METALLURGY 3.

A special course covering Thermochemistry; Metallurgical Calculations; Furnace Design and Efficiency; Special Processes.

A large portion of the time will be given to the study of heat balances of typical smelting operations.

Text-book: *Richards, Metallurgical Calculations,* McGraw-Hill.

Two hours per week.

Prerequisites: Metallurgy 1, Chemistry 1.

METALLURGY 4.

Laboratory course in Metallurgical Analysis of Ores and Furnace Products, Pyrometry and Refractories.

Special attention will be given to analytical methods used by smelting plants in purchase of ores and control of furnace operations.

Nine hours per week.

Prerequisites: Metallurgy 1, Chemistry 5m.

METALLURGY 5.

Quantitative determination of gold, silver, and other metals by fire-assay methods, with underlying principles.

One lecture and five hours' laboratory work. First Term.

Text-book: Fulton, *Manual of Fire Assaying,* McGraw-Hill.

ORE DRESSING 1.

Owing to rapid and radical changes in the practice of ore dressing in recent years, and the great number and variety of machines in use, no attempt is made to describe all the machines. Most of the time is spent in considering fundamental principles, typical machines, and their general operations and relations in modern milling practice, emphasizing the economic and practical aspects.

Students are taught the commercial and technical characteristics of true concentrating ores, the general principles on which the size, character, site, and other features of a mill are designed.

The general lay-out of crushing, handling, and separating machinery. The laws of crushing and of various classifying and separating actions, and the design, operation, and comparative efficiency of typical machines, such as crushers, rolls, stamps, ball and tube mills, jigs, tables, screens, classifiers, and slime-handling devices.

Attention is paid to pneumatic, magnetic, electrostatic, flotation, and other special processes, including coal-washing.

Two lectures per week.

Text-books: Richards, *Text-book of Ore Dressing,* McGraw-Hill. F. Taggart, *A Manual of Flotation Processes,* Wiley.

ORE DRESSING 2.

A variety of crushing, sizing, classifying and separating operations are carried out by the students and studied quantitatively on appropriate machines, singly and in combination. Special attention is paid to flotation processes, several types of machines being used.

Ores from British Columbia working mines are usually chosen, so that the work of the students is along practical lines in comparison with actual work in operating plants.

Nine hours per week.

Prerequisite: Ore Dressing 1.

NOTE.—All students in Mining and Metallurgy are advised to provide themselves with a copy of Peele's *Mining Engineer's Handbook* (Wiley), which is used for reference in many of the courses in which no special text-book is required.

Department of Physics and Mechanics.

Professor: T. C. Hebb.
Associate Professor: A. E. Hennings.
Associate Professor: J. G. Davidson.

The instruction includes a fully illustrated course of experimental lectures on the general principles of Physics, accompanied by courses of practical work in the laboratory, in which students will perform for themselves experiments, chiefly quantitative, illustrating the subjects treated in the lectures. Oppor-

tunity will be given to acquire experience with all the principal instruments used in exact physical and practical measurements.

PHYSICS 1.

Mechanics 1.—An elementary treatment of the subject of statics, dynamics, and hydrostatics, with particular emphasis on the working of problems. In the laboratory the fundamental principles of statics and dynamics are established. The course is given in the first half of the First Year of Applied Science. The seven hours per week devoted to the course are divided into four hours of lectures and one laboratory period of three hours.

Text-books: Loney, *Mechanics and Hydrostatics.* Millikan, *Mechanics, Molecular Physics and Heat.*

PHYSICS 2.

Advanced Heat.—This course is begun when Mechanics 1 is finished, and the seven hours devoted to it are divided in the same manner. The course is based on the supposition that the student is already familiar with the elementary principles of heat.

Text-books: Edser, *Heat for Advanced Students.* Millikan, *Mechanics, Molecular Physics and Heat.*

PHYSICS 3.

Electricity and Magnetism.—A quantitative study of the fundamental principles of electricity and magnetism, with a special reference to the fact that the student is to be an engineer.

The course includes a short treatment of the elements of alternating currents.

Two lectures and three hours of laboratory work per week.

Text-books: Millikan and Mills, *Electricity, Sound and Light* (first part). Smith, *Electrical Measurements.*

PHYSICS 4.

Mechanics 2.—The subject-matter consists of an extension of the statics and dynamics of Mechanics 1, but with the use of the differential and integral calculus.

Two lectures per week. Second Year of Applied Science.

Prerequisite: Mechanics 1.

Text-book: Poorman, *Applied Mechanics.*

PHYSICS 5.

Light.—A short lecture course on light for students taking Chemical Engineering. The time will be devoted to a study of refraction, dispersion, interference, diffraction, double-refraction, polarization and spectroscopy.

One hour per week. 1 unit.

PHYSICS 9.

As in Arts.

Department of Nursing.

Assistant Professor: Ethel I. Johns.

The University of British Columbia, in conjunction with approved training schools for nurses in this Province, offers a five years' course in Nursing, leading to the degree of B.A.Sc. (Nursing). The aim of this course is to afford to women capable of leadership a broader and more liberal education than can be given by the training school alone, and thus to prepare them for teaching and administration in schools of nursing and for public health nursing service.

The first two years of the academic portion of the course give the student an introduction to general cultural subjects, as well as an elementary knowledge of the sciences underlying the practice of nursing, and afford opportunity to share the social as well as the educational activities of university life.

The two years devoted to professional training in the hospital are planned to give the student actual experience in each department and to develop the special qualities of skill, observation and judgment required in nursing practice.

The fifth year, which is elective, permits the student to select as her major subject that particular phase of nursing in which she is most interested and for which, in the opinion of her advisers, she appears to be best qualified.

The requirements for admission for this course are those set forth for Junior Matriculation. (See page 41.)

The degree will be granted upon the successful completion of a five years' course, consisting of University work and hospital training.

Hospital training may be taken in any institution whose standard has been approved of by the University.

Until 1925, nurses who have graduated from a hospital that is in affiliation with this University or otherwise approved of by the Senate may be awarded the degree on complying with the following conditions:

1. They shall have matriculated.
2. They shall have taken the full academic training laid down for this course. At least one year of such training shall have been taken in The University of British Columbia.
3. Except under special circumstances, the course shall be entered upon within two years of the time of graduating as a nurse.

The curriculum, as outlined, is subject to alteration at any time.

Department of Public Health.

Professor: R. H. Mullin.
Instructor: Mary Ard MacKenzie.

Public Health 1.—A series of lectures on public health designed to supply general information concerning the principles of the science and the relationship it bears to the community at large.

One lecture per week. Second Term.

Public Health Nursing.—The course is open to nurses in good standing who have graduated from a recognized training school connected with a hospital of not less than fifty beds, and who are eligible for registration in British Columbia. A certificate of good health and physical condition, signed by a regular

physician, must be forwarded with application. A candidate for this course should apply to the Department not later than Friday, September 21st, 1923. The registration and class fees for the course are $75.00. These fees may be paid in two equal instalments, the first not later than October 6th, and the second not later than January 19th.

The course will consist of three months' of academic work in The University. This will be followed by four months' field work in the various branches of public health in which services are available for teaching purposes. Upon the completion of the course an examination will be held, and to successful candidates a certificate will be issued.

The aim of the course is to afford such instruction to graduate nurses entering the public health field as will assist them in dealing with those problems of public health, economics and education that are met in public health service, and to give them a broader understanding of present-day nursing conditions. Special emphasis will be placed upon the public health programme in this Province.

The general scope of the course is outlined as follows:—

1. *Academic Work.*—
   (1) A course of lectures on each of the following:
      (*a*) Motor Mechanics.
      (*b*) Nutrition.
      (*c*) Communicable Diseases.
      (*d*) Sanitation and Hygiene.
      (*e*) Tuberculosis.
      (*f*) Child Welfare.
      (*g*) Public Health Nursing.
      (*h*) School Nursing.
      (*i*) Social Service.
      (*j*) History of Nursing.
      (*k*) Psychology and Teaching Principles.
      (*l*) Economics and Social Legislation.
      (*m*) Mental Hygiene.

(*n*) Health Legislation.

(*o*) Teaching of Nursing Principles and Methods.

(2) Occasional lectures on Provincial Legislation, Municipal Health Departments, Voluntary Organizations, Delinquent and Deserted Children, etc.

(3) Excursions to special health features in and around Vancouver.

2. *Field Work.*—

For field work the class will be divided into sections of appropriate size, each of which will receive instruction and experience under trained workers in the actual operation of each of the following services:

(*a*) General Visiting Nursing.

(*b*) Child Welfare.

(*c*) Urban School Nursing.

(*d*) Rural Nursing.

(*e*) Tuberculosis.

(*f*) Settlement and Social Service.

3. *Conferences.*—

Weekly conferences will be held throughout the year on selected topics. Opportunities will be afforded for practice in public speaking, etc.

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Department of Zoology.

Professor: C. McLean Fraser.
Instructor: H. A. Dunlop.
Assistant: C. P. Leckie.
Assistant: Kenneth F. Auden.

ZOOLOGY 1.

As in Arts.

ZOOLOGY 3.

As in Arts.

FACULTY OF AGRICULTURE

INFORMATION FOR STUDENTS IN AGRICULTURE.

Courses of Study.

Three distinct lines of study are offered, as follows:

(1.) A Four-year Course leading to the Degree of Bachelor of Science in Agriculture (B.S.A.).

(2.) A Winter Course at the University.

(3.) Extension Courses at different points in the Province.

Course Leading to the Degree of B.S.A.

Students in Agriculture are required to have Junior Matriculation or its equivalent before entering upon this course (see "Matriculation Requirements"). The degree of B.S.A. is granted only after the successful completion of four years of lecture and laboratory work. The course is planned for students who wish to obtain a practical and scientific knowledge of Agriculture, either as a basis for demonstration and teaching, or as an aid to success in farm management.

Winter Course.

This course is planned for those men and women who are unable to take advantage of the longer course, but who desire to extend their knowledge of agriculture in one or more of those branches in which they are particularly interested. The work throughout is intensely practical. Illustrative material and periods devoted to demonstration and judging work are strong features of the course. No entrance examination is required, nor are students asked to write an examination at the conclusion of the course.

Extension Courses.

In order to reach those engaged in Agriculture who are not able to avail themselves of the Winter Course given at the

University, the Faculty of Agriculture offers extension short courses in various centres throughout the Province. These courses are of at least four days' duration, are proceeded with according to a definite time-table, and include lectures and demonstrations in connection with the work of each department of the Faculty. Detailed programmes are prepared to suit the specific centres, and requests for such courses may be addressed to the Registrar of the University.

GRADUATE WORK.

Students proceeding to the Master's degree in Agriculture must elect an approved Major and an approved Minor, the latter of which may be selected within another Faculty.

For general regulations see page 241.

EXAMINATIONS IN AGRICULTURE.

1. There are two examinations in each year—one at Christmas and the other at the end of the session. Successful students are arranged in three classes, as follows: First class, those who obtain 80 per cent. or more; Second class, 65 to 80 per cent.; Passed, 50 to 65 per cent.

In the First and Second Years, in order to pass, candidates must obtain 50% on the examination as a whole and not less than 40% on each subject. In the Third and Fourth Years, in order to pass, candidates must obtain 50% on each subject of examination.

A unit is one lecture hour per week or one continuous laboratory period of not less than two or more than three hours per week throughout the College Year. In the case of one-term courses, two lecture hours, or two laboratory periods, or one lecture hour and one laboratory period, constitute one unit.

Christmas examinations will be held in all subjects, and are obligatory for all students.

Applications for Special Consideration on account of illness in the matter of examinations must be in the hands of the Dean not later than two days after the close of the examination period.

Any student whose academic record, as determined by the tests and examinations of the first term, is found to be unsatisfactory, may, upon the recommendation of the Faculty, be required by the Senate to discontinue attendance at the University for the remainder of the session.

For Classes of Students, see page 66.

For Fees, see page 67.

2. *Repeating Year.*—By special permission of the Faculty, a student who is required to repeat his year may, *on application in writing,*—

(*a*) Be exempted from attending lectures and passing examinations in the subjects in which he has already passed, provided he has made therein a standing of 60 per cent. or over.

(*b*) And if so exempted, be permitted to take, in addition to the subjects in which he has failed, such subjects of the following year of his course as the Faculty may deem expedient.

A student who fails a second time to pass the final examination of his year, may, upon the recommendation of the Faculty, be required by the Senate to withdraw from the University.

SUPPLEMENTAL EXAMINATIONS.

3. Notice will be sent to all students to whom the Faculty has granted supplemental examinations.

4. Examinations supplemental to the sessional examinations will be held in September, simultaneously with the matriculation examinations. The time for each supplemental examination will be fixed by the Faculty; the examination will not be granted at any other time, except by special permission of the Faculty, and on payment of a fee of $7.50.

5. *Applications for supplemental examinations* must be accompanied by the necessary fees (see Schedule of Fees), and

be in the hands of the Registrar at least two weeks before the date set for the examinations.

ADVANCEMENT TO THE FOURTH YEAR.

A student with supplementals or incomplete standing may proceed to his Fourth Year, but ordinarily will not be permitted to graduate with his class. Any departure from this rule can be made only with the consent of Faculty.

CURRICULUM.

The first two years of work leading to the degree in Agriculture are devoted to acquiring a knowledge of the basic sciences upon which Agriculture rests, in adding to the student's knowledge of language, and in laying a foundation for more advanced studies in practical and scientific Agriculture. The Third Year is devoted largely, and the Fourth Year almost wholly, to courses in Applied Agriculture.

Except under special circumstances, students under the age of seventeen will not be eligible for registration. Specialization will begin at the commencement of the Third Year. Students who have not had at least one full season's practical farm experience will be required to obtain this preliminary training before registering for the Third Year.

FIRST YEAR COURSE OF STUDY.

	Units.
Agronomy 1	1
Animal Husbandry 1	1½
Horticulture A.	1
Biology 1	3
Chemistry 1	3
English 1(*a*) and 1(*b*)	3
French 1, or Beginners' German	3
Botany 1	3
Total required	18½

SECOND YEAR COURSE OF STUDY.

	Units.
Agronomy 2	2
Animal Husbandry 4	1½
Dairying 1	1½
Horticulture B.	1
Poultry Husbandry 1	1½
Zoology 1	3
Chemistry 2	3
English 2(*b*)	1
French Special, or German 1	2
Bacteriology 1	2
Total required	18½

THIRD AND FOURTH YEAR COURSES OF STUDY.

On account of the specialized types of farming which must necessarily be followed in many parts of British Columbia, the work in the Third and Fourth Years leading to the degree of B.S.A. has been arranged in major courses so as to admit of a measure of specialization in one of the several recognized branches of Agriculture. At the same time all courses have been so arranged that every student will get the basic work in all lines no matter what option is chosen.

Prior to the beginning of the Third Year every student must indicate in which one of the major options he wishes to continue his study, and shall arrange his elective courses with the approval of the Head of the Department in which he is majoring, and in consultation with the Heads of other Departments directly concerned.

Agricultural students are required to take a total of 35 units, thesis included, in their Third and Fourth Years.

THIRD YEAR COURSE OF STUDY.

(Required subjects.)

	Units.
Economics 1	3
Agricultural Chemistry	3
Principles of Heredity—Biology 2	1
Total required	7

FOURTH YEAR COURSE OF STUDY.

(Required subjects.)

	Units.
Agricultural Economics—2 (*a*) or 2 (*b*)	1½
Thesis	3
Total required	4½

Agronomy Major.

THIRD YEAR.

	Units.
Required subjects, as above	7
Agronomy 3	1½
" 4	2
" 7	1½
Plant Physiology—Botany 3	2
Zoology 4	1
Total required	15

FOURTH YEAR.

	Units.
Required subjects, as above	4½
Agronomy 5	1½
" 6	1½
" 8	1½
" 9	1
" 11	½
Systematic and Economic Botany—5 (*a*)	2
Economic Entomology—Zoology 7	2
Animal Husbandry 9	1½
Total required	16

Animal Husbandry Major.

THIRD YEAR.

	Units.
Required subjects, as above	7
Animal Husbandry 2	1½
" " 3	1½
" " 6	1
" " 7	1½
" " 14	1½
Agronomy 4	2
Total required	16

FOURTH YEAR.

	Units.
Required subjects, as above	4½
Animal Husbandry 5	1½
" " 8	1
" " 9	1½
" " 10	1
" " 11	1
" " 12	1
" " 13	1½
Agronomy 7	1½
Total required	14½

Dairying Major.

THIRD YEAR.

	Units.
Required subjects, as above	7
Dairying 3	2
Dairying 4, 1½ units) or Dairying 5, 1½ units)	1½
Total required	10½

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FOURTH YEAR.

	Units.
Required subjects, as above	4½
Dairying 6	4
" 7	1½
" 8	½
" 9	1
Municipal Engineering 1	1
Plant Physiology—Botany 3	2
Dairy Chemistry	2
Total required	16½

Horticulture Major.

THIRD YEAR.

	Units.
Required subjects, as above	7
Horticulture 3	2
" 4	1
Plant Physiology—Botany 3	2
Systematic Entomology—Zoology 4	1
Total required	13

FOURTH YEAR.

	Units.
Required subjects, as above	4½
Horticulture 5	1½
" 6	1½
" 7	1½
" 8	1
" 9	1
" 10	1½
Plant Pathology—Botany 6(*a*)	1
Economic Entomology—Zoology 7	2
Systematic and Economic Botany 5(*a*)	2
Total required	17½

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Poultry Husbandry Major.

THIRD YEAR.

	Units.
Required subjects, as above	7
Poultry Husbandry 2	1
" " 3	1½
" " 4	1½
Embryology—Zoology 6	2
Total required	13

FOURTH YEAR.

	Units.
Required subjects, as above	4½
Poultry Husbandry 7	1½
" " 8	4
" " 9	1
" " 10	1½
" " 11	1½
Total required	14

COURSES IN AGRICULTURE.

Department of Agronomy.

Professor: P. A. Boving.
Associate Professor: G. G. Moe.
Assistant: D. G. Laird.
Extension Assistant: G. B. Boving.
Assistant: R. A. Derick.

1. *Soil and Soil Fertility.*—An examination will be made of the more important soil types; cultivation, manuring, and rotation of crops will be studied in their relation to soil productivity; methods of treatment will be observed, and the principles underlying soil management and improvement will constitute the basis for subsequent courses in Agronomy.

Two lectures. First Term, First Year. 1 unit.

2. *Field Crops.*—This course embraces a study of the most important grain, corn, forage, and root crops. A detailed study

of the crops, in the field and in the laboratory, will supplement the lecture work in order to give the student a comprehensive idea, not only of the different phases of crop production, but also of the relative value of separate specimens and samples.

Two lectures and two laboratories. First Term, Second Year. 2 units.

3. *Seed Growing.*—This course deals with the production and marketing of vegetable, root, clover, and grass seeds.

Two lectures and one laboratory. First Term, Third Year. 1½ units.

4. *Field Crops (Advanced.)*—Course 4 constitutes a more detailed study of field crops than was possible in Course 2. It also embraces special lecture and laboratory work on the harvesting, threshing, cleaning, storing, and marketing of our ordinary field crops. The two courses combined will give the student a more complete understanding of the various factors bearing upon the production of a first-class article, whether intended for sale or for feeding.

Two lectures and two laboratories. Second Term, Third Year. 2 units.

5. *Farm Management.*—This course embraces a study of the selecting, planning, and operating of a farm. Various conditions, systems and practices prevailing on the American Continent and in Europe will be discussed and compared.

Two lectures and one laboratory. First Term, Fourth Year. 1½ units.

6. *Field-crop Judging.*—The judging and handling of grains, grasses, forage and root crops will be taken up in the field as well as in the laboratory.

One lecture and two laboratories. First Term, Fourth Year. 1½ units.

7. *Soil Management.*—Different systems of cultivation, rotation, manuring and irrigation, as practised in Canada and elsewhere, will be discussed, and the influence of these factors on the maintenance or exhaustion of soil fertility will be studied.

Two lectures and six half-days. Second Term, Third Year. 1½ units.

8. *Plant-breeding.*—This course is planned to follow Biology 2. With this as a basis the course is designed to illustrate and explain the breeding of field crops.

Two lectures and one laboratory. Second Term, Fourth Year. 1½ units.

9. *Field Experiments.*—The scope, the methods and the interpretation of field experiments will be discussed, and a study will be made of the more important results obtained in different parts of the world.

Two lectures. Second Term, Fourth Year. 1 unit.

10. *Thesis.*—Subject to be selected with the approval of the Head of the Department before the end of the Third Year; the written thesis to be handed in before the 1st of April in the Graduating Year. 3 units.

11. *Crop Adaptation and Distribution.*—The relation of field crops to elevation, climate and soils will be studied in order to give the student a comprehensive idea of the distribution of crops and the adaptation of various types to different parts of the world.

One lecture. First Term, Fourth Year. ½ unit.

Students majoring in Agronomy are required to work one year under the direction of the Department.

Department of Animal Husbandry.

Associate Professor: H. M. King.
Assistant Professor: R. L. Davis.
Assistant Professor: W. N. Jones.
Extension Assistant: H. R. Hare.
Lecturer in Veterinary Science: J. G. Jervis.

1. *Market Classes and Grades of Live Stock.*—A study of the characteristics and requirements of the various market classes and grades of beef cattle, dairy cattle, horses, sheep, and swine.

Texts: Plumb, *Judging Farm Animals.* Vaughan, *Types and Market Classes of Live Stock.*

Three two-hour laboratory periods per week. Second Term, First Year.

1½ units.

2. *Breeds of Cattle.*—A study of the origin, history of development, characteristics, and adaptations of the breeds of cattle.

Text: Plumb, *Types and Breeds of Farm Animals.*

Prerequisites: Animal Husbandry 1 and 4.

One lecture and two three-hour laboratory periods per week. First Term, Third Year. 1½ units.

3. *Breeds of Horses, Sheep and Swine.*—A study of the origin, history of development, characteristics, and adaptations of the breeds of horses, sheep and swine.

Text: Plumb, *Types and Breeds of Farm Animals.*

Prerequisites: Animal Husbandry 1 and 4.

One lecture and two three-hour laboratory periods per week. Second Term, Third Year. 1½ units.

4. *Live-stock Feeding and Management.*—The feeding, care, and management from birth to maturity of the various types of live stock.

Text: Henry and Morrison, *Feeds and Feeding,* abridged edition.

Prerequisite: Animal Husbandry 1.

Three lectures per week. First Term, Second Year.

1½ units.

5. *Advanced Judging.*—A continuation of the type of work represented in the laboratory of Animal Husbandry 2 and 3. Designed to strengthen Animal Husbandry students in the selection of herd sires, foundation breeding herds, and in the building-up of superior flocks and herds. Students will be required to make several trips to leading herds in the Province.

Prerequisites: Animal Husbandry 2 and 3.

Two two-hour laboratory periods per week. First Term, Fourth Year. 1 unit.

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One three-hour laboratory period per week in the fitting and handling of live stock is required of Animal Husbandry major students. ½ additional unit.

6. *Live-stock Breeding.*—A study of the principles of breeding in their application to live-stock development and improvement.

Prerequisites: Animal Husbandry 2 and 3 and Biology 2.

Two lecture periods per week. Second Term, Third Year. 1 unit.

7. *Herd, Flock and Stud-book Study.*—An advanced course in the study of the principal breeds of live stock, familiarizing the student with the leading sires, dams, families, and herds of the various breeds, and the blood lines entering into their formation. Emphasis will be placed upon a study of pedigrees.

Prerequisites: Animal Husbandry 2 and 3.

Two lecture periods and one three-hour laboratory period per week. Second Term, Third Year. 1½ units.

8. *Nutrition.*—A study of the elements and compounds important to animal nutrition and their relation to the animal organism; the digestive system; the digestion, absorption, assimilation, and disposition of food materials. A study of the various feedstuffs.

Texts: Henry and Morrison, *Feeds and Feeding.* Armsby, *Animal Nutrition.*

Two lectures per week. First Term, Fourth Year. 1 unit.

9. *Animal Feeding.*—The feeding of all classes of live stock, having distinct regard to the economic problems confronting the breeder and the producer.

Text: Henry and Morrison, *Feeds and Feeding.*

Three lecture periods per week. Second Term, Fourth Year. 1½ units.

10. *Markets and Marketing.*—A careful study of the markets with their requirements for live stock and live-stock

products, and the relation which these bear to production. Marketing of breeding stock.

Prerequisite: Animal Husbandry 7.

Two lectures per week. First Term, Fourth Year. 1 unit.

11. *Thesis and Seminar.*—Students majoring in Animal Husbandry are required to write a thesis on some live-stock subject, the selection being made by the student with the approval of the Head of the Department. The subject of this thesis shall be chosen not later than the end of the Third Year. 3 units.

A seminar of one hour per week for the special study of current problems and literature shall be held. 1 unit.

12. *Live-stock Practice.*—Every Animal Husbandry student is required to spend the summer months between the Third and Fourth Years on an approved live-stock farm and to present a written report upon his summer's work before entering upon the Second Term of the Fourth Year.

Open only to students majoring in Animal Husbandry. 1 unit.

13. *Farm and Ranch Management.*—The management of the range, ranch, and farm for the production of live stock.

Texts: Potter, *Western Live Stock Management.* Leitch, *The Dairy Farm.*

Prerequisite: Animal Husbandry 12.

Two lectures and one three-hour laboratory period per week. Second Term, Fourth Year. 1½ units.

14. *Veterinary Science.*—A study of the common diseases of horses, cattle, sheep, and swine; their causes, prevention, and treatment.

Prerequisites: Animal Husbandry 1 and 4.

Three lecture periods per week. First Term, Third Year. 1½ units.

Department of Dairying

Professor: Wilfrid Sadler.
Assistant Professor: N. S. Golding.
Extension Assistant: Marion J. Mounce.

1. *Elementary Dairying.*—An elementary course of lectures on milk, cream, and the principles and practices of butter-making. Laboratory work in cream-raising, separators, preparation of cream for butter-making, butter-making on the farm, preparation of Devonshire clotted cream.

Two lectures and three hours' laboratory per week. Second Term, Second Year. 1½ units.

2. *Farm Cheese-making.*—Principles and practices of cheese-making, hard-pressed, blue-veined, and soft; the making of cheese on the farm; a general knowledge required of the principal varieties of each class of cheese, and laboratory practice in the making of standard varieties.

This course is offered in the Third Year or Fourth Year to students other than those who propose to major in Dairying.

One lecture and six hours' laboratory per week for one term. 1½ units.

3. *Dairy Bacteriology.*—The bacteriology of milk, and milk products; sources of bacteria in milk, number and varieties; influence of time, temperature, etc., on these; methods of culture and isolation; fermentation of milk, lactic, butyric, peptonizing, gaseous, ropy, etc.; relation of milk to spread of tuberculosis, typhoid fever, and other diseases; pasteurization and sterilization of milk; certified milk and bacterial standards applied to milk; relation of bacteria to cream, butter-making and butter; control of bacteria in relation to milk and milk products.

Two lectures and six hours' laboratory work per week. First Term, Third Year. 2 units.

4. *Creamery Butter-making.*—Creamery butter-making; grading of cream; treatment and preparation of cream for

butter-making; pasteurization; manufacture of creamery butter; judging, grading, and marketing of butter.

Prerequisite: Dairying 3.

One lecture and six hours' laboratory work per week. Second Term, Third Year. 1½ units.

5. *Market Milk.*—The hygienic aspect of milk production; the bacterial quality of machine-drawn *versus* hand-drawn milk; certified milk; handling and management of milk for city consumption; grading of milk on bacterial standards; pasteurization; transportation and distribution of milk; ordinances and regulations concerning the sale of milk. This course will include laboratory work in dairy bacteriology, practice in the dairy, and visits to selected farms and milk distributing depots.

One lecture and six hours' laboratory work per week. Second Term, Third Year. 1½ units.

6. *Cheese and Cheese-making.*—This course deals with the principles and practices of cheese-making—hard-pressed, blue-veined, and soft.

Offered to those majoring in Dairying.

Two lectures and six hours' laboratory work per week throughout the session. Fourth Year. 4 units.

7. *Dairy Bacteriology.*—Qualitative and quantitative bacteriological analysis of market milk, condensed milk, milk powder, cream, butter, and cheese; bacterial changes in storage butter; ripening of cheese. Opportunities are presented for exercising bacterial control of the various processes carried out in the dairy laboratory.

Offered to those majoring in Dairying.

One lecture and six hours' laboratory work per week. First Term, Fourth Year. 1½ units.

8. *Testing of Milk and Dairy Products.*—The testing of milk, cream, butter, and cheese; the selling of milk and cream on the butter-fat basis; causes of variation in butter-fat content.

One lecture-laboratory period per week. First Term, Fourth Year. ½ unit.

9. *Dairy Buildings and Equipment.*—Buildings suitable for handling of milk and manufacturing of dairy products; their situation, construction, arrangement; equipment of farm dairies, creameries, and cheese-factories. This course includes detailed studies of selected buildings.

One lecture and one laboratory period per week. Second Term, Fourth Year. 1 unit.

10. *The Judging and Grading of Milk and Milk Products.*—Offered to students of the Senior Year. 1½ units.

11. *Thesis.* 3 units.

Department of Horticulture

Professor: F. M. Clement.
Associate Professor: A. F. Barss.
Assistant Professor: F. E. Buck.
Extension Assistant: W. A. Middleton.

A. *Principles of Fruit Growing.*—The aim in this course is to give the student sufficient instruction in the fundamental steps in the growing of tree fruits and small fruits, to enable him to care for the home plantings.

Two lectures each week. First Term, First Year. 1 unit.

B. *Principles of Gardening.*—A study of the principles involved in the planting and growing of the more important vegetables, flowers, and ornamental trees and shrubs for the farm home and garden.

Two lectures each week. Second Term, Second Year. 1 unit.

Courses A and B are designed to meet the needs of all students in Agriculture, giving them a general knowledge of the care of Horticultural crops. At the same time these courses are fundamental for students who are planning to take further courses in Horticulture.

3. *Practical Pomology.*—A detailed study of the best methods in Orchard Management with field practice in various orchard operations, such as planting, pruning, and spraying. The course also deals with the culture of small fruits.

Two lectures and two laboratories each week. Second Term, Third Year. 2 units.

4. *Plant Propagation and Nursery Practice.*—This course deals with the methods used in propagating plants, including budding and grafting; and with Commercial Nursery practices.

One lecture and one laboratory each week. First Term, Third Year. 1 unit.

5. *Commercial Pomology.*—A study of the problems connected with the handling of fruits and vegetables—harvesting, grading, packing, shipping, storing, marketing; packing and storage houses; marketing associations; costs of production and marketing.

Two lectures and one laboratory each week. First Term, Fourth Year. 1½ units.

6. *Systematic Pomology.*—A course in description, identification, classification, displaying, and judging of fruits. The course also includes a certain amount of work in Systematic Olericulture.

One lecture, two laboratories each week. First Term, Fourth Year. 1½ units.

7. *Practical Vegetable Gardening.*—A study of the problems connected with the commercial growing of vegetables, including the selection of a location, soil requirements, fertilizing, irrigating, and special cultural methods for the more important vegetables. This course also deals with the construction of hot-beds, cold-frames, greenhouses, and their management in the forcing of vegetable crops.

Two lectures and one laboratory each week. Second Term, Fourth Year. 1½ units.

8. *Special Horticulture.*—A course for the study of special branches of Commercial Horticulture, including the manufacture of horticultural products, such as canned foods, dried products, jams, jellies, and fruit juices.

Two lectures each week. Second Term, Fourth Year. 1 unit.

9. *Horticultural Problems.*—An introduction to the study of problems in Horticulture, including the breeding of Horticultural crops, variety adaptations, and methods of research, together with a review of Horticultural investigational work in other institutions. There will also be practice in outlining investigations, and in preparing reports.

Two lectures each week. Second Term, Fourth Year. 1 unit.

10. *Landscape Gardening and Floriculture.*—The course aims to give the student a working knowledge of the selection, planting and care of ornamental plants—trees, shrubs, and flowers; with the principles for the improvement of home grounds, school grounds, city streets, and parks. The course includes practice in identification of plant materials; also practice in making of planting plans.

Two lectures and one laboratory each week. First Term, Fourth Year. 1½ units.

11. *Thesis.* 3 units.

Department of Poultry Husbandry

Associate Professor: E. A. Lloyd.
Assistant Professor: V. S. Asmundsen.
Field Enumerator: R. J. Skelton.

1. *General.*—Includes a study of the fundamentals of poultry-keeping, such as: Breeds, breeding, and judging; feeds and feeding; locating and constructing poultry-houses; equipment; incubation and brooding; markets and marketing. The

class-room lectures and recitations are supplemented with practice work in the laboratory.

Two lectures and one two-hour laboratory per week. Second Term, Second Year. 1½ units.

2. *Markets and Marketing.*—An advanced course in the preparation and marketing of poultry products. Students taking this course are required to prepare products for market, and, when possible, to do the actual marketing.

One lecture and one two-hour laboratory period. First Term. 1 unit.

3. *Incubation and Brooding.*—A study of the problems concerned in hatching and rearing poultry. Practice is given in the operation of different types of incubators and brooders.

One lecture and two two-hour laboratory periods per week. Second Term. 1½ units.

4. *Breeds and Breeding.*—Arranged to give the student a general understanding of the principles of breeding as applied to Poultry Husbandry. Emphasis is laid upon breeding for egg and meat production.

Prerequisite: Biology 4.

One lecture and two two-hour laboratory periods per week. Second Term. 1½ units.

5. *Poultry Management.*—A study of stystems of extensive and intensive poultry-farming. Capital, labour, and economic methods of flock management are studied.

Required of Seniors in Poultry Husbandry. First Term.

One lecture and four hours' laboratory per week. 1½ units.

6. *Advanced Poultry Husbandry.*—Arranged to give the student an opportunity for special and original problems.

Required of Seniors in Poultry Husbandry. Second Term.

Hours by arrangement. 4 units.

7. *Feeds and Feeding.*—Consists of a study of the various feedstuffs used for poultry, and their value; the balancing of rations; a study of experimental data and practice in feeding.

Required of Seniors in Poultry Husbandry. First Term.

Prerequisites: Poultry Husbandry 1; Animal Husbandry 8.

One lecture and three hours' laboratory and practice per week. 1 unit.

8. *Poultry Literature.*—A study of scientific literature published on poultry problems, and the gathering of reports, data, and information.

One lecture period per week. Six hours' practice work. 1½ units.

9. *Judging and Selection.*—Substituted for Poultry Husbandry 5 and 6.

One lecture and one three-hour laboratory period per week. 1½ units.

10. *Thesis.* 3 units.

AGRICULTURAL ECONOMICS

Dean Clement.

1. (*a*) *Farmer Movements.*—A study of the Grange; the Patrons of Industry; the Farmers' Alliance; the American Society of Equity; the Non-partisan League; the Farm Bureau Federation; the United Farmers, and other farmer organizations.

(*b*) *Rural Life.*—The country life movement; the rural school; the country church; rural surveys, and a study of special topics, such as, recreation in country life; the farmer's standard of living; the functions of a small town; rural migrations.

Lectures and assigned readings. 3 units.

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2. (*a*) *Agricultural Economics.*—An application of the principles of Economics to the field of Agriculture.

Taylor, *Agricultural Economics,* Macmillan.

(*b*) *The Marketing of Farm Products.*—An analysis of the marketing problem as it applies to Agriculture.

Macklin, *Efficient Marketing for Agriculture,* Macmillan.

Lectures and assigned readings. 3 units.

French.

(Special course in French.)

2nd Year.—Prescribed text: Cunisset-Carnot, *Le livre d'Agriculture,* Paris, Larousse. 2 hours a week. **2 units.**

Note: Where courses other than those listed under Agronomy, Animal Husbandry, Dairying, Horticulture, Poultry Husbandry and Agricultural Economics are mentioned, the student will please refer to outlines of courses in Arts and Science or Applied Science.

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REGULATIONS AS TO M.A., M.A.Sc., AND M.S.A. COURSES.

1. Candidates for the M.A., M.A.Sc., or M.S.A. degree must hold a bachelor's degree from this University, or its equivalent. The B.A. is prerequisite for the M.A., the B.A.Sc. for the M.A.Sc., and the B.S.A. for the M.S.A.

2. A student of another university applying for permission to enter as a graduate student is required to submit with his application an official statement of the course he has followed and a certificate of the standing gained therein in the several subjects. The Faculty will determine the standing of such a student in this University. The fee for examination of certificates is $2.00.

3. Candidates with approved degrees and academic records who proceed to the Master's degree shall be required:

(*a.*) To spend one year in resident graduate study; or

(*b.*) (At the discretion of the Faculty concerned):

(i.) To do two or more years of private work under the supervision of the University, such work to be equivalent to one year of graduate study; or,

(ii.) To do one year of private work under University supervision and one term of resident graduate study, the total of such work to be equivalent to one year of resident graduate study.

4. One major and one minor shall be required.

5. (*a.*) A thesis must be prepared on some approved topic in the major subject.

(*b.*) Examinations, written or oral, or both, will be required.

6. Candidates for the Master's degree, intra mural or extra mural, shall pay an annual registration fee of $10.00. Application for admission as a graduate student shall be made to the Registrar by October 15th.

7. Two typewritten copies of each thesis, on standard-sized thesis paper, shall be submitted. (See special circular of "Instructions for the Preparation of Masters' Theses.")

LIST OF STUDENTS IN ATTENDANCE, SESSION 1922-23

FACULTY OF ARTS AND SCIENCE

FIRST YEAR.

Full Undergraduates.

Name.	*Home Address.*
Adams, Edgar B.	Vancouver.
Adams, M. Louise	Vancouver.
Aitken, James	Vancouver.
Allan, Dalton D.	Vancouver.
Allen, A. Stewart	Naramata.
Allen, H. Joyce	Chamadaska.
Allen, M. Margaret	Naramata.
Anderson, Oscar Harry	Revelstoke.
Andrews, Margaret J.	Vancouver.
Anno, Shojiro	Vancouver.
Arkwright, Dorothy	Kerrisdale.
Armstrong, Helen J.	Penticton.
Arnett, Lorraine	Vancouver.
Arnold, Theodore E.	Vancouver.
Ashworth, George W.	Vancouver.
Atkins, Orville S.	Vancouver.
Austin, Horace	Vancouver.
Baillie, Oenone G.	Vancouver.
Ball, Ralph H.	Kelowna.
Barclay, E. Jean	Vancouver.
Barker, Dorothy I.	Vancouver.
Barton, Bernice E.	Marpole.
Barton, Isobel W.	Vancouver.
Barton, Lorna D.	Vancouver.
Barton, Una M.	North Vancouver.
Beddis, Phoebe E.	Vancouver.
Bell, Jean F.	Vancouver.
Bell, Vera H.	Vancouver.
Bell, William J.	Vancouver.
Berry, Enid R.	Vancouver.
Binns, K. M. Alix	Vancouver.
Birney, A. Earle	Banff, Alta.
Bishop, Charles B.	Vancouver.
Bisson, Marion M.	Rossland.
Blain, Evelyn	West Vancouver.
Blatchford, Annie	Vancouver.
Bolt, Sybil	Vancouver.

Name.	*Home Address.*
Bonsall, Henry B.	Vancouver.
Boomer, William H.	Vancouver.
Boucher, Jennie M.	Vancouver.
Boulton, Frederic J.	Vancouver.
Bourne, Alfred R.	Revelstoke.
Bowen, Carman R.	Vancouver.
Boyles, Sadie M.	Vancouver.
Bride, Gordon McK.	Vancouver.
Bridge, John W.	Vancouver.
Bridgman, Clara M.	Vancouver.
Bridgman, Edward O.	North Vancouver.
Brown, Florence V.	Vancouver.
Brown, Rex L.	Vancouver.
Browning, Harold D.	Vancouver.
Buckingham, William N. J.	Vancouver.
Bumstead, Viola G.	Vancouver.
Burnett, Lila W.	Vancouver.
Callander, Glenn G.	Vancouver.
Campbell, Lawrence W.	Vancouver.
Campbell, Mildred H.	New Westminster.
Capon, Donald	Vancouver.
Carter, Esther E.	Vancouver.
Cassidy, Florence E.	Murrayville.
Catterall, John L.	Vancouver.
Challenger, John W.	Vancouver.
Chalmers, William	Vancouver.
Chamberlain, Edward R.	Vancouver.
Chin, Fat Y.	Vancouver.
Choate, Percy J.	Vancouver.
Clark, H. Eustace F.	Vancouver.
Clark, Kathleen L.	Vancouver.
Clark, William T.	Middlesboro.
Clement, Bruce D.	Vancouver.
Conrad, Elsie	Ladner.
Cooper, Arthur J. O.	Vancouver.
Cooper, Ursula H.	Vancouver.
Couling, Grace M.	Vancouver.
Crees, N. Jack	Vancouver.
Crickmay, Geoffrey W.	North Vancouver.
Crickmay, James L.	North Vancouver.
Cruickshank, Clementine M.	Vancouver.
Cull, J. Simpson	Vancouver.
Cunningham, Louise F.	New Westminster.
Daly, Kathleen A.	Vancouver.

Name.	*Home Address.*
Danaher, J. Harold	Vancouver.
D'Aoust, Joseph G.	Vancouver.
D'Aoust, Mary L.	Vancouver.
Darts, Edwin C.	Vancouver.
Davidson, Allen E.	New Westminster.
Davidson, Elsie A.	Vancouver.
Davies, Dermot A.	Vancouver.
Davies, Edward	Fernie.
Dean, F. Roberta	New Westminster.
Des Brisay, Maurice P.	Rock Bay.
Dimmick, Doris M.	Jubilee.
Dimock, C. Homer	Silverton.
Dobie, M. Helen	New Westminster.
Docherty, M. Doris	Vancouver.
Dodson, Marion	South Vancouver.
Douglas, Ian F.	New Westminster.
Dow, Lillian MacI.	Vancouver.
Dyble, Richard H.	Ioco.
Eaton, Virginia	Vancouver.
Edgett, Freda B.	Vancouver.
Edwards, T. Bentley	Eburne.
Elley, Frederick W.	Fernie.
Esler, Mary R.	Vancouver.
Esler, Nancy	Vancouver.
Evans, Alexander M.	North Vancouver.
Everton, Lily G.	New Westminster.
Fallowfield, Edna M.	South Vancouver.
Farrand, Charles J. S.	Vancouver.
Faulkner, Jean C.	Vancouver.
Fenton, Lillian P.	Pitt Meadows.
Finley, Edith E.	South Vancouver.
Fitchett, J. Norton	Vancouver.
Fletcher, Frank	Vancouver.
Fraser, James A.	Vancouver.
Freeland, Gertrude L.	Vancouver.
Freeman, Maurice	Vancouver.
Fry, Vera S.	Vancouver.
Gagnon, James H.	Nelson.
Galbraith, Gladys E.	Vancouver.
Gallaugher, Arthur F.	Vancouver.
Garner, Edna B.	Vancouver.
Gartshore, Hendrie L.	Vancouver.
Gauthier, A. Cairns	Vancouver.
Gibbard, Charles A.	Mission City.

Name.	*Home Address.*
Giberson, Gladys H.	Vancouver.
Gilley, Hazel L.	New Westminster.
Giovando, Lorenzo	Ladysmith.
Glennie, Annie	Vancouver.
Glover, Gladys M.	Chilliwack.
Godson, Joy A.	Vancouver.
Golley, E. Merton	Vancouver.
Goranson, Edwin A.	New Westminster.
Gordon, Arthur I. E.	Skidegate.
Gordon, George E.	Vancouver.
Gould, Clarence R.	Aylesford, N.S.
Grace, John	New Westminster.
Graham, Mary L.	Whonnock.
Grant, Eva K.	Slocan City.
Grant, Minerva M.	Vancouver.
Grantham, Herbert H.	Vancouver.
Green, Winifred M.	Vancouver.
Greer, Marion J.	South Vancouver.
Grier, Helene McG.	Vancouver.
Gross, Aubrey W.	Vancouver.
Gruchy, Allan G.	Vancouver.
Gustafson, Carl E.	Vancouver.
Hadgkiss, James	Vancouver.
Hall, Violet E.	Burnaby.
Halliday, Helen McD.	New Westminster.
Handford, Cecile M.	Vancouver.
Hardwick, Francis C.	Vancouver.
Harper, John A.	Vancouver.
Harris, Mabel L.	Steveston.
Harrison, Nellie E.	Vancouver.
Hartley, Joyce C.	North Vancouver.
Harvie, Evan T.	North Lonsdale.
Haslam, Harold B.	Cranbrook.
Haslett, Edna B.	Anyox.
Heelas, John C.	Armstrong.
Henderson, Annie A.	Vancouver.
Henderson, Florence M.	Vancouver.
Henderson, Robert A.	Vancouver.
Heywood, Margaret	Vancouver.
Higginbotham, Mary J.	Vancouver.
Hill, Mark R.	Vancouver.
Hodgins, Hugh J.	Vancouver.
Hodgins, Lillian L.	Nanaimo.
Holliday, Elizabeth M.	Armstrong.

Name.	*Home Address.*
Holmes, Isobel B.	Vancouver.
Hood, Orlo McG.	Vancouver.
Hope, Grace E.	Vancouver.
How, Margaret I.	Chilliwack.
Howard, Hedley V.	Vancouver.
Hubner, Rudolph	Trail.
Hull, Lilian F.	Grand Forks.
Hunter, H. Murray	Vancouver.
Ing, Sun On	Vancouver.
Irwin, Everett J.	Vancouver.
Irwin, Lenora	Vancouver.
Irwin, Ronald E.	North Vancouver.
Jenkins, Elfrida M.	Agassiz.
Jenkins, Helen L.	Vancouver.
Johnston, Hilda F.	Vancouver.
Johnston, M. Gertrude	Vancouver.
Jones, Hazel E.	Vancouver.
Jones, Margaret E.	Vancouver.
Kennedy, Mervyn E.	Vancouver.
Kerslake, Ben	South Vancouver.
Kidd, Desmond F.	New Westminster.
Kidd, Honor M.	New Westminster.
Kilvert, Yuill	Ioco.
King, Esther E.	Vancouver.
King, G. Agnes	Vancouver.
King, Herbert D.	Vancouver.
Kirkpatrick, Isabel C.	Vancouver.
Kobe, Susumu	Vancouver.
Lade, Mary E.	Vancouver.
Laidlaw, W. James	Vancouver.
Lam, George	Vancouver.
Lange, J. Malcolm J.	Vancouver.
Langley, James P.	Eburne.
Langridge, Gertrude A.	Vancouver.
Larson, Esther S.	New Westminster.
Lazarus, Minnie R.	Vancouver.
Leach, F. Wanetta	Vancouver.
Ledingham, George M.	Vancouver.
Lees, Everett J.	Vancouver.
Leigh, Digby M.	Revelstoke.
Leith, Murray	Vancouver.
Lewis, Margaret L.	Vancouver.
Logan, Gordon V. E.	Vancouver.
Logie, William J.	Vancouver.

Name.	*Home Address.*
Lynn, Mildred B.	Vancouver.
Lyttleton, Helen M.	Vancouver.
Madill, Laura M.	Port Hammond.
Magar, Gladys F.	Eburne.
Mahrer, Eugene R.	Vancouver.
Main, Thomas	South Vancouver.
Mandell, Barbara K.	Vancouver.
Manson, Nicol B.	Cortez Island.
Marett, Verna	Vancouver.
Marin, Rosa A. M.	Vancouver.
Marrion, Oscar G.	Vancouver.
Marshall, Marguerite G. M.	New Westminster.
Martin, Mary	Vancouver.
Mathewson, Philip L.	Essondale.
Mellish, A. Preston	Vancouver.
Menten, Marjorie E.	New Westminster.
Mercer, W. E. Arthur	New Westminster.
Meredith, Joan O. F.	North Vancouver.
Miller, George W.	North Vancouver.
Minaty, William	Vancouver.
Mitchell, Marion	Vancouver.
Mitchell, Morley W.	Vancouver.
Moffat, Alda C.	Vancouver.
Monks, Nancy J.	Vancouver.
Moodie, Catherine M.	New Westminster.
Moore, Hilton M.	Vancouver.
Morris, John R.	Vancouver.
Morris, Wilfred H.	Vancouver.
Morrison, Margaret G.	Vancouver.
Mulligan, Annie D.	Vancouver.
Munn, R. Russell	Summerland.
Murphy, Alexandra	Huntingdon.
Murphy, William C.	Vancouver.
Myers, Alice	Naramata.
MacArthur, Freida C.	Vancouver.
McCarthy, Grace E.	Kelowna.
McCaslin, Myrtle M.	Salmo.
McColl, Helen S.	North Vancouver.
McConkey, Virginia L.	Vancouver.
McCulloch, Walter F.	Kamloops.
McDiarmid, Ralph G.	North Vancouver.
McDonagh, Joyce M.	Vancouver.
Macdonald, A. Bruce	Vancouver.
MacDonald, Eileen	Vernon.

Name.	*Home Address.*
MacDonald, Kenna C.	Vernon.
McDuffee, R. Stuart	Vancouver.
McGraw, Christina	Penticton.
McGregor, Mary C.	Vancouver.
McIntosh, Cecilia M.	Vancouver.
McIntosh, Margaret H.	Vancouver.
McIntosh, Mary C. E.	Vancouver.
McIntyre, Charles M.	Vancouver.
McKay, Doris G.	Vancouver.
MacKay, Mary A.	Vancouver.
McKechnie, Neil D.	New Westminster.
MacKenzie, Donald B.	Vancouver.
McKenzie, Lillian M.	Vancouver.
MacKenzie, L. Margaret	New Westminster.
MacKinnon, C. Eric	Cranbrook.
McLean, Cecilia M.	Vancouver.
McMeans, Beatrice K.	Vancouver.
McMeekin, Lillie M.	Vancouver.
McMurphy, Audrie E.	New Westminster.
McNish, Garnet	Vancouver.
McSweyn, Maxine M. M.	Vancouver.
Nakano, Noborn A.	Cumberland.
Newmarch, Gerald	Vancouver.
Nice, Lila M.	Vancouver.
Nicholson, Eleanor H.	Vancouver.
Nixon, Myrtle	Vancouver.
Noble, A. Pearl	Ladner.
Ogawa, Kiyo	Vancouver.
O'Neil, Margaret V.	Penticton.
Osborne, Donald J. F.	Vancouver.
Palmer, Russell A.	Vancouver.
Parker, A. Gray	Vancouver.
Patrick, Walter	Vancouver.
Peake, Emma G.	Vancouver.
Pedlow, Beulah W.	Vancouver.
Peers, Mary E.	Burnaby.
Pellew, E. Irene	New Westminster.
Pennington, Frederick W.	Vancouver.
Philp, George A.	Vancouver.
Phipps, E. Sheila M.	New Westminster.
Piters, Jack	Vancouver.
Porter, Basil W.	Burnaby.
Porter, Ida S.	West Vancouver.
Potter, Frank	Cumberland.

Name.	*Home Address.*
Pottinger, Alexander	Vancouver.
Powell, Evelyn	Vancouver.
Pradolini, Mario	Revelstoke.
Pratt, Frederick H.	Burnaby.
Price, A. Evelyn	Vernon.
Pudney, Winnifred L.	Collingwood.
Pugsley, Clarence W.	Vancouver.
Purves, Jennie L.	Vancouver.
Raby, Ila G.	Salmon Arm.
Rae, Grace R.	Barnet.
Ramage, Marguerite E.	Vancouver.
Raney, Frederick E.	Pembroke.
Rayner, Cyril T.	Naramata.
Reid, George E.	Vancouver.
Reid, Mary F.	Vancouver.
Richardson, Isabella M.	Chilliwack.
Ritchie, Helen C.	West Vancouver.
Robertson, Margaret W. S.	New Westminster.
Robson, R. Christopher	North Vancouver.
Rogers, Mildred	Vancouver.
Rudnicki, Helen F.	Fernie.
Russell, Dorothy B.	Vancouver.
Sanford, Aubrey C.	New Westminster.
Savage, Edna M.	Vancouver.
Scott, Geraldine M. B.	Cloverdale.
Scott, John J.	Vancouver.
Scott, Margaret V.	Vancouver.
Selwood, Pierce W.	West Vancouver.
Shannon, Jack D.	Vancouver.
Simpson, Velma L.	Penticton.
Simpson, Vera E.	Vancouver.
Sinton, Muriel F.	Vancouver.
Smith, Beatrice N.	Vancouver.
Smith, Harry F.	Vancouver.
Smith, Louis F.	West Summerland.
Smith, Marion R.	Vancouver.
Southon, Gordon P.	Vancouver.
Stanley, John	Burnaby.
Stearman, A. Willardie	Vancouver.
Stevenson, Eva A. J.	Vancouver.
Stewardson, Alan	New Westminster.
Stibbs, Roy B.	New Westminster.
Stinson, M. Marguerite	Vancouver.
Story, Jean M.	Vancouver.

Name.	*Home Address.*
Straight, Winona T.	Vancouver.
Stuart, Margaret I. Duff	Vancouver.
Stuart, Ronald J.	Vancouver.
Sutherland, John B.	Vancouver.
Sutherland, John H.	South Vancouver.
Swanson, Margaret	Vancouver.
Swencisky, Grace H.	New Westminster.
Taylor, David A. B.	South Wellington.
Taylor, E. Bridgman	Revelstoke.
Taylor, W. Gordon	Vancouver.
Teeple, Ruth	Vancouver.
Telford, Gordon D.	Vancouver.
Tennant, Margaret M.	Vancouver.
Thompson, Harold J.	Vancouver.
Thompson, Henrietta B.	Vancouver.
Thompson, William G.	Vancouver.
Thomson, Charles M.	Vancouver.
Thomson, James A.	Vancouver.
Thorpe, Milton P.	South Vancouver.
Thurston, Roberta	Port Moody.
Tingley, Elizabeth P.	Vancouver.
Tokunaga, Tadashi	Vancouver.
Touzeau, Ernest G.	Vancouver.
Turnbull, Walter R.	Vancouver.
Underwood, Thomas J. W.	North Vancouver.
Usher, Katharine H.	Vancouver.
Wainman, Philip R.	Vernon.
Wakefield, Amy E.	North Vancouver.
Waldie, Frederick M.	Nelson.
Wales, Bertram E.	Vancouver.
Wallace, Barbara A.	Vancouver.
Wallace, Nora E.	Vancouver.
Wallace, William S.	South Vancouver.
Walmsley, Sholto A.	New Westminster.
Washington, Dorothy M.	Vancouver.
Watson, James W.	Vancouver.
Welsman, Edward L.	Vancouver.
Whalen, F. Alice	Vancouver.
Whiteside, John D.	New Westminster.
Wiedrick, Vernon A.	Vancouver.
Williams, John V. L.	Vancouver.
Williams, Mary A. B.	Vancouver.
Williamson, Florence	Vancouver.
Wilson, A. Abbott	Mission City.

Name.	*Home Address.*
Wiswell, Grant A.	Vancouver.
Wong, Violet	Vancouver.
Woodman, Owen O. M.	Hong Kong, China.
Woodrow, Jean	Vancouver.
Woodworth, Charles A.	West Point Grey.
Wright, Amy E.	North Vancouver.
Wright, Marion D.	South Vancouver.
Yeoman, Gladys R.	New Westminster.

Conditioned.

Adam, Dorothy M.	Vancouver.
Bailey, Basil E.	Armstrong.
Bennett, Alice E.	Vancouver.
Bloom, Jason	Vancouver.
Boyce, George I.	Kelowna.
Cole, Mary J. R.	Vancouver.
Cummings, Leslie J.	Vancouver.
Domoney, Clarence	Vancouver.
Fournier, Frank L.	Vancouver.
Fowler, Horace W.	Vancouver.
Fowler, Margaret F.	Grand Forks.
Gambord, Ben	Vancouver.
Helme, Carol M.	Vancouver.
Hunter, George G.	Cranbrook.
Marin, Joseph	Vancouver.
McDevitt, Donald C.	Vancouver.
Macdonald, John E.	Vancouver.
Macdonald, Kenneth E.	North Vancouver.
McDonald, Marjorie A.	Vancouver.
MacInnes, Gertrude E.	Vancouver.
Mackay, Jack C.	Vancouver.
McNeil, Grace M.	Vancouver.
Paulson, P. Edwin	New Westminster.
Rowan, Murray D.	Vancouver.
Smith, John H.	Vancouver.
Sparks, Wilbur H.	Vancouver.
Spencer, Harold H.	Port Simpson.
Stearman, John S.	Vancouver.
Walker, Nora	North Vancouver.
Wong, Sow Poon	Vancouver.

Partial.

Arland, Andrew J.	Cloverdale.
Arthur, Harold W.	Vancouver.

1923-24

Name.	*Home Address.*
Ballantyne, Margaret	Vancouver.
Barr, Matthew L.	Vancouver.
Burnett, John N.	Vancouver.
Byrne, Thomas S.	Vancouver.
Currie, Roy L.	New Westminster.
Eshoo, Kurish	Vancouver.
Evans, Gerald T.	Vancouver.
Gibson, Elizabeth J.	Vancouver.
Gould, Clara W. H.	Vancouver.
Gyles, Cedric H.	Vancouver.
Haines, Harriet G.	Vancouver.
Johnson, Helen F.	Vancouver.
Keenleyside, Marion A.	Vancouver.
Kirk, Helen S.	Vancouver.
Ladner, Edward M.	Ladner.
Moffatt, Jack A. W.	Cranbrook.
MacKechnie, Margaret A. M.	Vancouver.
Mackenzie, Margaret H. L.	Vancouver.
McLeod, A. Helen E.	Vancouver.
Richardson, Edward R. G.	Penticton.
Singh, Bhagat	Dhudike, Moga, India.
Spencer, Brian R.	Alberni.
Stuart, Ernest S.	Vancouver.
Watson, Tânis J.	Vancouver.

SECOND YEAR.

Full Undergraduates.

Allen, George A.	Vancouver.
Anderson, Gwladys M.	Vancouver.
Anthony, Edward J.	Nakusp.
Arkley, Adalene	Vancouver.
Arkley, Heileman O.	Vancouver.
Auden, Kenneth F.	Vancouver.
Baker, Lorimer G.	Vancouver.
Ball, Robert W.	Sandwick.
Bell, Ella W.	Vancouver.
Bloomfield, E. Jervis	Vancouver.
Boulton, Marguerite C. E.	Vancouver.
Brown, Thomas W.	Grand Forks.
Bull, Armour McK.	Vancouver.
Burns, Nettie	Vancouver.
Carpenter, Gilbert B.	Vancouver.
Chapman, Edward F.	New Westminster.

1923-24

Name.	*Home Address.*
Charlton, David B.	Port Haney.
Clarke, M. Kathleen	Vancouver.
Cowx, Joseph G.	Vancouver.
Craig, James H.	Vancouver.
Cranston, Roxy R.	Vancouver.
Crich, Evelyn P.	Vancouver.
Davidson, Jean E.	Vancouver.
Deans, William	Vancouver.
Dobbin, Mary H.	Vancouver.
Dodds, Kathleen	Vancouver.
Dowling, Clifford H.	Vancouver.
Duncan, Cedric J.	Prince Rupert.
Dunn, Eric J.	Vancouver.
Edwards, Lucy L.	Vancouver.
Emery, Gertrude B.	New Westminster.
Evans, W. Fred	Vancouver.
Farrand, Zoe E.	Vancouver.
Farrington, Eileen G.	Vancouver.
Fee, Archibald R.	Burnaby.
Fee, Doris L.	Kamloops.
Fisher, Jessie L.	Vancouver.
Ford, Margaret D.	Vancouver.
Forster, Eric	Capilano.
Fraser, Ruth A.	Vancouver.
Futcher, Frederick G.	Vancouver.
Gadd, Gwendolyn M.	Vancouver.
Gaddes, Leonard	Vancouver.
Gage, Walter H.	South Vancouver.
Gillanders, Earle B.	Chilliwack.
Graham, Etta L.	Vancouver.
Grauer, Albert E.	Vancouver.
Gray, Roy	Vancouver.
Greggor, C. Fenella	Vancouver.
Gregory, Phyllis M. B.	Rossland.
Griffith, W. Ivor	Grand Forks.
Groves, Dorothy	Vancouver.
Hall, Winnifred M.	Vancouver.
Hallamore, Gertrude J.	New Westminster.
Hardie, William L.	Vancouver.
Harvey, Mary	Vancouver.
Henderson, Harold R.	Vancouver.
Inglis, Kathleen M.	Gibson's Landing.
Ingram, Sydney B.	Vancouver.
Jones, David R.	Vancouver.

Name.	*Home Address.*
Keenan, Thomas J.	Vancouver.
Kelly, Clive A.	Vancouver.
Kelly, Wilfred C.	Vancouver.
Leveson, S. M. Jean	Vancouver.
Lockard, Edith F.	Vancouver.
Martin, Clarence G.	Massett.
Martin, Edith I.	New Westminster.
Martin, George C.	Vancouver.
Mather, Vera G.	North Vancouver.
Millar, James W.	Revelstoke.
Mills, Reginald C.	Vancouver.
Miyazaki, Masaziro	Japan.
Moffatt, Muriel M.	Vancouver.
Moodie, Stephen T.	Burnaby.
Morsh, Joseph E.	Peachland.
Mowatt, Laura S.	Vancouver.
Muir, Bertha C. M.	Sooke.
Murray, Dorothy A.	Vancouver.
MacDonald, Janet R.	New Westminster.
McDonald, Marguerite	Armstrong.
MacGill, Helen G.	Vancouver.
McGugan, E. Muriel	Vancouver.
McKee, Mary M.	Vancouver.
McLarty, E. Islay	Vancouver.
McLennan, Percy G.	Vancouver.
McLeod, Florence A.	Vancouver.
MacLeod, R. Leighton	North Vancouver.
McMeans, Jean R.	Vancouver.
Newcombe, Gwendolyn	North Vancouver.
Nicol, Grace	Vancouver.
Painter, Francis M.	Vancouver.
Palmer, Peter F.	Vancouver.
Pattullo, Ruth J.	Vancouver.
Pollock, Douglas B.	Vancouver.
Railton, Joan M.	Vancouver.
Rilance, Elsie G. L.	Vancouver.
Rowan, Muriel M.	Vancouver.
Russell, Isabel M.	Vancouver.
Sansum, Victor H.	Vancouver.
Schell, Kenneth A.	Vancouver.
Sharpe, Vera M.	Enderby.
Shaw, John C.	Vancouver.
Sheppard, Lucy A.	New Westminster.
Shore, John W. B.	Vancouver.

Name.	*Home Address.*
Smith, Grace E. M.	Vancouver.
Smith, H. Bertram	Victoria.
Smith, James	Vancouver.
St. Denis, Frederick G.	Vancouver.
Stevens, Ernest G. B.	Vancouver.
Stewart, Neil A.	Vancouver.
Stirling, Gwendolen G.	Kelowna.
Stuart, Lillian B.	Vancouver.
Sutherland, Marion G.	New Westminster.
Tatlow, Helen G.	Vancouver.
Taylor, Dorothy G.	New Westminster.
Thompson, Bertha H.	Vancouver.
Thompson, Homer A.	Rosedale.
Thomson, Jean	Vancouver.
Thrupp, Sylvia L.	Kamloops.
Tipping, Wessie M. M.	Vancouver.
Watney, Douglas P.	New Westminster.
Welch, Beatrice R.	Vancouver.
White, Ronald E.	Summerland.
Whiteside, Helen R.	New Westminster.
Whittaker, Norah M.	Vancouver.
Wilcox, Laura	Vancouver.
Wilkinson, Jane H.	Vancouver.
Wilkinson, John H.	Vancouver.
Wilkinson, Nelly	Vancouver.
Williamson, Cecilia	Vancouver.
Winter, A. Greta	Vancouver.
Woodard, Lawrence H.	Vancouver.
Woolliams, G. Ewart	Keremeos.
Wright, Muriel E.	Vancouver.
Wright, Stanley V.	Vancouver.
Young, Minnie A.	New Westminster.

Conditioned.

Arkley, Stanley T.	Vancouver.
Corry, Jack R.	Vancouver.
Gignac, Frances V.	Vancouver.
Gillen, James L.	Abbotsford.
Hankinson, Bessie	Vancouver.
Jackson, Mary I.	Vancouver.
James, Harriet C.	Vancouver.
Keir, George	South Vancouver.
Ledingham, Jack P.	Vancouver.
Lyness, Dora I.	Vancouver.

Name.	*Home Address.*
McIntosh, Donald J.	Vancouver.
McIntyre, Margary	Vancouver.
McKillop, Lex L.	Vancouver.
McLean, Leslie M.	Vancouver.
Nelson, Clarence	Vancouver.
Pattullo, Mary E.	Vancouver.
Schaffer, John J.	Vancouver.
Shorney, K. Doris	Vancouver.
Swencisky, Victoria M.	New Westminster.
Wasson, Evans E.	Nelson.
Weinberg, Jeanette	Vancouver.

Partial.

Blackburn, M. Stewart	Beachburg, Ont.
Burns, Elizabeth T.	Vancouver.
Craig, Montague W.	Vancouver.
Eades, J. Edwin	North Vancouver.
Goult, Barrington H. E.	Vancouver.
Harper, H. Neville	Durban, Natal, S.A.
Kenyon, Wilfred	Vancouver.
Knowlton, Willson E.	Vancouver.
MacFarlane, Robert T.	Hollyburn.
MacGill, Elizabeth M. C.	Vancouver.
Macrae, Harry M.	Victoria.
Nelson, Denys	Vancouver.
Pearson, Geoffrey C.	South Westminster.
Penwill, Frank H.	Vancouver.
Perkins, Merwyn G.	Vancouver.
Rosborough, Hugh C.	Londonderry, Ireland.
Simpson, Nathaniel V.	Penticton.
Sutherland, George F.	Vancouver.
Tiffin, L. Oakley Mc.	Vancouver.
Whaun, Moore	Vancouver.

THIRD YEAR.

Full Undergraduates

Albo, Joseph	Rossland.
Archibald, Laura M.	Victoria.
Aske, F. Magdalene	Vancouver.
Astell, Mary C. L.	Vancouver.
Bell, F. Heward	Vancouver.
Brand, Frederick J.	Victoria.
Brink, R. Murray	Vancouver.

Name.	*Home Address.*
Bruun, A. Geoffrey	Vancouver.
Burton, Erling W.	Vancouver.
Burton, Jean	Vancouver.
Burton, John S.	Vancouver.
Cantelon, Harold B.	Vancouver.
Cawthorne, Winifred B.	Victoria.
Chapin, F. Marie	Kelowna.
Colton, Leonard C.	Fernie.
Cope, M. C. Lillian	Vancouver.
Cowdell, Lillian F.	Vancouver.
Creelman, Helen	Vancouver.
Crozier, Robert N.	Vancouver.
Curtis, Philip S.	Vancouver.
Davidson, J. Ross	Vancouver.
Edgell, Phyllis M.	Vancouver.
Edgett, Lloyd W.	Vancouver.
Elliott, Marjorie L.	Vancouver.
Elsey, Charles R.	Summerland.
Evans, Muriel M.	Vancouver.
Fawcett, Marie L.	Vancouver.
Forward, J. Margaret	Ladysmith.
Gibbard, John E.	Mission City.
Gill, Alan F.	North Vancouver.
Gillen, Agnes S.	Abbotsford.
Goodchild, Margaret E.	Matsqui.
Goodwin, T. Howard	Vancouver.
Grant, John A.	Vancouver.
Green, Rowland T.	Kaslo.
Hagelstein, George F.	Langley Prairie.
Harman, Eileen B.	Vancouver.
Hodgson, C. Walter	South Vancouver.
Holmes, Dorothy M.	Victoria.
Hood, Helen R.	Vancouver.
Hyland, H. Ivadele	Vancouver.
Ingram, Lucy	Vancouver.
James, Fern	Vancouver.
Johnston, Florence E.	Vancouver.
Jones, F. Nellie A.	Kelowna.
Jones, John D.	Cloverdale.
Kievell, Myrtle L.	Vancouver.
Knowling, Edith L.	Vancouver.
Lambert, Walter H.	Victoria.
Langdale, Ada G.	Vancouver.
Lillico, Annie B.	Vancouver.

Name.	*Home Address.*
Limpus, George H.	Vancouver.
Livingston, Garrett S.	Vancouver.
Lynch, J. Carrell	Vancouver.
Marrion, Robert F. C.	Vancouver.
Mather, Greta E.	North Vancouver.
Meadows, Lyman	Vancouver.
Mitchell, John H.	Vancouver.
Morgan, Lorne T.	Vancouver.
Munn, Lyle E.	Vancouver.
McKee, William H.	Vancouver.
MacKinnon, Isabel M.	Vancouver.
Maclean, Ethel M.	Vancouver.
McMorris, Frances E.	Vancouver.
Macnaghten, Kathleen E.	North Vancouver.
McRae, Rena V.	Vancouver.
MacWilliam, Ruth A.	Vancouver.
Notzel, Clifford A.	Vancouver.
Ormrod, Eleanor O.	North Vancouver.
Palmer, Sarah	Vancouver.
Paradis, Josephine A.	Enderby.
Peck, Dorothy C.	Vancouver.
Pittendrigh, Mary A.	Vancouver.
Reilly, Ruby R.	Vancouver.
Reith, Helen W.	Penticton.
Riddehough, Geoffrey B.	Penticton.
Roberts, Marian O. R.	Vancouver.
Simpson, W. Wesley	Burnaby.
Smith, A. Christina	Kamloops.
Smith, D. Blair	Vancouver.
Somerset, Ventris A.	Vancouver.
Stinger, Harold C.	Vancouver.
Teeple, Mildred G.	Vancouver.
Telfer, Jean	Vancouver.
Tolman, Carl	Vancouver.
Topper, Robert	Mission City.
Turner, A. Verna	Vancouver.
Turpin, Helen M.	Vancouver.
Wheeler, Arthur L.	Victoria.
Williams, Florence I.	Vancouver.
Yonemura, Hozumi	Vancouver.
Conditioned.	
Buchanan, Allen	Vancouver.
Cant, Hector R.	New Westminster.

Name.	*Home Address.*
Coates, Bertha W.	Vancouver.
Higginbotham, Frances I.	Vancouver.
Hislop, Gordon B.	Moose Jaw, Sask.
Jackson, Eric W.	Vancouver.
Lundie, James A.	Vancouver.
Miller, G. Stanley	Vancouver.
McDonald, Gertrude E.	Nelson.
McKay, Donald C.	Vancouver.
McLane, Paul V.	Ocean Falls.
Ross, Beulah W.	Vancouver.
Smith, J. A. Campbell	Vancouver.

Partial.

Angell, Eloise	Vancouver.
Baird, J. Douglas	Vancouver.
Cowan, Frances K.	Vancouver.
Cross, Henry Norman	Seattle, Wash.
Doidge, Gilbert	North Vancouver.
Lewis, Gordon A.	New Westminster.
Mangat, Nahar Singh	Punjab, India.
Meyer, Victor L.	Vancouver.
Schmidt, Walter E.	Vancouver.
Shenstone, E. Caroline	Bamfield.
Sparks, Frederick P.	Vancouver.

FOURTH YEAR.

Full Undergraduates.

Abel, Ilva I. J.	Vancouver.
Agabob, Walter J.	Vancouver.
Allen, Harold T.	Naramata.
Anderson, Annie M.	Vancouver.
Aylard, C. Muriel	Victoria.
Baynes, Lloyd L.	Vancouver.
Bell, Marjorie E.	Hollyburn.
Benedict, Frances E.	Arrowhead.
Bickell, Gertrude E.	Vancouver.
Brown, Joseph F.	Hammond.
Brown, Margaret A.	Vancouver.
Buck, Dorothea M.	Kelowna.
Bulmer, Mary L.	Burnaby.
Burke, Beatrice M.	Vancouver.
Campbell, Claude L.	Victoria.
Carrie, Janet T.	Nelson.

1923-24

Name.	*Home Address.*
Caspell, Jessie M.	Vancouver.
Casselman, Jessie E.	Vancouver.
Cassidy, Harry M.	Murrayville.
Chapman, Mary I.	New Westminster.
Clandinin, Gladys M.	Vancouver.
Clyne, John V.	Vancouver.
Cornyn, Lillian M.	Vancouver.
Crandlemire, Vera K.	Grindrod.
Crawford, Helen C.	Vancouver.
Cummings, Robert E.	Vancouver.
Dallas, Dorothy F.	Vancouver.
Dawson, David C.	Vancouver.
Dickson, Malcolm J. C.	Victoria.
Edwards, Isaac J.	Vancouver.
Eveleigh, Evelyn M. S.	Vancouver.
Fitch, Beatrice C.	Vancouver.
Fleming, Everitt S. J.	Kelowna.
Fleming, G. Herbert	Vancouver.
Gibbon, Marion E.	Vancouver.
Gilbert, Evelyn M.	Vancouver.
Green, Lucy E.	Chilliwack.
Griffiths, M. Elaine	Grand Forks
Gross, Rowena P.	Vancouver.
Hallett, Lawrence T.	Steveston.
Henderson, Jean	Vancouver.
Home, Maurice	Vancouver.
Hunter, Alan D.	Vancouver.
Jack, Gladys G.	Marpole.
Johnston, C. Islay	North Vancouver.
Kerr, Gerald C. G.	Vancouver.
Kerr, Margaret I.	Vancouver.
Kidd, Dorothy E.	Vancouver.
Kirkpatrick, Gordon M.	Vancouver.
Kloepfer, Helen P.	Vancouver.
Lapsley, Marie L.	Vancouver.
Lee, Doris E.	Bonnington Falls.
LeNeveu, Allan H.	Vancouver.
Leveson, M. Kirsteen	Vancouver.
Lewis, Hunter C.	Vancouver.
Lindsay, Margaret P.	Vancouver.
Lister, Fraser	Nanaimo.
Locklin, Lillian R.	Los Angeles, Cal.
Marett, Leila M.	Vancouver.
Mathews, Helen M.	Vancouver.

Name.	*Home Address.*
Miller, Selwyn A.	Vancouver.
Morden, Wilma M.	North Vancouver.
Murphy, K. Sallee	Vancouver.
McIntyre, Donald M.	West Summerland.
Mackay, Phyllis I.	Vancouver.
MacKechnie, Hugh A.	Vancouver.
McKenzie, Mary I.	New Westminster.
McLennan, Beth D.	Vancouver.
McLoughry, Vivian H.	Vancouver.
MacNeill, A. Roy	Vancouver.
Offord, Harold R.	Vancouver.
Osterhout, M. Mildred	New Westminster.
Partridge, Phyllis	Cumberland.
Pedlow, Gladys L. J.	Vancouver.
Peter, Constance E.	Vancouver.
Portsmouth, Madge	Mission City.
Quainton, Eric H.	Victoria.
Ray, A. Hugo	Vancouver.
Rees, Catherine B.	New Westminster.
Robertson, Norman A.	Kerrisdale.
Robson, Charles Young	Vancouver.
Roy, Jessie	Burnaby.
Sanford, O. McLean	Vancouver.
Sangster, Norman	Vancouver.
Shaw, Keith D.	Vancouver.
Shier, Jack W.	Vancouver.
Smith, Gertrude M.	New Denver.
Smith, Grace P.	Vancouver.
Southon, H. Stewart A.	Vancouver.
Stewart, William	Victoria.
Straus, Jean L.	Point Grey.
Switzer, Gerald B.	New Westminster.
Taylor, Clifford N.	Vancouver.
Thompson, Willard A.	Vancouver.
Tupper, Mary E.	Vancouver.
Turnbull, Frank A.	Vancouver.
Upshall, W. C. Cecil	Vancouver.
Walker, Robert E.	Vancouver.
Wallace, F. Melvin	Vancouver.
Walsh, Dorothy H.	Oak Bay.
Weld, Gladys N.	Vancouver.
Wilcox, Marion	Vancouver.

Name.	*Home Address.*
Wood, Elsie D.	Nanaimo.
Yonemoto, Haruo	Steveston.

Conditioned.

Higginbotham, Margaret W.	Vancouver.
Hunter, Robert	Vancouver.

Partial.

Drennan, Albert A.	Vancouver.
Ellis, Edgar H.	Vancouver.
Jardine, Agnes A.	Vancouver.
McKee, John R.	Vancouver.
Thomson, Albert O.	Mt. Lehman.

FACULTY OF APPLIED SCIENCE.

FIRST YEAR.

Full Undergraduates.

Abernethy, Gordon McK.	Vancouver.
Barnsley, Frank R.	Vancouver.
Barton, Carl F.	Vancouver.
Baylis, Robert H.	Marpole.
Buchanan, Thomas G.	Vancouver.
Canfield, Orra W.	New Westminster.
Cross, Earle S.	North Vancouver.
Dudley, S. Markham	Vancouver.
Ebert, J. Melville	Steveston.
Gibson, Swanston	Vancouver.
Gill, Otto H.	Cranbrook.
Greaves, F. Brian	Oak Bay.
Guernsey, Frederick W.	Vancouver.
Hale, Frederick M.	Vancouver.
Hartley, J. Dadwell	Victoria.
Hatch, David A.	Vancouver.
Jones, William A.	Vancouver.
Kania, Joe E. A.	Trail.
Larson, Arthur G. A.	Vancouver.
Leek, Charles W.	Vancouver.
Liersch, John E.	North Vancouver.
Louden, Thomas N.	Vancouver.
Manson, Harold E.	Hatzic.
MacKinnon, Findlay S.	Cumberland.
Nikiel, Charles	Vancouver.
Norman, G. W. Hal	North Vancouver.
North, J. Terry	Vancouver.

1923-24

Name.	*Home Address.*
Nunn, Edward H.	Vancouver.
Oliver, John C.	Vancouver.
Owen, F. James	Trail.
Phillips, Ernest A.	Vancouver.
Pollock, James R.	Vancouver.
Rees, Arthur F.	New Westminster.
Ridley, Frank E.	New Westminster.
Robinson, George R.	Vancouver.
Scott, J. Cosmo W.	North Vancouver.
Stevenson, C. Douglas	Victoria.
Tamura, Morikiyo	Port Haney.
Tarr, Francis G. A.	North Vancouver.
Timleck, Curtis J.	New Westminster.
Turnbull, Thomas A.	Vancouver.
Wallis, John C.	Rossland.
Warren, Harry V.	Vancouver.

Conditioned.

DeWolf, John F.	Vancouver.
Emery, Geoffrey B.	Edmonds.
Falconer, Joseph G.	Bindloss, Alta.
Fanning, Oscar	Vancouver.
Maclean, Hugh Allan	Victoria.
Purdy, Harry L.	Vancouver.
Welch, W. Hamlyn	Vancouver.

Partial.

Broadfoot, Walter L. C.	Vancouver.
Gibbs, Thomas C.	Vancouver.
Griffith, Braham G.	Grand Forks.
Hart, Donald B.	Kingston, Jamaica.
Noske, Vladimir Louis	Vladivostok, Siberia.
Phillips, Wilfred J.	Westcliffe-on-Sea, Eng.
Roberts, Orrok W. H.	Sidney.
Rothwell, James M.	Vancouver.

SECOND YEAR.

Full Undergraduates

Arnott, Clarence	Vancouver.
Bain, William A.	Vancouver.
Bassett, Edward W.	Victoria.
Bennett, James L.	North Vancouver.
Brock, B. Britton	Vancouver.
Callander, Maitland B.	Vancouver.

Name.	*Home Address.*
Campbell, J. Middleton	Vancouver.
Cant, George B.	North Vancouver.
Carter, Neal M.	Vancouver.
Davison, Harold C.	Vancouver.
Demidoff, Peter H.	Trail.
Ferguson, Royden H.	Vancouver.
Gibson, Ernest S.	Vancouver.
Greggor, Robert D.	Vancouver.
Groves, Godfrey F. C.	Kelowna.
Gwyther, Valentine MacK. W.	Vancouver.
Hicks, Kenneth	Vancouver.
Hincks, Drennan	Victoria.
Israeli, Moshe	Vancouver.
Jackson, Robert M.	Vancouver.
Jenson, Ernest A.	New Westminster.
Kidd, G. Stuart	Vancouver.
Kidston, James B.	Vernon.
Lambert, Arthur A.	Nelson.
Lucas, Colin C.	Vancouver.
Morgan, F. Stewart	Vancouver.
Morton, Ralph McK.	Vancouver.
Mosher, Harry	North Vancouver.
McDonald, Malcolm	Vancouver.
MacLaren, William J. R.	Vancouver.
McPherson, John W.	Vancouver.
Niederman, Otto E.	Trail.
Noble, John S.	Cranbrook.
Parsons, Harold E.	South Vancouver.
Price, Peter	Parkesville.
Ramsell, J. Laurence	Vancouver.
Richmond, A. Morton	Nanaimo.
Steede, John H.	Port Alberni.
Sutherland, Brian P.	Vancouver.
Taylor, Thomas M. C.	Kelowna.
Walsh, Harold E.	Vancouver.

Conditioned

Evjen, Ralph W.	Vancouver.
Lazenby, Frederick A.	Port Hammond.
Stoodley, George E.	Armstrong.
Woodhouse, Arthur R.	Fernie.

Partial

Black, Thomas B.	Prince Rupert.
Cox, George C. R.	Kamloops.

Name.	*Home Address.*
Demidoff, Joseph	Trail.
Evans, Lacey H.	Vancouver.
Garman, Eric H.	Vancouver.
McLachlan, R. Angus	Vancouver.

THIRD YEAR.

Full Undergraduates.

Barr, Percy M.	Vancouver.
Bickell, Leslie K.	Victoria.
Bramston-Cook, Harold E.	Vancouver.
Carlisle, Kenneth W.	Vancouver.
Charnley, Frank	Barnston Island.
Coffin, Frederick W.	Vancouver.
Corfield, Guy	Victoria.
Elliott, Frederick G.	Victoria.
Evans, Charles S.	Vancouver.
Finlay, A. Hunter	Vancouver.
Giegerich, Henry C.	Kaslo.
Graham, Roland C.	Vancouver.
Heaslip, Wilbur J.	Vancouver.
Hedley, Robert H.	Vancouver.
Huggett, Jack L.	North Vancouver.
Jure, Albert E.	Vancouver.
Lipsey, George C.	Vancouver.
McLachlan, Charles G.	Vancouver.
Norman, George H. C.	Mirror Lake.
Smitheringale, William V.	Vancouver.
Stacey, Leonard B.	Chilliwack.
Stockwell, Clifford H.	Vancouver.
Stroyan, Philip B.	Vancouver.
Underhill, John E.	Vancouver.
Wallis, Hubert D.	Duncan.
Wolverton, Jasper M.	Nelson.

Conditioned

Bell, John G.	Vancouver.
Campbell, Douglas S.	Vancouver.
Falconer, Stuart A.	Los Angeles, Cal.
Hardie, Dudley B.	Esquimalt.
Harkness, John A. C.	Burnaby.
Jackson, Gerald C. A.	Aldergrove.
McCutcheon, James C.	Greenwood.
Osborne, Freleigh F.	Vancouver.
Peele, J. Percy F.	New Westminster.

Partial.

Name.	*Home Address.*
Rushbury, Henry G. B.	Vancouver.
Ternan, Clifford C.	Vancouver.

FOURTH YEAR.

Full Undergraduates.

Anderson, Allan J.	Vancouver.
Berry, Theodore V.	Vancouver.
Burton, William D.	Vancouver.
Cameron, Ralph K.	Vancouver.
Cock, Cecil J.	Vancouver.
Davidson, John R.	Vancouver.
Dean, Curtis M.	Victoria.
Forrester, W. Wallace	New Westminster.
Fraser, Duncan	Vancouver.
Giegerich, Joseph R.	Kaslo.
Graham, William E.	Vancouver.
Gregg, Elwyn E.	Vancouver.
Gross, George C.	Vancouver.
Guernsey, Tarrant D.	Vancouver.
Gunning, Henry C.	Vancouver.
Hanna, William S.	Vancouver.
Hodson, Reginald	Victoria.
Hooper, Cleeve W.	Vancouver.
Jenkins, John H.	North Vancouver.
Jones, Cyril	North Vancouver.
Jones, Russell H. B.	Victoria.
Laird, Frederick W.	Vancouver.
Lidgey, Ralph C. G.	Vancouver.
Loveridge, Gilbert T.	Vernon.
Mathers, Cliffe St. J.	Vancouver.
McCallum, Neil M.	Vancouver.
McVittie, C. Archibald	Victoria.
Pearse, Hubert A.	Atlin.
Rae, Douglas H.	North Vancouver.
Rice, Harington M. A.	Duncan.
Say, Stanley R.	Vancouver.
Sivertz, Christian	Victoria.
Somervillle, Archibald L. H.	Vancouver.
Spargo, Thomas	Vancouver.
Stewart, Frederick C.	Vancouver.
Ure, William	Vancouver.
Wilkinson, Elmo C.	White Rock.

Partial.

Name.	*Home Address.*
Parker, Raymond W.	Vancouver.

NURSING.

FIRST YEAR.

Full Undergraduates.

Baynes, Doris L.	Vancouver.
Brandon, Helen I.	Vancouver.
Cashel, Lilian S. N.	Collingwood East.
Griggs, H. Rebecca	Tacoma, Wash.
Higgs, Nora L.	Albert Head.
Hill, Edith M.	West Vancouver.
Lyne, Frances E.	Creston.
MacKechnie, Flora	Vancouver.
MacKenzie, Annie C.	Vancouver.
Nellist, Mildred F.	Vancouver.
Olmstead, Dorothy G.	Vancouver.
Stoddart, Elizabeth	Clinton.

SECOND YEAR.

Full Undergraduate.

Armstrong, Norah E.	Fort a la Corne, Sask.
Carson, Leila A.	Victoria.
Creelman, Florence M. L.	Vancouver.
Hedley, Anne	Vancouver.
Innes, Florence A. I.	Vancouver.

Conditioned.

Kerr, Margaret Edith	New Westminster.

THIRD YEAR.

Full Undergraduate.

Bennet, Helen M.	Victoria.
Rogers, Dorothy M.	Seattle, Wash.

FOURTH YEAR.

Full Undergraduates

Cook, C. Louise	Chemainus.
Naden, Esther S.	Victoria.
Pearce, Beatrice A.	Victoria.
Wilson, Everilda	New Westminster.

Conditioned.

Gill, Bonnie H.	North Vancouver.

FIFTH YEAR

Full Undergraduates.

Name.	*Home Address.*
Fisher, A. Marion	Vancouver.
Healy, Margaret L.	Vancouver.
Johnson, Beatrice F.	Vancouver.

FACULTY OF AGRICULTURE.

FIRST YEAR.

Full Undergraduates.

Allen, Maude A.	Vancouver.
Baxendale, Robert D.	Trail.
Cameron, William C.	Chilliwack.
Mallory, Lester DeW.	Naramata.
Martin, George R.	Vancouver.
Mutrie, Fergus	Vernon.
McCurrach, J. Bruce	Edmonds.
Nelson, John C.	Vancouver.
Newcombe, Frederick E.	Vancouver.
Noble, Grace I.	Hatzic.
Pirie, Peter F.	Ingersoll, Ont.
Rayment, Arthur B.	Sooke.
Verchere, Frank G.	Mission City.

Conditioned.

Dynes, George M.	New Westminster.
Luyat, Gabriel A.	Agassiz.

Partial.

Barkley, Edward T.	Westholme.
Biely, Jacob	Chita, Siberia.
Blair, Robert G.	Milner.
Davis, Somerville W.	Vancouver.
Des Brisay, Eileen	Vancouver.
Gilholm, Eva H.	Oliver.
Godwin, Edward C.	New Westminster
Gough, William F.	Hull, England.
Hartley, Thomas S.	Vancouver.
Marshall, Nathaniel L.	Kelowna.
Matthews, Willoughby W.	Westholme.
Paton, John	Vancouver.
Robertson, James C. H.	Argyllshire, Scotland.
Tarr, Hugh L. A.	North Vancouver.
Tuckey, Francis E.	Victoria.

Name.	*Home Address.*
Vialuhin, Walter N.	Moscow, Russia.
Vroom, Paul N.	St. Stephen, N. B.
Wolfe-Jones, Cecil	West Kirby, England.

SECOND YEAR.

Full Undergraduates.

Argue, C. William	Vancouver.
Atkinson, Lyle A.	New Westminster.
Aylard, Arthur W.	Victoria.
Fraser, Edward B.	Nanaimo.
Gutteridge, Harry S.	Vancouver.
Keenan, David P.	South Vancouver.
Laing, Arthur	Eburne.
Murphy, Lawrence A.	New Westminster.
Rive, Charles	Vancouver.

Conditioned.

Buckley, E. Leslie	North Vancouver.
Caple, Kenneth P.	Vancouver.
McKay, Leslie W.	Agassiz.

Partial.

Challenger, George W.	Vancouver.
Goldie, James A.	Vancouver.
Ogilvie, Alvin E.	Agassiz.
Singleton, Lora M.	Vancouver.
Spicer, Erle D.	Vancouver.
Thompson, David W.	Eburne.

THIRD YEAR.

Full Undergraduates.

Barton, Charles McK.	Chilliwack.
Etter, Harold C.	Penticton.
Hope, Ernest C.	Langley Fort.
Plummer, Howard	Vancouver.
Russell, Hugh McL.	Vancouver.
Steves, Harold L.	Steveston.
Wilcox, John C.	Salmon Arm.
Wilcox, Ralph V.	Salmon Arm.
Zoond, Alexander	London, England.

Conditioned.

Eby, Victor J.	Abbotsford.
MacCallum, Hugh C.	Agassiz.

1923-24

Partial.

Name.	*Home Address.*
Chester, Herbert	Cranbrook.
McKay, John J.	Vancouver.
Townsend, Charles T.	London, England.

FOURTH YEAR.

Full Undregraduates.

Barry, S. Clifford	Vancouver.
Bennett, Leslie	North Vancouver.
Cavers, Raymond V.	Cloverdale.
Landon, Gordon L.	Armstrong.
Mathers, William G.	Vancouver.
Richards, Albert E.	New Westminster.
Welland, Frederick J.	South Vancouver.
Woods, John J.	North Vancouver.

Conditioned.

Blair, Archibald	Steveston.

Partial

Fulton, Harry G.	Chilliwack.
Phillips, Sperry S.	Camp Lister.
Pye, William J. S.	Vancouver.

GRADUATES

FACULTY OF ARTS AND SCIENCE.

Agnew, A. Marjorie	Vancouver.
Bain, Janet B.	Vancouver.
Battle, Sarah J.	Vancouver.
Beech, William K.	Vancouver.
Black, William G.	Point Grey.
Bolton, Lloyd L.	Vancouver.
Boss, A. Evan	Vancouver.
Buxton, Mary I.	Burnaby.
Crute, Ebenezer	Vancouver.
Dauphinee, James A.	New Westminster.
Duffy, James	Co. Clare, Ireland.
Dunlop, Henry A.	Vancouver.
Foerster, R. Earle	Vancouver.
Fournier, Leslie T.	Vancouver.
Grant, Rena V. A.	Vancouver.
Hall, Vernon K.	Vancouver.
Hamilton, George H.	Vancouver.
Harris, J. Allen	Summerland.
Heaslip, Leonard W.	Vancouver.

Name.	*Home Address.*
Kerr, Donna E.	Duncan.
Kilpatrick, Myrtle E.	Vancouver.
King, Herbert B.	Vancouver.
Moodie, Stanley F. M.	Point Grey.
Morgan, William	North Vancouver.
McLeod, John P. G.	North Vancouver.
McConnell, Hazel E.	Victoria.
Macdougall, Alice P.	New Westminster.
MacKay, Katharine	Cornwall, Ont.
Reid, M. Lillian	Vancouver.
Smith, William R.	Vancouver.
Wallace, Bryce H.	Vancouver.
Weld, C. Beecher	Vancouver.
Wilson, Grace A.	Vancouver.
Wilson, Freda L.	Vancouver.

FACULTY OF APPLIED SCIENCE.

Banfield, William O.	Vancouver.
Coles, Eric M.	Vancouver.
Gale, William A.	Victoria.
Gillie, Kenneth B.	Victoria.
Melville, John	Vancouver.
McDougall, Stewart R.	New Westminster.
Scott, William O. C.	Vancouver.

FACULTY OF AGRICULTURE.

Carncross, Elmer E.	Cloverdale.
Clarke, G. Ernest W.	Vancouver.
Fleming, William M.	Duncan.
Kelly, Clifford D.	Vancouver.
Lamb, Cecil A.	Cloverdale.
Leavens, John B.	Vancouver.
Leckie, Claude P.	Vancouver.
Palmer, Richard C.	Summerland.

1923-24

REGISTRATION FOR 1922-23.

Faculty of Arts and Science.

	Women	Men	Total
First Year	226	227	453
Second Year	86	91	177
Third Year	57	58	115
Fourth Year	62	49	111
			856

Faculty of Applied Science.

	Women	Men	Total
First Year	0	58	58
Second Year	0	51	51
Third Year	0	37	37
Fourth Yéar	0	38	38
			184

Nursing.

	Women	Men	Total
First Year	12	0	12
Second Year	6	0	6
Third Year	2	0	2
Fourth Year	5	0	5
Fifth Year	3	0	3
			28

Faculty of Agriculture.

	Women	Men	Total
First Year	4	29	33
Second Year	1	17	18
Third Year	0	14	14
Fourth Year	0	12	12
			77

1923-24

Graduates.

	Women	Men	Total	
Arts and Science	13	21	34	
Applied Science	0	7	7	
Agriculture	0	8	8	
				49
				1194

Short Courses (Session 1922-23)

Summer School	208	
Agriculture	78	
Public Health Nursing	16	
Botany	63	
		365

1923-24

EXAMINATION RESULTS (Session 1921-22)
DEGREES CONFERRED

Faculty of Arts and Science.

CONFERRING THE DEGREE OF MASTER OF ARTS

(*Names in alphabetical order*)

Blakey, Dorothy, B.A.	Major: English Minor: French
Dunbar, Violet Evelyn, B.A.	Major: Chemistry Minor: Biology
Dunlop, Henry Adam, B.A.	Major: Zoology Minor: Botany
Foerster, Russel Earl, B.A.	Major: Zoology Minor: Botany
Handford, Freda Mary, B.A.	Major: Chemistry Minor: Bacteriology
Morrison, Loyle Alexander, B.A.	Major: Economics Minor: Government
Morrison, Margaret Ralston, B.A.	Major: Bacteriology Minor: Zoology
Peck, Kathleen Margaret, B.A.	Major: French Minor: English
Rogers, Wilbur Stuart, B.A.	Major: Zoology Minor: Botany

CONFERRING THE DEGREE OF BACHELOR OF ARTS.

With Honours.

(*Names in alphabetical order*)

Bolton, Lloyd Lawrence	(1st class honours in Biology)
Buxton, Mary Isabel	(1st class honours in French)
Campbell, Annie Louise	(2nd class honours in History)
Clark, Charles Augustus Fordyce	(2nd class honours in English and Latin)
Coope, Geoffrey	(2nd class honours in English and French)
Cutler, Norman Leon	(1st class honours in Biology)
Dauphinee, James Arnold	(1st class honours in Chemistry and Biology)
Duffy, James	(1st class honours in Latin and Greek)
Eagles, Blythe Alfred	(1st class honours in Chemistry and Biology)
Fraser, George Wallace Bruce	(2nd class honours in Economics)
Fulton, Doris Jessie	(2nd class honours in Philosophy)

Gignac, Mary Etoile Patricia .... (2nd class honours in Latin and French)
Harris, Joseph Allen ..... (2nd class honours in Chemistry)
Heaslip, Leonard William ..... (1st class honours in Mathematics)
Hurst, Allan McLean ..... (1st class honours in Philosophy)
Kemp, Gwendolyn Muriel ..... (2nd class honours in French)
Lewis, Edward Dewart ..... (1st class honours in English Language and Literature)
Lipson, Bertha ..... (2nd class honours in History)
McAfee, Weldon Robert ..... (1st class honours in Economics)
McLennan, Lester Winston ..... (1st class honours in Chemistry)
Metz, Cora Irma ..... (1st class honours in English Language and Literature)
Miller, Isobel Selina ..... (1st class honours in English Language and Literature)
Pye, Dora Ellen Gertrude ..... (1st class honours in French)
Rankin, Agnes Helen ..... (2nd class honours in Philosophy and Economics)
Reid, Mary Lillian ..... (2nd class honours in Economics)
Stevenson, Arthur Lionel ..... (1st class honours in English Language and Literature)
Urquhart, Christine Margaret ... (1st class honours in Chemistry)
Verchere, Ruth Emilie ..... (2nd class honours in English Language and Literature)
Watson, Annie Pirie ..... (1st class honours in History)
Weinberg, Dena ..... (2nd class honours in French)
Woodworth, Clifford Allen ..... (2nd class honours in Mathematics)

In Pass Course.

(*Names in order of merit*)

Class I.

Black, William Griffiths

Class II.

Ballard, Edna Florence
Buell, Arthur Lightfoot
Crickmay, Colin Hayter
Imlah, James Albert Henry
Willis, Norah Evangeline
Clark, George Savage
Fingland, Dorothy Ellen
MacKinnon, Georgina Emily
Miles, Mona Collister
Purslow, Norah Kathleen
Bullock, Winifred Amy
Herd, James Fenton
Collard, Carlton
Weld, Charles Beecher
Gillis, Gwendolyn Christina Abercrombie
Hopper, Dorothy Aileen
Mortimer, Helen

Johnston, Lyle Clinton
Atherton, Marion Clara
Keir, Helen
Agnew, Marjorie
Keir, Jeannie McRae
Monkman, Evelyne Ada

Passed.

Aconley, Izeyle Vera
English, Mary Helen
Frith, Joscelyne Sylvia
Clarke, Margaret Isabella
Gill, Dorothy Alexandra
Cox, Stafford Albert
Munro, Mary
Rogers, Edna Jessie
Anders, Victor Llewellyn
Lipson, Barnett Abraham
Robson, Gwendolyn
Argue, Ralph Starrat
Whitley, Paul Nelson
McLoughry, Muriel Alice
MacLeod, John Phee Gordon

(*Names in alphabetical order*)

Lanning, Roland John
Munro, Robert James
McCabe, Margaret Aileen
Smith, Charles Duncan
Vogee, Arthur Edward
Webster, Arnold Alexander

Double Course.

Laird, Frederick William (Degree of B.A.)

Faculty of Applied Science.

CONFERRING THE DEGREE OF MASTER OF APPLIED SCIENCE.

Swanson, Clarence Otto, B.A.Sc. — Major: Geology; Minor: Metallurgy

CONFERRING THE DEGREE OF BACHELOR OF SCIENCE.

(*Names in order of merit*)

Class I.

Stedman, Donald Frank
Coles, Eric Morrell
Bickell, William Albert Bird
Jane, Robert Stephen
McDougall, Stewart Robertson
Goranson, Roy Walter
Coates, Wells Wintemute
Gale, William Alexander
Fountain, George Frederick

Class II.

Walker, John Fortune
Fournier, John Raymond
Peck, Wallace Swanzey
Banfield, William Orson
McLellan, Norman Wellington
Jackson, Oscar Adalbert Edmund
Anderson, Sydney
Scott, William Orville Craig
Watson, James
McColl, Eli Stuart
Hatt, Rona Alexandra
Todd, Arthur Alison
McLuckie, Robert Macfarlane
Meekison, Andrew Gordon
Doyle, Harold
Shaw, Lee Donald

Passed.

Gray, William Henry
Hatch, William George

Faculty of Agriculture.

CONFERRING THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

(*Names in order of merit*)

Class I.

Sweeting, Bertram Stanley
Riley, William John

Class II.

Leavens, John Bruce
Kelly, Clifford Darton
Harris, George Howell
Riddell, William Hugh
Fisher, Raymond Anderson
McKechnie, Martha Stirling
Greenwood, Harold Day

Passed.

Clarke, George Ernest Wesley

1923-24

MEDALS, SCHOLARSHIPS, AND PRIZES.

AWARDED MAY, 1922

For Post-Graduate Studies

1. University Scholarship, $200.00...James A. Dauphinee, Arts '22
2. The Anne Wesbrook Scholarship, $100.00—
   Bertram S. Sweeting, Agric. '22

Faculty of Arts and Science.

Fourth Year.

1. The Governor-General's Gold Medal.....Blythe Alfred Eagles
2. The Wesbrook Prize, $50.00.....Not available
3. The Historical Society Gold Medal.....Annie Pirie Watson
4. The Alliance Francaise Gold Medal in French—
   Dora Ellen Gertrude Pye

Third Year.

1. University Scholarship, $75.00.....Maurice Home
2. University Scholarship, $75.00.....Marjory Emma Bell
3. The Arts '19 Scholarship, $150.00....Annie Margaret Anderson
4. The Gerald Myles Harvey Prize, $50.00 (Books)—
   Allan Henry LeNeveu
5. The Historical Society Silver Medal.....Harry Morris Cassidy

Second Year.

1. The McGill Graduates' Scholarship, $137.50—
   Geoffrey Blundell Riddehough
2. University Scholarship, $75.00..Geoffrey Blundell Riddehough
   by reversion to
   Lucy Ingram
3. University Scholarship, $75.00.....Lucy Ingram
   by reversion to
   Greta E. Mather
4. The Terminal City Club Memorial Scholarship, $110.00—
   Arthur Lloyd Wheeler
5. The Scott Memorial Scholarship, $110.00—
   Frederick Heward Bell

First Year.

1. Royal Institution Scholarship, $75.00... } Kathleen Dodds and
2. Royal Institution Scholarship, $75.00... } Vera G. Mather (tied)
3. Royal Institution Scholarship, $75.00..Sydney Bettinson Ingram
4. The Vancouver Women's Conservative Association Prize,
   $25.00 .....Marjorie Emily Kathleen Gorringe

1923-24

Faculty of Applied Science.

Post Graduate Scholarship.

1. The Dean Brock Scholarship, $100.00—
   Stewart Robertson McDougall

Fourth Year.

1. The Convocation Scholarship, $50.00....Donald Frank Stedman

Third Year.

1. The Dunsmuir Scholarship, $165.00....William Donald Burton

Second Year.

1. University Scholarship, $75.00.....Allan Hunter Finlay

First Year.

Royal Institution Scholarship, $75.00.....Roy Gray

Nursing—Public Health.

1. The Red Cross Prize, $100.00.....Jane E. Johnston
2. Provincial Board of Health Prize, $60.00—
   Marie Louise Thompson
3. Provincial Board of Health Prize, $40.00—
   Margaret Allan Thatcher

Faculty of Agriculture.

Third Year.

1. The B. C. Fruit Growers' Association Scholarship, $100.00—
   Raymond Vere Cavers (1921)
   Albert Edward Richards (1922)
2. The B. C. Dairymen's Association Prizes—
   First Prize, $50.00.....Archibald Blair
   Second Prize, $30.00.....William John Serson Pye
   Third Prize, $20.00.....Leslie Bennett
   (Awarded December, 1921)

First Year.

1. University Scholarship, $75.00.....No award

General (Open).

1. University Book Prize, $25.00.....No award
2. University Book Prize, $25.00.....No award
3. The Women's Canadian Club Scholarship, $75.00—
   John Edgar Gibbard
4. The Historical Society Prize, $25.00...Eric Whitcliffe Jackson
5. The Captain LeRoy Memorial Scholarship, $300.00—
   Hunter Campbell Lewis
6. The Vagabonds' Club Prize, $25.00..Arthur Lionel Stevenson
7. The Players' Club Prize, $50.00.....No award
8. The Shaw Memorial Scholarship, $137.50..Keith Duncan Shaw
9. University Scholarship for Returned Soldiers, $75.00—
   John Wallace Baird Shore
10. University Scholarship for Returned Soldiers, $75.00—
    Wilfred Carson Kelly

UNIVERSITY SUMMER SESSION, 1923.

Six Weeks—July 9th to August 17th.

With the Session of 1922 The University Summer School for Teachers became The University Summer Session. Teachers and others who possess full Matriculation standing may now pursue University courses and receive credit therefor towards the B.A. degree.

The University Summer Session will, in co-operation with the Provincial Department of Education, continue to provide special courses for teachers of High School subjects, and also courses in Educational Theory and Method of a similar character to those which have been given during the past three years.

Summer Session students wishing to transfer to the Winter Session should make application upon a form which will be supplied upon request by the Registrar.

Inquiries and applications should be addressed to the DIRECTOR OF THE SUMMER SESSION, The University of British Columbia, Vancouver, B. C.

SUMMER SESSION COURSE IN NURSING

At the request of the British Columbia Association of Graduate Nurses, a short course in Hospital Administration and in Teaching Principles and Methods is offered in conjunction with the Summer Session of the University.

This course, while intended primarily for Superintendents of Hospitals and Instructors in Schools of Nursing, is open to all graduate nurses in good standing.

Further particulars may be obtained from Miss E. Johns, Director of the Department of Nursing, University of British Columbia.

STUDENT ORGANIZATION

In order that the activities of the student body may be effectively carried on, the Alma Mater Society has been organized, with a governing executive called the Students' Council. It is the duty of the Students' Council to control all the activities of the societies subsidiary to the Alma Mater Society.

The members of the Students' Council are Undergraduates of the Junior and Senior Years, and are elected at the close of the Session preceding their term of office.

In order that the work may be carried on to the best advantage, considerable funds are necessary, and the Alma Mater fee of $7.00, compulsory for all students, is designed to cover the expenses incurred.

Students upon entering the University have an opportunity to take part in practically all lines of sport, as well as to participate in debating and public speaking, and various other activities which are more clearly indicated below.

Publications Board.

The Publications Board is best known from the Handbook, "Ubyssey" and the "Annual." In the first of these an attempt is made to compile information valuable to the Undergraduate. "The Ubyssey," the College paper, is published weekly. The members of the Staff are students selected as a result of voluntary competition. "The Annual" is published at the close of the Spring Term. It is intended to epitomize the spirit of the year, in all its phases.

Literary and Scientific Department.

The Literary and Scientific Department co-ordinates the workings of its constituent Societies, which are indicated below.

In the Players' Club, those whose talents lie in the direction of the drama may find medium of expression.

The Musical Society includes the Men's Glee Club, the Women's Glee Club, and the University Orchestra.

For those interested in public speaking and debating there are the Men's Literary Society and the Women's Literary Society, the Agriculture Discussion Club, and Sigma Delta Kappa Society.

The Chemistry Society, the Engineering Discussion Club, the Social Science Club, the Live-stock Club and the G. M. Dawson Discussion Club offer a field for discussion of Scientific and Social problems.

Women's Athletics.

The Women's Athletic Association comprises all the Women's Athletic Clubs of The University. Prominent among them are the Women's Basketball Club, the Women's Gymnasium Club, the Women's Grass Hockey Club, and the Women's Swimming Club. Last year the Ice Hockey Club was inactive owing to the impossibility of securing the Arena.

Men's Athletics.

The Men's Athletic Association endeavors to foster all branches of clean and manly sport.

The season for the Rugby Club begins with the opening of the Fall Term. Practices are held and four teams are chosen, one for the McKechnie Cup League, provincial; one for the Miller Cup League, city; and two for the Intermediate League, also of the city. One of the last-named teams is composed entirely of Freshmen.

The Basketball season follows that of Rugby. Three teams are chosen and entered in the various city leagues.

The Soccer Club enters two teams in the city leagues. The teams are chosen early in the fall.

The Track Club takes charge of all field events, its big features being the Annual Track Meet and the Arts' 20 relay race.

The Rowing Club is affiliated with the Vancouver Rowing Club, and retains its identity as a University Club.

The Ice Hockey Club selects a team each year and enters it in the city series.

The Outdoors Club takes charge of all picnics, hikes, mountain climbing, excursions, and outdoor parties.

The Tennis Tournament takes place after the opening of the Fall Term, and the championship games are played in men's and women's singles and doubles, and also mixed doubles.

The Badminton Club holds practices and games in the evenings throughout the winter.

The Boxing and the Swimming Clubs meet once a week during the winter, under capable instructors.

The Lacrosse Club carries on throughout the summer, and is chiefly for those who are in the city during that time.

Alumni Association.

This organization was formed in May, 1917. It is composed of Honorary, Active, and Associate members. Honorary membership includes all members of the Faculty. Active Membership includes all Associate Members who have paid their annual fee of $2.00 for town members, $1.00 for out-of-town members. All graduates of the University automatically become Associate Members on graduating.

The purpose of the Association is to further the interests of The University and the Alumni. To accomplish this purpose the Association aims to keep its members interested in The University and the Alma Mater, so that they may know their college not only as it was, but as it is, and can be. To carry out these aims general meetings are held every two months during the University term. In addition, a directory of our graduates is sent to all Active Members, while news bulletins are sent to both Active and Associate Members.

There are four standing committees in the Association, which seek to foster interest in athletics, music, dramatics and publications among members of the Association, and throughout the Province in other organizations.

VICTORIA COLLEGE

(In affiliation with The University of British Columbia)

Principal and Registrar

EDWARD B. PAUL, M.A. (Aberdeen)

The College at Victoria, B. C., gives instruction in the first two years of the Arts Course. The courses offered are:

First and Second Years.

The work of the first two years in Arts and Science is arranged according to the following scheme, involving ten courses:

1, 2. English 1 (*a* and *b*), 2 (*a* and *b*), one course in each year. (6 units)

3, 4. The first two courses in a language offered for matriculation, one course in each year. (6 units)

5. The first course (3 units) in Mathematics. (To be taken in the First Year.)

6. A first course in Physics. (3 units)

7-10. Four courses (12 units) to be chosen from the following groups of studies:

1. Mathematics, Chemistry, Physics.
2. Latin, Greek, French.
3. Philosophy, History (Economics, if possible.)

The rules and regulations governing the College are the same as those in force in the University.

1923-24

WESTMINSTER HALL

(Presbyterian)

VANCOUVER, B. C.

(In affiliation with The University of British Columbia)

Principal

REV. W. H. SMITH, M.A., Ph.D., D.D.

Registrar and Secretary

REV. J. A. LOGAN, D.D.

Westminster Hall offers courses in Theology, and, under the general regulations of the University in reference to affiliated Theological Colleges, provides classes for which credit is given in the Arts Course for the B.A. degree. (See page 83.)

For further information in reference to Faculty, Courses of Study, etc., see calendar of Westminster Hall.

THE ANGLICAN THEOLOGICAL COLLEGE OF BRITISH COLUMBIA

VANCOUVER, B. C.

(In affiliation with The University of British Columbia)

Principal

REV. W. H. VANCE, M.A.

Registrar

REV. C. H. SHORTT, M.A.

The Anglican Theological College offers courses in Theology leading to the Diploma of Licentiate in Theology and the Degrees of B.D. and D.D., and, under the general regulations of the University in reference to affiliated colleges, provides Theological options for which credit is given in the course leading to the B.A. degree. (See page 83.)

For further information in reference to Faculty, Courses of Study, etc., see calendar of the College.

THE SUN PUBLISHING COMPANY LTD.,
VANCOUVER, B. C.

1923-24